# FORM S-1

General form of registration statement for all companies including face-amount certificate companies

Filing Date: **1999-07-27**
**SEC Accession No.** 0000950117-99-001540



## FILER

**VION PHARMACEUTICALS INC**

CIK:**944522**| IRS No.: **133671221** | State of Incorp.:**DE** | Fiscal Year End: **1231**
Type: **S-1** | Act: **33** | File No.: **333-83837** | Film No.: **99671207**
SIC: **2836** Biological products, (no disgnostic substances)

Mailing Address
*FOUR SCIENCE PARK*
*NEW HAVEN CT 06511*

Business Address
*4 SCIENCE PARK*
*NEW HAVEN CT 06511*
*2034984210*

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JULY 27, 1999
REGISTRATION NO. 333-

---

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

VION PHARMACEUTICALS, INC.
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

<TABLE>
<S> <C> <C>

| DELAWARE | 2836 | 13-3671221 |
|---|---|---|
| (STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION) | (PRIMARY STANDARD INDUSTRIAL CLASSIFICATION CODE NUMBER) | (I.R.S. EMPLOYER IDENTIFICATION NUMBER) |

</TABLE>

4 SCIENCE PARK
NEW HAVEN, CONNECTICUT 06511
(203) 498-4210
(ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES)

ALAN KESSMAN
PRESIDENT AND CHIEF EXECUTIVE OFFICER
VION PHARMACEUTICALS, INC.
4 SCIENCE PARK
NEW HAVEN, CONNECTICUT 06511
(203) 498-4210
(NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF AGENT FOR SERVICE)

COPIES OF ALL COMMUNICATIONS, INCLUDING ALL COMMUNICATIONS SENT TO THE AGENT FOR SERVICE, SHOULD BE SENT TO:

<TABLE>
<S> <C>

| PAUL JACOBS, ESQ.<br>LAWRENCE A. SPECTOR, ESQ.<br>FULBRIGHT & JAWORSKI L.L.P.<br>666 FIFTH AVENUE<br>NEW YORK, NEW YORK 10103<br>(212) 318-3000<br>(212) 752-5958 (FAX) | MICHAEL HIRSCHBERG, ESQ.<br>PIPER & MARBURY L.L.P.<br>1251 AVENUE OF THE AMERICAS<br>NEW YORK, NEW YORK 10020<br>(212) 835-6000<br>(212) 835-6001 (FAX) |
|---|---|

</TABLE>

---

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, check the following box. [ ]

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) 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(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. [ ]

---

CALCULATION OF REGISTRATION FEE

<TABLE>
<CAPTION>

| TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED | AMOUNT TO BE REGISTERED(1) | PROPOSED MAXIMUM AGGREGATE PRICE PER SHARE(2) | PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(2) | AMOUNT OF REGISTRATION FEE |
|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> |
| Common Stock, $0.01 par value per share..... | 4,140,000 shares | $5.375 | $22,252,500 | $6,186.19 |

</TABLE>

(1) Includes 540,000 shares of common stock that the underwriter has the option to purchase to cover over-allotments, if any.

(2) Calculated in accordance with Rule 457(c) under the Securities Act of 1933, as amended, solely for the purposes of calculating the registration fee. The calculation of the registration fee is based on the average of the high and low prices of the common stock as reported on the Nasdaq SmallCap Market on July 21, 1999.

---

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 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

---

WE WILL AMEND AND COMPLETE THE INFORMATION IN THIS PROSPECTUS. ALTHOUGH WE ARE PERMITTED BY U.S. FEDERAL SECURITIES LAWS TO OFFER THESE SECURITIES USING THIS PROSPECTUS, WE MAY NOT SELL THEM OR ACCEPT YOUR OFFER TO BUY THEM UNTIL THE DOCUMENTATION FILED WITH THE SEC RELATING TO THESE SECURITIES HAS BEEN DECLARED EFFECTIVE BY THE SEC. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES OR OUR SOLICITATION OF YOUR OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THAT WOULD NOT BE PERMITTED OR LEGAL.

SUBJECT TO COMPLETION DATED JULY 27, 1999

PROSPECTUS

3,600,000 SHARES

[COMPANY LOGO]

COMMON STOCK

---

This is a public offering by Vion Pharmaceuticals, Inc. of 3,600,000 shares of common stock.

Our shares are quoted on the Nasdaq SmallCap Market under the symbol 'VION.' On July 21, 1999, the last reported sales price of our shares was $5.375 per share. We have applied to have our shares listed on the Nasdaq National Market when this offering closes.

---

BEFORE BUYING ANY SHARES YOU SHOULD READ THE DISCUSSION OF MATERIAL RISKS OF INVESTING IN OUR COMMON STOCK IN 'RISK FACTORS' BEGINNING ON PAGE 8.

<TABLE>
<CAPTION>

| | PRICE TO PUBLIC | UNDERWRITING DISCOUNT AND COMMISSIONS | PROCEEDS TO VION |
|---|---|---|---|
| <S> | <C> | <C> | <C> |
| Per share..... | $ | $ | $ |
| Total..... | $ | $ | $ |

</TABLE>

We have granted the underwriter the right to purchase up to an additional 540,000 shares of our common stock within 30 days following the date of this prospectus to cover over-allotments. Brean Murray & Co., Inc. expects to deliver the shares of common stock to the purchasers on , 1999.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

---

BREAN MURRAY & CO., INC.

---

The date of this prospectus is , 1999

[graphics omitted]

[Picture of penetration of the three regions of a tumor by various anticancer agents. Picture shows that TAPET organisms penetrate further into tumors than other agents.]



TABLE OF CONTENTS

<TABLE>
<CAPTION>



</TABLE>

---

Unless we indicate otherwise in this prospectus, references to 'Vion,' 'we,' 'us' or 'our' mean Vion Pharmaceuticals, Inc. Except as otherwise specified, all information in this prospectus:

does not give effect to 7,625,286 shares issuable upon the exercise of outstanding stock options and warrants and 1,371,950 shares issuable upon

the conversion of outstanding shares of preferred stock; and

assumes that the underwriter's over-allotment option is not exercised.

TAPET'r', Triapine'r', Promycin'r' and MELASYN'r' are our registered trademarks.

You should rely only on the information contained in this prospectus. No dealer, salesperson or other person is authorized to give information that is not contained in this prospectus. This prospectus is not an offer to sell nor is it seeking an offer to buy the shares of common stock in any jurisdiction where the offer or sale is not permitted. The information contained in this prospectus is correct only as of the date of this prospectus, regardless of the time of the delivery of this prospectus or any sale of the shares.



## PROSPECTUS SUMMARY

You should read the following summary together with the more detailed information, financial statements and notes to the financial statements appearing elsewhere in this prospectus.

### ABOUT VION

Vion Pharmaceuticals, Inc. is a biopharmaceutical company engaged in the research, development and commercialization of cancer treatment technologies. Pursuant to license agreements with Yale University, we have acquired the rights to several patents and patent applications related to cancer treatment technologies. Our product portfolio consists of a drug delivery platform and three cancer therapeutics.

### DRUG DELIVERY PLATFORM: TAPET'r'

We believe that our core technology, TAPET, or Tumor Amplified Protein Expression Therapy, addresses one of the biggest challenges faced in treating cancer: how to effectively deliver anticancer agents while having a minimal effect on healthy, normal tissues. Administered systemically, most anticancer drugs affect rapidly growing cells, both cancerous and normal, throughout the body. Too often, the result is significant side effects that take a toll on patient health, limiting the amount of treatment a patient may receive. Therefore, a great need exists for new therapies and delivery mechanisms that are able to deliver anticancer agents to tumors preferentially, safely and efficiently. We believe that TAPET will meet this need.

We believe that TAPET is the first and only drug delivery technology that uses genetically altered strains of Salmonella as a bacterial vector, or vehicle, for delivering cancer-fighting drugs preferentially to solid tumors. The Salmonella utilized in the TAPET system have been genetically modified to minimize the occurrence of septic shock. As an additional safety measure, TAPET organisms have been designed to remain fully sensitive to antibiotics. Therefore, if there is an adverse reaction, the bacteria can be treated with antibiotics at any time during therapy. Preclinical studies have demonstrated these safety measures to be effective.

In preclinical studies, after injection into the body, TAPET organisms migrated to and penetrated throughout tumors, including the deep, oxygen-starved interior of solid tumors where other anticancer drugs have difficulty reaching. These studies showed that TAPET organisms double in quantity every 30 to 45 minutes, thereby increasing their ability to inhibit tumor growth and enabling the continuous delivery of anticancer drugs to tumors. We believe that bringing a 'drug factory' preferentially to the tumor will result in a cancer therapy that is more concentrated, more effective and less toxic to normal tissue.

Preclinical studies have demonstrated TAPET's ability to inhibit the growth of a broad range of solid tumors, such as melanoma and colon, lung and breast cancer. Additionally, in these preclinical studies, TAPET organisms have been shown to selectively accumulate in solid tumors of the lung, colon, breast, prostate, liver, kidney and also in melanoma at ratios of greater than 1,000:1 relative to normal tissues. These types of solid tumors represent more than 60% of all new cancer incidences in the world today. Administration of unarmed TAPET vectors, without an anticancer drug, to mice bearing melanoma tumors inhibited the growth of these tumors by 94% compared with untreated control animals. In addition, the treated mice survived more than twice as long as those that did not receive TAPET treatment.

We believe that TAPET's greatest potential application is the ability to continuously deliver a large variety of anticancer drugs directly to tumors while minimizing the side effects associated with current chemotherapy. Through

genetic engineering, we intend to develop TAPET vectors that manufacture and deliver Vion-developed anticancer drugs. Some of these drugs will be generic and non-proprietary, however, when combined with the TAPET system, they could result in proprietary products for us. In addition, we intend to seek multiple strategic partnerships with pharmaceutical companies to use TAPET to deliver their proprietary anticancer drugs.



Following the submission of an investigational new drug, or IND, application to the U.S. Food and Drug Administration, we are now working under an open IND status to prepare for and initiate Phase I intratumoral safety studies in human patients using unarmed TAPET organisms. We anticipate beginning these trials in the third quarter of 1999. If successful, these safety studies will soon be followed by additional Phase I studies of TAPET organisms delivered intravenously, as well as by an armed vector designed to manufacture and express an anticancer drug.

ANTICANCER CELL THERAPEUTICS

Promycin'r'

Promycin, which is currently being evaluated in a multicenter Phase III clinical trial for the treatment of head and neck cancer, is designed to improve the treatment of solid tumors by attacking the hypoxic, or oxygen-depleted, cancer cells that are often resistant to traditional radiation therapy. Small quantities of hypoxic cells within a tumor often survive and proliferate after most of the non-hypoxic malignant cells in the tumor have been eradicated by radiation treatment. Because radiation therapy requires oxygenation of the tissue in order to be effective, oxygen depleted cells are less susceptible to radiation therapy and tend to form a therapeutically resistant group within solid tumors. Preclinical studies have shown that Promycin, in conjunction with radiation, is effective in eradicating oxygen-depleted cells.

A Phase I/II trial was conducted on 21 patients who were treated with radiation, and in some cases, surgery, in conjunction with Promycin for certain types of head and neck cancer. In this study, there was a 33% cancer-free survival rate at five years versus the clinical expectation of approximately 15% for radiation therapy alone. Based on these findings, Vion and Boehringer Ingelheim International GmbH collaborated to initiate a Phase III trial of Promycin in patients with head and neck cancer at 44 centers worldwide. The trial is designed to determine the efficacy of Promycin as an adjunct to radiation therapy for these conditions. We expect to begin evaluating Promycin in other tumor types by the first quarter of 2000.

Triapine'r'

Triapine is designed to prevent the replication of tumor cells by blocking a critical step in the synthesis of DNA. In preclinical trials, Triapine has shown a broad spectrum of activity against human tumors grafted onto another species and mouse tumors. We received clearance from the U.S. Food and Drug Administration to proceed with a Phase I human clinical trial in January 1998. Both single dose and multiple dose regimens are currently being evaluated in patients with solid tumors.

Sulfonyl Hydrazine Prodrugs

Sulfonyl hydrazine prodrugs represent compounds that are designed to be converted to unique, potent alkylating agents. Alkylating agents are highly effective against tumors, but lack selectivity and affect many normal tissues as well as cancer cells, causing toxic side-effects. Developing the sulfonyl hydrazine alkylating agent as a prodrug form yields a relatively non-toxic drug form that may be converted preferentially into the active drug, allowing it to exploit a property of tumor cells for conversion into powerful cancer-fighting drugs.



OUR BUSINESS STRATEGY

Our product development strategy consists of two main approaches. First, we engage in product development with respect to anticancer technologies through in-house research and through collaboration with academic institutions. Second, we seek partnerships with other companies to develop, and eventually market, our

products.

Our plan of operations for the next 18 months includes the following elements:

- Continue to conduct internal research and development with respect to our core technologies and other product candidates that we may identify;
- Conduct Phase III clinical studies of Promycin in the United States and Europe for treatment of head and neck cancer;
- Conduct Phase I clinical studies of Triapine in the United States for safety and efficacy;
- File IND(s) with the FDA and conduct Phase I clinical studies in the United States and Europe for the safety and selective tumor accumulation of several bacterial constructs using our TAPET delivery system;
- Continue to support research and development being performed at Yale University and by other collaborators; and
- Continue to seek collaborative partnerships, joint ventures, co-promotional agreements or other arrangements with third parties.

Our executive offices are located at 4 Science Park, New Haven, Connecticut 06511, and our telephone number is (203) 498-4210.

## THE OFFERING

| | |
|---|---|
| Common stock offered by Vion..... | 3,600,000 shares |
| Common stock to be outstanding after the offering..... | 19,167,219 shares |
| Use of Proceeds..... | For working capital, including for product research and development, marketing and other general corporate purposes. See 'Use of Proceeds.' |
| Nasdaq SmallCap and Proposed Nasdaq National Market Symbol..... | VION |

---

The number of shares outstanding after the offering is based on the number of shares outstanding as of June 30, 1999. Except as otherwise specified, the information in this prospectus:

- does not give effect to 7,625,286 shares issuable upon the exercise of outstanding stock options and warrants and 1,371,950 shares issuable upon the conversion of outstanding shares of preferred stock; and
- assumes that the underwriter's over-allotment option is not exercised.



## SUMMARY FINANCIAL DATA

| | YEAR ENDED DECEMBER 31, | | | THREE MONTHS ENDED MARCH 31, | | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH MARCH 31, |
|---|---|---|---|---|---|---|
| | 1996 | 1997 | 1998 | 1998 | 1999 | 1999 |
| | (IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA) | | | | | |
| STATEMENT OF OPERATIONS DATA: | | | | | | |
| Revenues: | | | | | | |
| Contract research grants..... | $ 52 | $ 48 | $ 309 | $ -- | $ 62 | $ 471 |
| Research support..... | -- | 1,223 | 1,647 | 275 | 259 | 3,129 |
| Technology license revenues..... | -- | 4,000 | -- | -- | 50 | 4,050 |
| Total revenues..... | 52 | 5,271 | 1,956 | 275 | 371 | 7,650 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Operating expenses: | | | | | | |
| Research and development | 5,975 | 7,675 | 10,709 | 2,274 | 2,348 | 34,321 |
| General and administrative | 2,113 | 2,639 | 2,203 | 632 | 504 | 9,891 |
| Non-recurring collaboration restructuring fee | -- | 600 | -- | -- | -- | 600 |
| Total operating expenses | 8,088 | 10,914 | 12,912 | 2,906 | 2,852 | 44,812 |
| Loss from operations | (8,036) | (5,643) | (10,956) | (2,631) | (2,481) | (37,162) |
| Interest Income | (437) | (344) | (540) | (143) | (60) | (1,465) |
| Interest Expense | 10 | 44 | 62 | 18 | 11 | 172 |
| Net Loss | (7,609) | (5,343) | (10,478) | (2,506) | (2,432) | (35,869) |
| Preferred stock dividends and accretion | (11,627) | (1,132) | (4,414) | (630) | (81) | (17,254) |
| Loss applicable to common shareholders | $ (19,236) | $ (6,475) | $ (14,892) | $ (3,136) | $ (2,513) | $(53,123) |
| Basic and diluted loss applicable to common shareholders per share | $ (2.52) | $ (0.75) | $ (1.24) | $ (0.32) | $ (0.18) | |
| Weighted average number of shares of common stock outstanding | 7,641,546 | 8,670,717 | 11,977,121 | 9,891,509 | 14,034,943 | |

The 'As Adjusted' column of the following balance sheet gives effect to our sale of 3,600,000 shares of common stock in this offering at the price set forth on the cover page of this prospectus after deducting the underwriting discount and estimated offering expenses.

| | MARCH 31, 1999 | |
|---|---|---|
| | ACTUAL | AS ADJUSTED |
| | (IN THOUSANDS) | |
| BALANCE SHEET DATA: | | |
| Cash and cash equivalents | $3,656 | $ 21,026 |
| Working capital | 2,676 | 20,046 |
| Total assets | 5,667 | 23,037 |
| Redeemable preferred stock | 4,935 | 4,935 |
| Total shareholders' equity (deficit) | (997) | 16,373 |



## RISK FACTORS

You should carefully consider the following risk factors in addition to the other information in this prospectus before purchasing our shares.

### WE DO NOT HAVE A LONG OPERATING HISTORY AND ARE VULNERABLE TO THE UNCERTAINTIES AND DIFFICULTIES FREQUENTLY ENCOUNTERED BY EARLY STAGE COMPANIES

To date, our activities have consisted primarily of research and development and we have generated minimal revenues. Therefore, we are vulnerable to the uncertainties and difficulties encountered by early stage companies, such as our ability to:

- implement sales and marketing initiatives;
- attain, retain and motivate qualified personnel;
- respond to actions taken by our competitors;

effectively manage our growth by building a solid base of operations and technologies; and

move from the product development stage to the commercialization stage.

WE DO NOT HAVE MANUFACTURING OR MARKETING CAPABILITIES OF OUR OWN

We have no experience in manufacturing or marketing any therapeutic products. We currently do not have the resources to manufacture or market independently on a commercial scale any products that we may develop. We currently intend to outsource some or all manufacturing requirements we may have. We may not be able to enter into suitable arrangements for manufacturing. If, alternatively, we decide to establish a manufacturing facility, we will require substantial additional funds and will be required to hire significant additional personnel and comply with the extensive FDA-mandated good manufacturing practices that would apply to such a facility. Additionally, we currently have no marketing or sales staff and we may not be successful in hiring such a staff.

WE DEPEND ON OUTSIDE PARTIES FOR ASPECTS OF OUR PRODUCT DEVELOPMENT EFFORTS

Our strategy for the research, development and commercialization of our products entails entering into various arrangements with corporate partners, licensors, licensees, collaborators at research institutions and others. We are dependent, therefore, upon the actions of these third parties in performing their responsibilities. We also rely on our collaborative partners to conduct research efforts and clinical trials, to obtain regulatory approvals and to manufacture and market our products. In particular, we have contracted a research organization to conduct the Phase III clinical studies of Promycin. As a result, the amount and timing of resources to be devoted to these activities by these other parties may not be within our control.

WE HAVE AN ACCUMULATED DEFICIT, WE ANTICIPATE THAT OUR LOSSES WILL CONTINUE AND WE RECEIVED A GOING CONCERN OPINION FROM OUR AUDITORS

We are in the development stage and at March 31, 1999, we had an accumulated deficit of approximately $53.1 million. Since then, we have experienced significant losses which we expect to continue for the foreseeable future. We have incurred a substantial portion of our losses in connection with research we sponsored on several product candidates pursuant to agreements with Yale University. We continue to have substantial financial commitments to Yale pursuant to the agreements with them. We will continue to conduct significant research, development, testing and regulatory compliance activities which, together with administrative expenses, are expected to result in operating losses for at least the next several years. We also received an opinion from our independent auditors for the fiscal year ended December 31, 1998 expressing substantial doubt as to our ability to continue as a going concern as a result of our recurring operating losses and need for substantial amounts of additional funding to continue our operations.



WE ARE IN THE EARLY STAGES OF PRODUCT DEVELOPMENT AND OUR PRODUCT CANDIDATES MAY NOT BE SUCCESSFULLY DEVELOPED

Some of our proposed products are in the early development stage and require significant further research and development. We have not yet selected lead drugs to use with our proposed TAPET drug delivery platform and one of our proposed products is just beginning clinical trials. We do not expect our products to be commercially available for a significant period of time, if ever. Results obtained in research and testing conducted to date are not conclusive as to whether products we are investigating will be effective or safe for their proposed uses. Our successful development of any product is subject to the risks of failure inherent in the development of products or therapeutic procedures based on innovative technologies. These risks include the possibilities that:

the proposed products are found to be ineffective or unsafe, or otherwise fail to receive necessary regulatory clearances or approvals;

the proposed products are uneconomical to market or do not achieve broad market acceptance;

third parties hold proprietary rights that preclude us from marketing proposed products; or

third parties market a superior or equivalent product.

THE EFFICACY AND SAFETY OF OUR TAPET TECHNOLOGY IS UNCERTAIN

TAPET uses genetically altered Salmonella bacteria for delivery of genes or gene products to tumors. The use of bacteria in general, and Salmonella in particular, to deliver genes or gene products is a new technology, and existing preclinical and clinical data on the safety and efficacy of this technology are very limited. Unacceptable side effects may be discovered during preclinical and clinical testing of our potential products utilizing the TAPET technology. Products utilizing the TAPET technology are not yet in human clinical trials, and the results of preclinical studies do not always predict safety or efficacy in humans. Possible serious side effects of TAPET include bacterial infections, particularly the risk of septic shock, a serious and often fatal result of bacterial infection of the blood.

WE ARE LIKELY TO REQUIRE ADDITIONAL CAPITAL TO CONTINUE OUR OPERATIONS

Our strategy is to continue to test our current anticancer therapeutics and technologies and to discover, develop and commercialize other products for the treatment of cancer. In order to implement our strategy, we expect to spend significant amounts of money to:

- pay our financial commitments to our current academic collaborators;
- fund our research and product development programs;
- enter into additional strategic/collaborative partnerships with academic institutions;
- sponsor the performance of clinical trials and other tests on our products;
- market our products; and
- fund operating losses and working capital.

We will likely require additional capital from public or private equity or debt sources. We may not be able to raise additional capital in the future on terms acceptable to us or at all. Moreover, future equity financings may be dilutive to our stockholders. If alternative sources of financing are insufficient or unavailable, we will be required to delay, scale back or eliminate our research and product development programs or to license third parties to commercialize products or technologies that we would otherwise seek to develop alone. In addition, we may be unable to meet our obligations under license agreements, research agreements or other collaborative agreements. If we fail to make any payments required to academic collaborators or licensors, or otherwise default under any agreement with such parties, they will have the right to terminate



their agreements with us. As a result, we would be unable to continue development of or to commercialize all or a portion of our product candidates licensed under these agreements.

WE DEPEND HEAVILY ON PATENTS WHICH MAY NOT ADEQUATELY PROTECT OUR TECHNOLOGIES FROM USE BY OTHERS

Our success will depend on our ability, or the ability of our licensors, to obtain and maintain patent protection on technologies and products, to preserve trade secrets and to operate without infringing the proprietary rights of others. Patent applications filed by us or on our behalf may not result in patents being issued or, if issued, the patents may not afford protection against competitors with similar technology. Furthermore, others may independently develop similar technologies or duplicate any technology developed by us. It is possible that before any of our potential products can be commercialized, their related patents may expire, or remain in existence for only a short period following commercialization, thus reducing any advantage of the patent. Moreover, composition of matter patent protection, which gives patent protection for a compound or a composition per se, may not be available for some of our product candidates.

Our processes and potential products may conflict with patents that have been or may be granted to competitors, universities or others. As the biopharmaceutical industry expands and more patents are issued, the risk increases that our processes and potential products may give rise to claims that they infringe the patents of others. These other persons could bring legal actions against us claiming damages and seeking to enjoin clinical testing, manufacturing and marketing of the affected product or process. If any of these actions are successful, in addition to any potential liability for damages, we could be required to obtain a license in order to continue to conduct clinical tests, manufacture or market the affected product or use the affected process.

Required licenses may not be available on acceptable terms, if at all, and the results of litigation are uncertain. If we become involved in litigation or other proceedings, it could consume a substantial portion of our financial resources and the efforts of our personnel. In addition, we may have to expend resources to protect our interests from possible infringement by others.

WE RELY ON CONFIDENTIALITY AGREEMENTS TO PROTECT OUR TRADE SECRETS; DISPUTES MAY ARISE AS TO TECHNOLOGY DEVELOPED BY OUR EMPLOYEES

We also rely on trade secrets that we may seek to protect through confidentiality agreements with employees and other parties. If these agreements are breached, remedies may not be available or adequate and our trade secrets may otherwise become known to competitors. To the extent that our consultants, key employees or other third parties apply technological information independently developed by them or by others to our proposed projects, third parties may own all or part of the proprietary rights to such information, and disputes may arise as to the ownership of these proprietary rights which may not be resolved in our favor.

WE HAVE PAID AND MUST CONTINUE TO PAY SIGNIFICANT AMOUNTS OF MONEY TO YALE, BUT WE MAY NEVER REALIZE ANY BENEFITS FROM OUR AGREEMENTS WITH YALE

We have significant financial commitments to academic collaborators in connection with licenses and sponsored research agreements. In particular, through March 31, 1999, we have paid approximately $6.4 million in total to Yale, and we continue to have substantial funding commitments to Yale whether or not the research results in suitable product candidates. Moreover, we generally do not have the right to control the research that Yale is conducting pursuant to the sponsored research agreements, and the funds may not be used to conduct research relating to products that we would like to pursue. Additionally, if the research being conducted by Yale results in technologies that Yale has not already licensed or agreed to license to us, we may need to negotiate additional license agreements or we may be unable to utilize those technologies.

WE DEPEND HEAVILY ON KEY PERSONNEL

Because of the specialized scientific nature of our business, we are dependent upon the continued efforts of our management and scientific and technical personnel. We are also dependent



upon key employees and our scientific advisors. Competition among biopharmaceutical and biotechnology companies for qualified employees is intense. We may not be able to attract, retain and motivate any additional highly skilled employees required for the expansion of our activities. In addition, the hiring process will be time consuming and will divert the efforts and attention of our management from our operations.

THE FDA AND COMPARABLE FOREIGN REGULATORY AUTHORITIES MAY NOT APPROVE OUR FUTURE PRODUCTS

The FDA and comparable foreign regulatory authorities require rigorous preclinical testing, clinical trials and other approval procedures for human pharmaceutical products. Numerous regulations also govern the manufacturing, safety, labeling, storage, record keeping, reporting and marketing of pharmaceutical products. Governmental regulations may significantly delay the marketing of our products, prevent marketing of products altogether or impose costly requirements on our activities. A delay in obtaining or a failure to obtain regulatory approvals for any of our drug candidates will have an adverse effect on our business.

Government regulatory requirements vary widely from country to country, and the time required to complete preclinical testing and clinical trials and to obtain regulatory approvals is typically several years. The process of obtaining approvals and complying with appropriate government regulations is time consuming and expensive. Changes in regulatory policy or additional regulations adopted during product development and regulatory review of information we submit could also result in added cost, delays or rejections. Our success substantially depends upon our ability to demonstrate the safety and effectiveness of our drug candidates to the satisfaction of government authorities.

EVEN IF OUR PRODUCTS RECEIVE REGULATORY APPROVAL, WE MAY STILL FACE DIFFICULTIES IN MARKETING AND MANUFACTURING THOSE PRODUCTS

If we receive regulatory approval of any of our drug candidates, the FDA or comparable foreign regulatory agency may, nevertheless, limit the indicated uses of the drug candidate. A marketed product, its manufacturer and the

manufacturer's facilities are subject to continual review and periodic inspections. The discovery of previously unknown problems with a product, manufacturer or facility may result in restrictions on the product or manufacturer, including withdrawal of the product from the market. The failure to comply with applicable regulatory requirements can, among other things, result in:

- fines;
- suspended regulatory approvals;
- refusal to approve pending applications;
- refusal to permit exports from the United States;
- product recalls;
- seizure of products;
- injunctions;
- operating restrictions; and
- criminal prosecutions.



THERE IS UNCERTAINTY RELATED TO HEALTHCARE REIMBURSEMENT AND REFORM MEASURES THAT COULD AFFECT THE COMMERCIAL VIABILITY OF ANY PRODUCTS WE DEVELOP

Our success in generating revenue from sales of therapeutic products may depend on the extent to which reimbursement for the cost of those products will be available from government health administration authorities, private health insurers and other organizations. Significant uncertainty exists as to the reimbursement status of newly-approved healthcare products. If government and third-party payors do not provide adequate coverage and reimbursement levels for uses of our therapeutic products, the market acceptance of these products could be adversely affected. Further, third-party insurance coverage may not reimburse us at price levels sufficient for realization of an appropriate return on our investment in developing new therapies or products.

Government and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement of new therapeutic products approved for marketing by the FDA and by refusing, in some cases, to provide any coverage of uses of approved products for disease indications other than those for which the FDA has granted marketing approval. In addition, Congress regularly considers numerous proposals relating to healthcare reform which, if adopted, could affect the amount paid for pharmaceutical products and medical procedures.

WE FACE INTENSE COMPETITION IN THE MARKET FOR ANTICANCER PRODUCTS

The market for anticancer products is large and growing rapidly and will attract new entrants. We are in competition with other pharmaceutical companies, biotechnology companies and research and academic institutions. Many of these companies have substantially greater financial and other resources and development capabilities than us and have substantially greater experience in undertaking preclinical and clinical testing of products, obtaining regulatory approvals and manufacturing and marketing pharmaceutical products. In addition, our competitors may succeed in obtaining approval for products more rapidly than us and in developing and commercializing products that are safer and more effective than those that we propose to develop. The existence of these products, other products or treatments of which we are not aware or products or treatments that may be developed in the future may adversely affect the marketability of our products by rendering them less competitive or obsolete. In addition to competing with universities and other research institutions in the development of products, technologies and processes, we may compete with other companies in acquiring rights to products or technologies from universities.

THE TESTING AND MARKETING OF OUR POTENTIAL PRODUCTS WILL PRESENT LIABILITY RISKS

Our business exposes us to potential product liability risks that are inherent in the testing, manufacturing and marketing of drug products including, but not limited to, unacceptable side effects. Such side effects and other liability risks could give rise to viable product liability claims against us. We do not currently have any product liability insurance. When we seek to obtain product liability insurance, we may not be able to obtain or maintain product liability insurance on acceptable terms and insurance may not provide adequate coverage against potential liabilities. As a result, if we are subject to

product liability claims, we may incur significant expense defending such claims.

OUR COMPLIANCE WITH ENVIRONMENTAL LAWS MAY NECESSITATE EXPENDITURES IN THE FUTURE

We cannot accurately predict the outcome or timing of future expenditures that we may be required to pay in order to comply with comprehensive federal, state and local environmental laws and regulations. We must comply with environmental laws that govern, among other things, all emissions, waste water discharge and solid and hazardous waste disposal, and the remediation of contamination associated with generation, handling and disposal activities. Environmental laws have changed in recent years and we may become subject to stricter environmental standards in the future and face larger capital expenditures in order to comply with environmental laws. Our limited capital makes it uncertain whether we will be able to pay for these larger than expected capital expenditures. Also, future developments, administrative actions or liabilities relating to



environmental matters may have a material adverse effect on our financial condition or results of operations.

All of our operations are performed under strict environmental and health safety controls consistent with the Occupational Safety and Health Administration, or OSHA, the Environmental Protection Agency, or EPA, and the Nuclear Regulatory Commission, or NRC, regulations. We cannot be certain that we will be able to control all health and safety problems. If we cannot control those problems, we may be held liable and may be required to pay the costs of remediation. These liabilities and costs could be material.

EFFECTS OF ANTI-TAKEOVER PROVISIONS COULD INHIBIT THE ACQUISITION OF VION

Some of the provisions of our certificate of incorporation, bylaws and Delaware law could, together or separately:

- discourage potential acquisitions;
- delay or prevent a change in control; and
- limit the price that investors might be willing to pay in the future for shares of our common stock.

In particular, our certificate of incorporation provides that our board may issue from time to time, without stockholder approval, additional shares of preferred stock. The issuance of preferred stock may make it more difficult for a third party to acquire, or may discourage a third party from acquiring, voting control of our stock. This provision could also discourage, hinder or preclude an unsolicited acquisition, even if such acquisition is beneficial to us, and could make it less likely that stockholders receive a premium for their shares as a result of any such attempt. Furthermore, we are subject to Section 203 of the Delaware General Corporation Law which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder.

WE MAY ISSUE PREFERRED STOCK ON TERMS THAT MAY DISADVANTAGE OUR COMMON STOCKHOLDERS

We currently have 493,902 shares of Class A Preferred Stock and 5,000 shares of 5% Redeemable Convertible Preferred Stock Series 1998 outstanding, and the board may issue additional preferred stock without stockholder approval. The issuance of additional shares of preferred stock by our board could decrease the amount of earnings and assets available for distribution to our common stockholders. Preferred stockholders could receive voting rights and rights to payments on liquidation or of dividends or other rights that are greater than the rights of the common stockholders.

FAILURE TO OBTAIN YEAR 2000 COMPLIANCE MAY HAVE ADVERSE EFFECTS ON OUR BUSINESS AND RESULTS OF OPERATIONS

In the event that we do not implement adequate plans to address Year 2000 compliance, our operations could be affected in several adverse ways. Failure of a scientific instrument or laboratory facility or by any of our suppliers could result, among other things, in the loss of experiments that would take weeks to set up and repeat. Such delays in the progress of research could have an adverse impact on our stock price and on our ability to raise capital, and the cost of repeating lost experiments cannot reasonably be estimated at this time. In

addition, research delays could occur due to the impact of Year 2000 problems at major vendors, government research funding agencies, or development partners.

OUR MANAGEMENT HAS BROAD DISCRETION AS TO THE USE OF THE PROCEEDS OF THIS OFFERING

Our management will have broad discretion with respect to the use of proceeds from this offering. We intend to use the net proceeds from this offering for working capital and general corporate purposes, including additional research and development projects, increasing marketing



activities and possible expansion through acquisitions. As a result, you must rely solely on management's ability and discretion to apply the proceeds to these ends effectively.

THERE MAY BE AN ADVERSE EFFECT ON THE MARKET PRICE OF OUR STOCK AS A RESULT OF SHARES BEING AVAILABLE FOR SALE IN THE FUTURE

Sales of a substantial amount of common stock in the public market, or the perception that these sales may occur, could adversely affect the market price of our common stock prevailing from time to time. This could also impair our ability to raise additional capital through the sale of our equity securities. After this offering, we will have 19,167,219 shares of common stock outstanding, or 19,707,219 shares if the underwriter's over-allotment option is exercised in full. All of these shares will be freely tradeable except for any shares purchased by an affiliate of ours, which will be subject to the limitations of Rule 144 under the Securities Act.

There are options and warrants outstanding that are exercisable for an aggregate of 7,625,286 shares of common stock. Options and warrants to purchase 6,106,253 shares are currently exercisable, and the remainder become exercisable at various times through 2003. Additionally, the standstill agreement with Boehringer Ingelheim terminates in November 1999, upon which Boehringer Ingelheim will be free to sell up to 448,336 shares in the public market, subject to the limitations of Rule 144.

## NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, and information about our financial condition, results of operations and business that are based on our current and future expectations. You can find many of these statements by looking for words such as 'estimate,' 'project,' 'believe,' 'anticipate,' 'intend,' 'expect' and similar expressions. These statements reflect our current views with respect to future events and are subject to risks and uncertainties, including those discussed under 'Risk Factors,' that could cause our actual results to differ materially from those contemplated in the forward-looking statements. We caution you that no forward-looking statement is a guarantee of future performance. You should not place undue reliance on these forward-looking statements, which speak only as of the date of this prospectus. We do not undertake any obligation to publicly release any revisions to these forward-looking statements to reflect events or changes in circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events that may cause our actual results to differ from those expressed or implied by the forward-looking statements contained in this prospectus.



## USE OF PROCEEDS

We estimate that our net proceeds from the sale of the 3,600,000 shares offered by us will be approximately $17,370,000, or $20,070,000 if the underwriter exercises its over-allotment option in full, at an assumed offering price of $5.375 per share and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering for working capital to support the growth of our business, including product research and development, marketing and other general corporate purposes. The net proceeds may also be used for the possible acquisition of businesses and technologies that are complementary or supplementary to our current or future business. Our ability to effect any acquisition depends on a number of factors, including the

availability of acquisition candidates or other business opportunities. We are not currently party to any binding agreement relating to an acquisition, however, we review and consider possible acquisitions on an ongoing basis. Pending the use of proceeds, the proceeds from this offering will be invested in short-term, investment grade interest bearing securities.

## PRICE RANGE OF COMMON STOCK

Our common stock has traded on the Nasdaq SmallCap Market under the symbol 'VION' since April 29, 1996. The following table sets forth the range of high and low sales prices of the common stock.

<TABLE>
<CAPTION>

| | HIGH | LOW |
|---|---|---|
| <S> | <C> | <C> |
| FISCAL YEAR ENDED DECEMBER 31, 1999 | | |
| Third quarter (through July 23, 1999)..... | $6.000 | $4.625 |
| Second quarter..... | 6.938 | 4.500 |
| First quarter..... | 7.250 | 4.438 |
| FISCAL YEAR ENDED DECEMBER 31, 1998 | | |
| Fourth quarter..... | $4.938 | $2.125 |
| Third quarter..... | 4.250 | 2.938 |
| Second quarter..... | 5.281 | 3.375 |
| First quarter..... | 3.875 | 2.875 |
| FISCAL YEAR ENDED DECEMBER 31, 1997 | | |
| Fourth quarter..... | $6.000 | $2.812 |
| Third quarter..... | 5.438 | 3.625 |
| Second quarter..... | 5.125 | 3.375 |
| First quarter..... | 6.250 | 3.000 |

</TABLE>

On July 21, 1999, the last reported sale price of our shares on the Nasdaq SmallCap Market was $5.375 per share. As of July 20, 1999, there were approximately 221 holders of record of our shares of common stock.

## DIVIDEND POLICY

We have never paid any cash dividends on our shares. We currently intend to retain all earnings for use in our business and do not anticipate paying cash dividends in the foreseeable future. Additionally, we cannot pay cash dividends on our common stock without the consent of a majority of holders of the Class A Preferred Stock and the 5% Redeemable Convertible Preferred Stock Series 1998.



## CAPITALIZATION

The following table sets forth, as at March 31, 1999, our capitalization and our capitalization as adjusted to reflect the sale of 3,600,000 shares of our common stock at an assumed offering price of $5.375 per share and the application of the estimated net proceeds from this offering. This table should be read together with the financial statements, including their related notes, appearing elsewhere in this prospectus.

<TABLE>
<CAPTION>

| | MARCH 31, 1999 | |
|---|---|---|
| | ACTUAL | AS ADJUSTED |
| | (IN THOUSANDS) | |
| <S> | <C> | <C> |
| Long-term obligations, less current portions..... | $ 129 | $ 129 |
| Redeemable preferred stock: | | |
| 5% convertible preferred stock Series 1998, $0.01 par value, 15,000 shares authorized; 5,000 shares issued and outstanding (redemption value -- $5,187,500)..... | 4,935 | 4,935 |
| Shareholders' equity: | | |
| Preferred stock, $0.01 par value; 5,000,000 shares authorized consisting of: | | |

| | | |
|---|---|---|
| Class A convertible preferred stock, $0.01 par value; 3,500,000 shares authorized; 559,077 shares issued and outstanding (liquidation preference $5,590,770) | 6 | 6 |
| Common stock, $0.01 par value; 35,000,000 shares authorized; 14,145,285 shares issued and outstanding, actual; 17,745,285 shares issued and outstanding, as adjusted | 141 | 177 |
| Additional paid-in capital | 52,026 | 69,360 |
| Deferred compensation | (28) | (28) |
| Accumulated deficit | (53,142) | (53,142) |
| Total shareholders' equity (deficit) | (997) | 16,373 |
| Total capitalization | $ 4,067 | $ 21,437 |

</TABLE>

The'As Adjusted' column of the table above:

does not give effect to 7,625,286 shares issuable upon the exercise of outstanding stock options and warrants and 1,371,950 shares issuable upon the conversion of outstanding shares of preferred stock; and

assumes that the underwriter's over-allotment option is not exercised.



## SELECTED FINANCIAL DATA

The following selected financial data for the periods ended December 31, 1994 through December 31, 1998 are derived from our audited financial statements. The financial data for the three months ended March 31, 1998 and March 31, 1999 and the period from May 1, 1994 (inception) through March 31, 1999 are derived from unaudited financial statements. In the opinion of management, the unaudited financial statements include all adjustments (consisting of normal recurring adjustments) necessary to present fairly our results of operations for the periods then ended and our financial position as of such dates. Operating results for the three months ended March 31, 1999 are not necessarily indicative of the results that may be expected for the entire fiscal year. The selected financial data should be read in conjunction with the financial statements, related notes and 'Management's Discussion and Analysis of Financial Condition and Results of Operations' included elsewhere in this prospectus.

<TABLE>
<CAPTION>

| | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH DECEMBER 31, | YEAR ENDED DECEMBER 31, | | | | THREE MONTHS ENDED MARCH 31, | | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH MARCH 31, |
|---|---|---|---|---|---|---|---|---|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1998 | 1999 | 1999 |
| | (IN THOUSANDS, EXCEPT PER SHARE DATA) | | | | | | | |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> | <C> | <C> |
| STATEMENT OF OPERATIONS DATA: | | | | | | | | |
| Revenues: | | | | | | | | |
| Contract research grants | $-- | $ -- | $ 52 | $ 48 | $ 309 | $ -- | $ 62 | $ 471 |
| Research support | -- | -- | -- | 1,223 | 1,647 | 275 | 259 | 3,129 |
| Technology license revenues | -- | -- | -- | 4,000 | -- | -- | 50 | 4,050 |
| Total revenues | -- | -- | 52 | 5,271 | 1,956 | 275 | 371 | 7,650 |
| Operating expenses: | | | | | | | | |
| Research and development | 422 | 7,192 | 5,975 | 7,675 | 10,709 | 2,274 | 2,348 | 34,321 |
| General and administrative | 54 | 2,378 | 2,113 | 2,639 | 2,203 | 632 | 504 | 9,891 |
| Non-recurring collaboration restructuring fee | -- | -- | -- | 600 | -- | -- | -- | 600 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total operating expenses..... | 476 | 9,570 | 8,088 | 10,914 | 12,912 | 2,906 | 2,852 | 44,812 |
| Loss from operations..... | (476) | (9,570) | (8,036) | (5,643) | (10,956) | (2,631) | (2,481) | (37,162) |
| Interest income..... | -- | (84) | (437) | (344) | (540) | (143) | (60) | (1,465) |
| Interest expense..... | -- | 45 | 10 | 44 | 62 | 18 | 11 | 172 |
| Net loss..... | (476) | (9,531) | (7,609) | (5,343) | (10,478) | (2,506) | (2,432) | (35,869) |
| Preferred stock dividends and accretion..... | -- | -- | (11,627) | (1,132) | (4,414) | (630) | (81) | (17,254) |
| Loss applicable to common shareholders..... | $(476) | $(9,531) | $(19,236) | $(6,475) | $(14,892) | $(3,136) | $(2,513) | $(53,123) |
| Basic and diluted loss applicable to common shareholders per share.... | $(0.15) | $(1.59) | $(2.52) | $(0.75) | $(1.24) | $(0.32) | $(0.18) | |
| Weighted average number of shares of common stock outstanding..... | 3,174,693 | 6,007,154 | 7,641,546 | 8,670,717 | 11,977,121 | 9,891,509 | 14,034,943 | |

</TABLE>

<TABLE>
<CAPTION>

| | DECEMBER 31, | | | | | MARCH 31, |
|---|---|---|---|---|---|---|
| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
| BALANCE SHEET DATA: | | | | | | |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Cash and cash equivalents..... | $461 | $2,351 | $3,788 | $ 3,891 | $3,821 | $3,656 |
| Working capital..... | 252 | 4,337 | 7,938 | 10,678 | 5,045 | 2,676 |
| Total assets..... | 573 | 5,464 | 9,881 | 13,580 | 9,269 | 5,667 |
| Redeemable preferred stock..... | -- | -- | -- | -- | 4,854 | 4,935 |
| Total shareholders' equity (deficit)..... | 305 | 4,963 | 9,072 | 11,959 | 1,504 | (997) |

</TABLE>



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

### OVERVIEW

We are a development stage biopharmaceutical company. Our activities to date have consisted primarily of research and product development sponsored by us pursuant to license agreements with Yale University, negotiating and obtaining other collaborative agreements, recruiting management and other personnel, securing our facilities and raising capital through equity and debt financings. Our revenues consist of research grants, technology license fees and reimbursements for research expenses. We have generated minimal revenues and have incurred substantial operating losses from our activities.

Our plan of operations for the next 18 months includes the following elements:

- Continue to conduct internal research and development with respect to our core technologies and other product candidates that we may identify;
- Conduct Phase III clinical studies of Promycin in the United States and Europe for treatment of head and neck cancer;
- Conduct Phase I clinical studies of Triapine in the United States for safety and efficacy;
- File IND(s) with the FDA and conduct Phase I clinical studies in the United States and Europe for the safety and selective tumor accumulation of several bacterial constructs using our TAPET delivery system;
- Continue to support research and development being performed at Yale University and by other collaborators; and
- Continue to seek collaborative partnerships, joint ventures,

co-promotional agreements or other arrangements with third parties.

RESULTS OF OPERATIONS

THREE MONTHS ENDED MARCH 31, 1999 COMPARED TO THREE MONTHS ENDED MARCH 31, 1998

Revenues. Revenues increased 35% from $274,842 for the three months ended March 31, 1998 to $371,414 for the three months ended March 31, 1999. This increase was primarily due to revenues from an initial royalty payment of $50,000 on the MELASYN products and from reimbursements of expenses of $61,946 from the Small Business Innovation Research grants for the three months ended March 31, 1999.

Research and Development. Research and development expenses increased slightly from $2,273,522 for the three months ended March 31, 1998 to $2,347,801 for the three months ended March 31, 1999.

General and Administrative. General and administrative expenses decreased 20% from $631,709 for the three months ended March 31, 1998 to $504,601 for the three months ended March 31, 1999. This decrease was due to lower consulting and legal fees for the three months ended March 31, 1999.

Interest Income. Interest income on invested funds decreased 58% from $142,874 for the three months ended March 31, 1998 to $60,366 for the three months ended March 31, 1999. This decrease reflects the average invested balances of each period. Interest expense decreased from $18,705 for the three months ended March 31, 1998 to $11,607 for the three months ended March 31, 1999.

YEAR ENDED DECEMBER 31, 1998 COMPARED TO YEAR ENDED DECEMBER 31, 1997

Revenues. Revenues decreased 63% from $5,271,133 for the year ended December 31, 1997 to $1,955,989 for the year ended December 31, 1998. This decrease was due to revenue of $4,000,000



we received from an initial technology license in 1997. Revenues from reimbursed development costs under our collaboration agreement with Boehringer Ingelheim and from the Triapine-related grant increased from $1,222,912 for the year ended December 31, 1997 to $1,647,202 for the year ended December 31, 1998. Additionally, for the year ended December 31, 1998, we recognized revenues of $308,787 for reimbursements of expenses from the Small Business Innovation Research grants compared to $48,000 for the year ended December 31, 1997.

Research and Development. Research and development expenses increased 40% from $7,675,486 for the year ended December 31, 1997 to $10,709,401 for the year ended December 31, 1998. The increase in research and development expense for the year ended December 31, 1998 reflects expenses related to patient accumulation for the Promycin head and neck Phase III trial, and expenses of TAPET preclinical development needed to complete filing requirements for our INDs in the United States and Europe. We expect research and development expenses to continue to increase in the future.

General and Administrative. General and administrative expenses decreased 17% from $2,639,486 for the year ended December 31, 1997 to $2,202,944 for the year ended December 31, 1998. This decrease was due to investment banking fees incurred in 1997 related to the Boehringer Ingelheim agreement and other advisory activities directed at marketing our technology in the United States and abroad that were not incurred in 1998. However, we expect general and administrative expenses to increase materially in 1999 primarily due to an increase in compensation expense paid to our new chief executive officer, and due to severance costs to be paid to his predecessor.

Non-recurring Collaboration Restructuring Fee. For the year ended December 31, 1997, we had a non-recurring collaboration restructuring fee of $600,000 which was a non-cash expense for issuing 150,000 additional shares of common stock to Yale University. In return, we amended two license agreements pursuant to which Yale agreed to reduce amounts payable by us under those agreements.

Interest Income. Interest income increased 51% from $343,911 for the year ended December 31, 1997 to $540,240 for the year ended December 31, 1998. This increase reflects the average invested balances of each period. Interest expense increased from $43,666 for the year ended December 31, 1997 to $61,553 for the year ended December 31, 1998, reflecting larger amounts of leased equipment and financing charges on clinical trial insurance.

Preferred Dividends and Accretion. Preferred stock dividends and accretion increased from $1,131,740 for the year ended December 31, 1997 to $4,414,050 for

the year ended December 31, 1998. The amounts included primarily represent our recording of non-cash dividends related to the issuance of our Series 1998 Redeemable Convertible Preferred Stock in 1998. The amounts for the year ended December 31, 1997 primarily represent additional dividend requirements equal to the excess of the fair value of the common stock issued upon conversion over the fair value of the common stock issuable pursuant to the original conversion terms of the Class B Convertible Preferred Stock. Also included in the amounts described above is the annual accretion of dividends related to the issuance.

YEAR ENDED DECEMBER 31, 1997 COMPARED TO YEAR ENDED DECEMBER 31, 1996

Revenues. Revenues increased from $51,779 for the year ended December 31, 1996 to $5,271,133 for the year ended December 31, 1997. This increase was due to revenues of $4,000,000 that we received from an initial technology license and to revenues from reimbursed development costs of $1,222,912 for the year ended December 31, 1997.

Research and Development. Research and development expenses increased 28% from $5,975,089 for the year ended December 31, 1996 to $7,675,486 for the year ended December 31, 1997. This increase was due to expanded preclinical development of our TAPET technology and preparation for our Phase III trials of Promycin.

General and Administrative. General and administrative expenses increased 25% from $2,113,077 for the year ended December 31, 1996 to $2,639,486 for the year ended December



31,1997. This increase was due to investment banking fees related to the Boehringer Ingelheim agreement and other advisory activities directed at marketing our technology in the United States and abroad.

Non-recurring Collaboration Restructuring Fee. For the year ended December 31, 1997, we had a non-recurring collaboration restructuring fee of $600,000 which was a non-cash expense for issuing 150,000 additional shares of stock to Yale University. In return, we amended two license agreements pursuant to which Yale agreed to reduce amounts payable by us under those agreements.

Interest Income. Interest income decreased 21% from $437,993 for the year ended December 31, 1996 to $343,911 for the year ended December 31, 1997. This decrease reflects the average invested balances of each period. Interest expense increased from $10,285 for the year ended December 31, 1996 to $43,666 for the year ended December 31, 1997, reflecting larger amounts of leased equipment each year and financing charges on clinical trial insurance.

Preferred Dividends and Accretion. Preferred stock dividends and accretion decreased from $11,627,404 for the year ended December 31, 1996 to $1,131,740 for the year ended December 31, 1997. The amounts included primarily represent our recording of non-cash dividends related to the issuance of our Class A Convertible Preferred Stock in 1996. The 1997 amounts primarily represent additional dividend requirements equal to the excess of the fair value of the common stock issued upon conversion over the fair value of the common stock issuable pursuant to the original conversion terms of the Class B Convertible Preferred Stock. Also included in the amounts described above is the annual accretion of dividends related to each of these issuances.

LIQUIDITY AND CAPITAL RESOURCES

At March 31, 1999, we had working capital of $2,675,821. In April 1999, we consummated a private placement of our common stock. Pursuant to the private placement, we issued 893,915 shares of common stock at a price of approximately $4.47 per share, for aggregate proceeds of approximately $4,000,000.

During the 12 months ending December 31, 1999, we will be required to make payments of an aggregate of $863,076 to Yale University under sponsored research and license agreements of which $237,076 has been paid as of March 31, 1999. We believe that the net proceeds from this offering, together with existing cash and cash equivalents and short-term investments, will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least the next 18 months.

We have 1,071,232 Class A Warrants outstanding and 1,308,722 Class B Warrants outstanding. Subject to adjustment, each Class A Warrant entitles the holder to purchase, at an exercise price of $4.63 and each Class B Warrant entitles the holder to purchase, at an exercise price of $6.23, one share of common stock. In addition, the exercise of a Class A Warrant entitles the holder to one Class B Warrant. The warrants are exercisable at any time after issuance through August 13, 2000. The warrants are subject to redemption by us for $.05

per warrant, upon 30 days' written notice, if the average closing bid price of the common stock exceeds $7.30 per share with respect to the Class A Warrants and $9.80 per share with respect to the Class B Warrants for a 30 consecutive business day period ending within 15 days of the date of the notice of redemption. If all such warrants are exercised, we will receive proceeds, net of any fees, of $18,797,631. However, the common stock is not currently trading, and may not trade, at the level that will trigger redemption of either class of warrants.

IMPACT OF THE YEAR 2000 ISSUE

The Year 2000 issue refers to potential problems with computer systems or any equipment with computer chips or software that use dates where the date has been stored as just two digits. On January 1, 2000, any clock or date recording mechanism incorporating date sensitive software which uses only two digits to represent the year may recognize a date using 00 as the Year 1900 rather than the Year 2000. This could result in a system failure or miscalculations causing



disruption of operations, including, among other things, a temporary inability to process transactions, perform laboratory analyses, or engage in similar business activities.

Our exposure to potential risks from the Year 2000 issue involves information technology, or IT, systems, scientific instrumentation, and laboratory facilities. We have hired an information systems administrator and have inventoried all of the software and hardware embedded in our laboratory and facilities equipment employed in our research and development programs to ascertain our Year 2000 compliance. We have not completed our assessment of our internal information systems to determine the extent of any Year 2000 problem. However, based on an initial review, we do not currently believe that we have material exposure to the Year 2000 Issue with respect to our own information systems, since our existing systems correctly define the Year 2000 or are expected to correctly define Year 2000 by December 31, 1999. In addition, we have not completed our assessment of our scientific instrumentation, and laboratory facilities to determine the extent of any Year 2000 problem. However, we maintain service agreements covering our critical instrumentation and laboratory environmental equipment. Accordingly, to the extent that these service agreements are enforceable, we do not believe that the Year 2000 presents a material exposure with regard to our critical instrumentation and laboratory environmental equipment.

We have purchased Year 2000 upgrades to several software programs, including our accounting programs, the cost of which has not been material. To date, we have spent approximately $4,000 with respect to our Year 2000 assessment and estimate that our costs to complete our assessment, as well as any corrective measures, will be approximately $26,000. We do not expect to reach profitability on an operating basis before 2000 and therefore expect to fund all such costs from funds we have raised or expect to raise in various financings.

We believe we will complete our review and implement contingency plans to deal with the Year 2000 issue in a timely manner. In the event that we do not implement adequate plans, our operations could be affected in several adverse ways. Failure of a scientific instrument or laboratory facility could result, among other things, in the loss of experiments that would take weeks to set up and repeat. These delays in the progress of research could have an adverse impact on our stock price and on our ability to raise capital, and the cost of repeating lost experiments cannot reasonably be estimated at this time. In addition, research delays could occur due to the impact of Year 2000 problems at major vendors, government research funding agencies, or development partners.

We believe we maintain adequate data backup to computers used in our information systems and scientific instrumentation. We currently do not have a contingency plan in the event that we or any of our key suppliers and vendors is unable to become Year 2000 compliant. We will develop a contingency plan if we determine we or any of our key vendors or suppliers is not likely to achieve our compliance objectives.



BUSINESS

GENERAL

We are a biopharmaceutical company engaged in the research, development and commercialization of cancer treatment technologies. Our product portfolio consists of a drug delivery platform and three cancer therapeutics. We believe that TAPET'r', our drug delivery technology, addresses one of the biggest challenges faced in treating cancer: how to effectively deliver anticancer drugs to tumors without harming normal cells. TAPET uses genetically altered strains of Salmonella bacteria as a vehicle, or vector, for delivering cancer-fighting drugs preferentially to solid tumors. We believe that TAPET's greatest potential application is the ability to continuously deliver a large variety of anticancer drugs directly to tumors while minimizing the side effects associated with current treatments.

Promycin'r' is an anticancer cell therapeutic that is designed to improve the treatment of solid tumors by attacking the hypoxic, or oxygen-depleted, cells. Used in conjunction with radiation therapy, Promycin may improve the treatment of solid tumors by killing the poorly oxygenated cells of tumors that are not readily destroyed by radiation therapy alone. Preclinical studies have shown that Promycin, in conjunction with radiation, is effective in eradicating oxygen-depleted cells. Promycin is currently in Phase III clinical trials.

Our other anticancer cell therapeutics include the following:

Triapine'r' is designed to prevent the replication of tumor cells by blocking a critical step in the synthesis of DNA and, as a result, inhibit the growth and repair of cancer cells. In preclinical research, this drug has shown significant, broad-spectrum activity against a variety of cancer types.

Sulfonyl hydrazine prodrugs represent compounds that are designed to be converted into unique, potent alkylating agents. Alkylating agents are highly effective against tumors but can also lead to toxic side effects. Sulfonyl hydrazine prodrugs reduce these toxic side effects and allow alkylating agents to be delivered safely and preferentially to tumor cells for conversion into powerful cancer-fighting drugs.

Our product development strategy consists of two main approaches. First, we engage in product development with respect to anticancer technologies through in-house research and through collaboration with academic institutions. Second, we seek partnerships with other companies to develop, and eventually market, our products. Our research and development programs are based on technologies that we license from Yale University.

OVERVIEW OF CANCER

Cancer is the second leading cause of death in the United States, exceeded only by heart disease. Since 1990, approximately four million Americans have died from cancer. It is a devastating disease with tremendous unmet medical needs. The American Cancer Society estimates that 1.2 million new cases of invasive cancer will be diagnosed in the United States in 1999 and 563,100 Americans are expected to die from cancer in 1999. Sixty percent of new cases of cancer are expected to result in death within five years.

Cancer is characterized by uncontrolled cell division resulting in the development of a mass of cells, commonly known as a tumor, as well as the invasion and spreading of these cells. Cancerous tumors can arise in almost any tissue or organ within the human body. Cancer is believed to occur as a result of a number of factors, such as genetic predisposition, chemical agents, viruses and irradiation. These factors result in genetic changes affecting the ability of cells to normally regulate their growth and differentiation. When a normal cell becomes cancerous, it can spread to various sites in the body.

Although several types of tumors can now be effectively treated with drugs, it is only in recent years that we have begun to see improvement in the survival rates for the most common tumors. The market for cancer therapeutics in the United States was approximately $9.3 billion in



1997 and is projected to total approximately $11.5 billion in 1999. We believe that recent developments in the understanding of the processes that regulate the proliferation of malignant cells provide opportunities to discover and develop innovative products and approaches to treat cancer.

COMMON TREATMENT METHODS

The three most common methods of treating patients with cancer are surgery, radiation therapy and chemotherapy. A cancer patient often receives a

combination of these methods. Surgery and radiation therapy are particularly effective in patients in which the disease is localized and has not yet spread to other tissues or organs. Surgery involves the removal of the tumor and adjacent tissue. In many cases where the cancer cells have not yet spread, surgery cannot be performed because of the inaccessible location of the tumor or the danger of removing too much normal tissue along with the cancerous tissue.

Radiation therapy involves the exposure of the tumor and surrounding tissue to ionizing radiation. The objective of radiation therapy is to kill the cancer cells with ionized molecules that are created in the parts of the body exposed to the ionizing radiation. Radiation, however, also kills or damages normal cells. Radiation therapy can have varying levels of effectiveness, and can cause patient weakness, loss of appetite, nausea and vomiting. Radiation can also result in loss of normal body functions, which may include bone marrow depression, gastrointestinal complications, kidney damage and damage to the peripheral nervous system. In some cases, radiation-induced mutations in bone marrow cells can lead to new secondary cancers, such as leukemia, years after treatment for other forms of cancer.

Chemotherapy is the principal approach used for tumors that have spread. Chemotherapy seeks to interfere with the molecular and cellular processes that control the development, growth and survival of malignant tumor cells. Chemotherapy involves the administration of drugs designed to kill cancer cells or the administration of hormone analogs to either reduce the production of, or block the action of, certain hormones that affect the growth of various tumors. Chemotherapy, however, can also result in loss of normal body functions and can result in patient weakness, loss of appetite, nausea and vomiting. In many cases, chemotherapy consists of the administration of several different drugs in combination.

RECENT ADVANCES

In recent years, there have been significant advances in molecular biology, immunology and other related fields of biotechnology that have led to a better understanding of how malfunctioning genes can result in the formation of tumors. It is anticipated that these advances will lead to better ways to diagnose cancer and to prevent tumors from forming or becoming malignant. Other research has focused on mechanisms to efficiently deliver therapies to tumors. Ultimately, these emerging technologies may lead to genetic-based therapies aimed specifically at the genes that have malfunctioned and caused the cancer to form or spread, and to therapies that can selectively deliver agents to tumors that prevent the abnormal growth of cells.

Most current anticancer drugs, when introduced into the system by current delivery methods, affect rapidly growing cells, both cancerous and normal, throughout the body. The result is often significant side effects that take a toll on a patient's health and can limit the amount of treatment a patient may receive. Therefore, a great need exists for new therapies and delivery strategies that preferentially deliver anticancer agents to tumors while having minimal effects on healthy, normal tissues.

We believe that, for the foreseeable future, the principal means of combating cancer will continue to be through the surgical removal of tumors and the destruction of malignant cells through radiation therapy and chemotherapy, delivered systemically or in ways that make anticancer agents preferentially more toxic to tumors. Therefore, we intend to take a balanced approach in our research and development efforts. We will continue to develop chemically defined



small molecules based upon unique cellular targets discovered through biotechnology, while also pursuing development of technologies to deliver therapeutic agents to tumors.

OUR PRODUCT DEVELOPMENT PROGRAM

We are currently developing several products for the treatment of cancer. The table below sets forth the development status of our core product candidates as of July 23, 1999:

[Table showing product timeline]

[TAPET is in preclinical, Promycin is in Phase III, Triapine is in Phase I and Sulfonyl Hydrazine Prodrugs are in preclinical]

'Preclinical' indicates that the product candidate selected for development has met predetermined criteria for potency, specificity, manufacturability and pharmacologic activity in animal and in vitro models. 'Phase I' indicates safety and proof of concept testing in a limited patient population and toxicology

testing in animal models. 'Phase II' indicates safety, dosing and efficacy testing in a limited patient population. 'Phase III' indicates safety, dosing and efficacy testing in a large patient population.

DRUG DELIVERY PLATFORM: TAPET

TAPET is a drug delivery system that uses genetically altered strains of Salmonella bacteria as a vehicle, or vector, for delivering cancer-fighting drugs preferentially to solid tumors.

The origin of TAPET comes from the concept that malignant melanoma has some striking similarities to normal white blood cells. Melanoma kills after spreading throughout the body and forming solid black tumors, in a process known as metastasis. David Bermudes, our director of microbiology, noting the similarities between melanoma and white blood cells, conducted experiments to determine whether parasites that are specific for white blood cells would be effective cancer-fighting agents. Through his experience with infectious diseases, Dr. Bermudes knew that there were a number of parasites that have evolved to attack white blood cells, especially ones known as macrophages. Working in petri dishes, he was able to show that several different parasites were able to infect human melanoma cells. Among these parasites was the bacterium Salmonella.

The Salmonella bacteria that comprise TAPET organisms were chosen as the vector because of their ability to preferentially target and infect tumors, and to survive in both the oxygenated and low-oxygen environments found within solid tumors. In preclinical studies, after injection into the body, TAPET organisms migrated to and penetrated throughout tumors. The bacteria grew in the tumor cells at ratios in excess of 1,000:1 compared to normal tissues and multiplied throughout the entire tumor mass, thriving even within the deep, oxygen-starved interior where other anticancer drugs generally do not reach. The increase in the quantity of the TAPET organisms improves their ability to inhibit tumor growth and to enable the continuous delivery of anticancer drugs to tumors. We believe that this growth occurs because the organisms utilize components of DNA and proteins found in tumors and are protected within the tumor from the body's immune system. We believe that bringing a 'drug factory' preferentially to the tumor will result in a cancer therapy that is more concentrated, more effective and less toxic to normal tissue.

We have also genetically altered TAPET organisms to significantly reduce the serious toxicities associated with septic shock from normal Salmonella bacteria. As an additional safety measure, TAPET organisms are designed to remain fully sensitive to antibiotic therapies. Therefore, if there is an adverse reaction, the bacteria can be treated with antibiotics at any time during therapy. Preclinical studies have demonstrated these safety measures to be effective.

We are developing a portfolio of TAPET organisms as a platform to deliver a variety of cancer-fighting drugs to tumors. Our scientists have demonstrated in animals TAPET's potential therapeutic effects on melanoma and colon, lung and breast cancer, all of which are solid tumors. If our TAPET technology proves an effective platform to deliver anticancer drugs and inhibit the



growth of tumors in humans, we intend to use TAPET to deliver Vion-developed, anticancer drugs. Some of these drugs will be generic and non-proprietary, however, when combined with the TAPET system, they could result in proprietary products for us. In addition, we intend to seek multiple strategic partnerships with pharmaceutical companies to use TAPET to deliver their proprietary anticancer drugs.

In preclinical studies, the altered Salmonella bacteria were injected into tumor-ridden mice. In these studies, administration of TAPET organisms inhibited the growth of melanoma tumors by 94% compared with untreated control animals. Additionally, the treated mice survived more than twice as long as those that did not receive TAPET treatment. Toxicological studies in four animal species suggest that TAPET can be administered safely at doses that exhibit antitumor effects in animal models.

We submitted an IND to the FDA and are now working under an open IND status to prepare for and initiate Phase I intratumoral safety studies in human patients in the third quarter of 1999 using a TAPET organism that is unarmed, or without an anticancer drug. If successful, these safety studies will be followed by additional Phase I studies using TAPET organisms delivered intravenously, as well as an armed TAPET organism designed to manufacture and express an anticancer drug.

ANTICANCER CELL THERAPEUTICS

PROMYCIN

Promycin, is an anticancer cell therapeutic that targets oxygen-depleted cells. Used in conjunction with radiation therapy, Promycin may improve the treatment of solid tumors by killing the poorly oxygenated cells of tumors that are not easily destroyed by radiation therapy alone. The intended market for Promycin is lung, head and neck, cervical, colon, rectum and esophageal cancer.

Hypoxic tumor cells can often constitute 1%-15% of the malignant cells contained in a tumor. Because radiation therapy requires oxygenation of the tissue in order to be effective, hypoxic cells are less susceptible to radiation therapy and tend to form a therapeutically resistant group within solid tumors. We believe that even small quantities of hypoxic cells within a tumor provide the basis for tumor cells to survive and proliferate after most of the non-hypoxic malignant cells in the tumor have been eradicated by radiation treatment. Hypoxic cells also exhibit resistance to most standard chemotherapeutic agents. Preclinical studies have shown that Promycin, in conjunction with radiation, is effective in eradicating hypoxic cells. Although we believe that one possible explanation for the failure of radiation therapy is the existence within tumors of hypoxic cells, to date, there is no direct proof of this belief in humans.

A Phase I/II trial was conducted at Yale on a limited number of people. In this initial study, of the 21 patients treated with radiation, and, in some cases, surgery, in conjunction with Promycin for certain types of cancer of the head and neck, there was a 33% cancer-free survival rate at five years versus the clinical expectation of approximately 15% for radiation therapy alone. Based on these findings, we and Boehringer Ingelheim International GmbH of Ingelheim, Germany collaborated to initiate a Phase III trial of Promycin in patients with head and neck cancer at 44 centers worldwide. The trial is designed to determine the efficacy of Promycin as an adjunct to radiation therapy for these conditions. We have expanded our Phase III program to include additional sites in Europe and the United States. We also plan to evaluate Promycin in other tumor types.

We have obtained an exclusive license from Yale for data from Yale's research on Promycin and the clinical studies of Promycin conducted by Yale scientists. We have received Orphan Drug status to use Promycin to treat head and neck and cervical cancer. The FDA grants Orphan Drug status for rare diseases or conditions, including many cancers. The sponsor of a drug that has obtained Orphan Drug designation and is the first to obtain approval of a marketing application



for this drug is entitled to marketing exclusivity for a period of seven years for the designated indication.

In November 1997, we entered into an exclusive worldwide licensing agreement with Boehringer Ingelheim for the development and marketing of Promycin. This agreement provides us with co-promotion rights to Promycin in North America. We will co-promote Promycin in the United States with Roxane Laboratories, Inc., a subsidiary of Boehringer Ingelheim. Boehringer Ingelheim has exclusive worldwide rights to market and sell Promycin outside North America. In exchange for these rights, Boehringer Ingelheim paid us up front licensing fees and is obligated to pay development milestones and royalties on future sales of Promycin outside North America.

We will share the worldwide development costs with Boehringer Ingelheim. Additionally, in connection with the licensing agreement, Boehringer Ingelheim made an equity investment in us at a premium to the then current market price. Under the agreement, we will manufacture and supply Promycin worldwide.

TRIAPINE

Triapine is designed to prevent the replication of tumor cells by blocking a critical step in the synthesis of DNA. If DNA is not synthesized, cells cannot replicate. Triapine has shown significant broad-spectrum activity in a variety of preclinical models involving human and mouse tumors. We plan to develop Triapine as a potential treatment for cancers such as lung, breast, colorectal, melanoma and chronic myelogenous leukemia.

In preclinical trials, Triapine exhibited significant in vitro and in vivo activity against human ovarian cancer grafted onto another species and in mouse tumors for leukemia and lung cancer. We have rights, either by license and/or assignment under a patent with claims to compositions of matter and use of prodrug forms of Triapine as well as under a patent for a process covering the synthesis of the compounds.

In 1998, we began Phase I human clinical testing with Triapine, investigating its use against solid tumors. We are conducting these studies at the University of Miami Hospital and the Arizona Clinical Research Center. We expect to commence additional trials at Yale University in the near future. In addition, we are developing a water soluble prodrug version of Triapine with a therapeutic half-life that is four-to-six times longer than Triapine itself. This prodrug would enable the development of injectable and oral dosage forms.

SULFONYL HYDRAZINE PRODRUGS

Sulfonyl hydrazine prodrugs represent compounds that are designed to be converted to unique, potent alkylating agents. Alkylating agents, as a class, are reactive chemicals that are highly effective against tumors and are used to treat a variety of cancers. The interaction of alkylating agents with DNA prevents the division of the cells. These drugs, however, lack selectivity and affect many normal tissues as well as cancer cells, causing toxic side effects. Sulfonyl hydrazine alkylating agents can be converted to prodrug forms, thereby blocking the reactivity of these compounds, decreasing their toxicity and allowing them to be delivered preferentially to tumor cells for conversion into powerful cancer-fighting drugs. We are working closely with scientists at Yale to develop prodrug formulations of the sulfonyl hydrazine class. We are also investigating approaches that combine these potent cytotoxins with our TAPET technology. A cytotoxin is any substance that poisons living cells.

We have licensed several classes of sulfonyl hydrazine prodrugs from Yale, including various prodrugs that are the subject of eight issued patents and one pending patent application. Each of these alkylating agent prodrugs may target a unique property of a cancer cell, thereby destroying it. We are in the process of evaluating several lead candidates for development. We intend to extend our preclinical studies, which will include analytical studies, formulation and toxicological evaluation, and, if successful, we intend to file an IND.



LICENSED PRODUCT AND PRODUCT CANDIDATES

MELASYN

MELASYN is a synthetic form of melanin that dissolves readily in water. Melanin is a pigment formed by cells in the skin that gives skin its color and protects it from sun damage by absorbing ultraviolet rays. We believe that MELASYN is the first water-soluble, synthetic version of melanin, making it a novel and useful ingredient for formulation of skin care products and cosmetics. The simplicity of its manufacture allows MELASYN to be produced in commercial quantities at low cost. In addition, MELASYN blends in and conforms to a person's own skin tone without the orange color associated with most commercially available self-tanning products.

In February 1998, we entered into an exclusive worldwide agreement for a term of three years to license our MELASYN technology to San-Mar Laboratories, a leading manufacturer of private label cosmetics and pharmaceuticals. Under the terms of this agreement, we granted an exclusive worldwide license to San-Mar for the manufacture and sale of products containing MELASYN. We will receive a royalty on products sold by San-Mar with guaranteed minimum annual royalties of $50,000 per year over an initial three-year period. In February 1999, a subsidiary of San-Mar began offering introductory kits over the Internet that include body mousse, face gel, face cream, spot concealer and moisture seal. These are MELASYN-based products for sufferers of vitiligo, the condition of having abnormally white or discolored areas on the skin. Beginning in July 1999, this company also began selling MELASYN-based instant tan lotion.

We have also funded research projects relating to compounds to control pigmentation and chemotherapeutic products for treating melanoma. To date, such research has not provided any product candidates that we presently plan to pursue.

NOVEL NUCLEOSIDE ANALOGS

We are developing a nucleoside analog, or synthetic molecule, known as (beta)-L-FddC. (beta)-L-FddC is an anti-viral drug capable of inhibiting the replication of the hepatitis B virus, or HBV, that has produced preclinical results superior to those of competing anti-viral drugs. We expect (beta)-L-FddC to last longer and require a less frequent dosage than the current treatment, 3TC. HBV is a causative agent of both acute and chronic forms of hepatitis that affects about 300 million people worldwide. HBV also predisposes its victims to the development of liver cancer.

In October 1996, the U.S. Patent and Trademark Office issued a patent to

Yale covering the composition of matter and method of use of (beta)-L-FddC for treating HBV, and Yale has licensed to us exclusive worldwide rights to the patent including the use of (beta)-L-FddC for the treatment of HBV and AIDS. Due to the financial, personnel and facility resources required, we intend to seek a partner to further develop these anti-HBV agents.

SPONSORED RESEARCH AND LICENSE AGREEMENTS

Yale/OncoRx Agreement. Under a license agreement with Yale, referred to as the Yale/OncoRx Agreement, Yale granted us an exclusive, non-transferable, worldwide license to make, have made, use, sell and practice various inventions and research for therapeutic and diagnostic purposes. The term of the license is the expiration of any patents relating to any inventions or, with respect to non-patented inventions or research, 17 years. Yale has retained the right to make, use and practice the inventions and research for non-commercial purposes. This agreement also provides that if Yale, as a result of its own research, identifies potential commercial opportunities for the inventions and research, Yale will give us a first option to negotiate a commercial license for such commercial opportunities. Pursuant to this agreement, we issued to Yale 159,304 shares of our common stock, granted registration rights to Yale with respect to these shares and made a payment of $50,000. In addition, Yale is entitled to royalties on sales, if any, of resulting products and sub-licensing revenues and, with regard to one patent, milestone payments based on the status of clinical trials and regulatory approvals. In June 1997, we amended this license agreement as well as another license agreement to reduce certain amounts payable by us under such agreements. In



consideration for the reduction, we issued to Yale an additional 150,000 shares of our common stock. We have agreed with Yale that we will plan and implement appropriate research and development with respect to commercialization of products based on the licensed inventions and research. In the event that the agreement is terminated for breach, all rights under licenses previously granted terminate. Accordingly, a default as to one product could affect our rights in other products. In addition, Yale, at its sole option, can terminate any sublicenses that we grant.

Subsequent to entering into the Yale/OncoRx Agreement, we paid grants totaling $6.4 million to fund certain research at Yale, including research in the laboratory of Dr. Yung-Chi Cheng, a member of our scientific advisory board, and of Dr. Sartorelli, one of our directors. Yale has sole discretion to use these funds to conduct research relating to products that it desires to pursue. Additionally, to the extent that such research results in technologies not covered by the Yale/OncoRx Agreement, we may be unable to utilize such technologies unless we negotiate additional license agreements.

Yale/MelaRx Agreement. Under a research agreement with Yale, referred to as the Yale/MelaRx Agreement, Yale has agreed to perform a research program under the supervision of Dr. John W. Pawelek, while he is employed by Yale. The research program has primarily involved synthetic melanin and products designed to control the effects of ultraviolet radiation. In addition, under our TAPET program, Dr. Pawelek is conducting certain research regarding the use of a bacterial vector in connection with genetic therapy for melanoma. We have agreed to reimburse Yale for its direct and indirect costs in connection with the research program in an amount currently equal to $863,076 per year. We entered into an additional license agreement with Yale in December 1995, under which we received a non-transferable worldwide exclusive license to three inventions relating to gene therapy for melanoma. Under this agreement, we paid Yale $100,000 and have agreed to make milestone payments based on the status of clinical trials and regulatory approvals. In addition, Yale is entitled to royalties on sales, if any, of resulting products and sub-licensing revenues. The term of the Yale/MelaRx Agreement ends June 30, 2001, subject to earlier termination by us if Dr. Pawelek is no longer the principal investigator.

Under the Yale/MelaRx Agreement, we and Yale have entered into five license agreements that grant us exclusive licenses to make, use, sell and practice the inventions covered by various patents. Each such license agreement requires us to pay to Yale royalties based on a percentage of net sales of the products covered and sub-licensing income. In addition, four of the five licenses provide that they are terminable in the event we do not exercise due diligence in commercializing the licensed technology.

COMPETITION

Competition in the biopharmaceutical industry is intense and based significantly on scientific and technological factors, the availability of patent and other protection for technology and products, the ability to commercialize technological developments and the ability to obtain governmental

approval for testing, manufacturing and marketing. Moreover, the biopharmaceutical industry is characterized by rapidly evolving technology that could result in the technological obsolescence of any products developed by us. We compete with specialized biopharmaceutical firms in the United States, Europe and elsewhere, as well as a growing number of large pharmaceutical companies that are applying biotechnology to their operations. Most of our competitors have substantially greater financial, technical and human resources than we have and may be better equipped to develop, manufacture and market products. In addition, many of these companies have extensive experience in preclinical testing and human clinical trials and in obtaining regulatory approvals. These companies, as well as academic institutions, governmental agencies and private research organizations, also compete with us in recruiting and retaining highly qualified scientific personnel and consultants.

The timing of market introduction of our potential products or of competitors' products will be an important competitive factor. Accordingly, the relative speed with which we can develop products, complete preclinical testing, clinical trials and regulatory approval processes and supply commercial quantities to market will influence our ability to bring a product to market. In



addition, we may apply for Orphan Drug designation by the FDA for our proposed products. To the extent that a competitor of ours develops and receives Orphan Drug designation and marketing approval for a drug to treat the same indication prior to us, we may be precluded from marketing our product for a period of seven years.

PATENTS, LICENSES AND TRADE SECRETS

Our policy is to protect our technology by, among other means, filing patent applications for technology that we consider important to the development of our business. We intend to file additional patent applications, when appropriate, relating to new developments or improvements in our technology and other specific products that we develop. We also rely on trade secrets and improvements, unpatented know-how and continuing technological innovation to develop and maintain our competitive position.

In connection with the Yale/MelaRx Agreement, we are the exclusive licensee of a number of pending patent applications relating to our TAPET platform technology which include claims for methods of diagnosing and/or treating various solid tumor cancers, including, but not limited to, melanoma, lung cancer, breast cancer and colon cancer. We also have rights, either by license and/or by assignment, to pending patent applications, U.S. and foreign, relating to our TAPET platform technology. We are also the exclusive licensee of issued U.S. and foreign utility patents and pending patent applications relating to synthetic melanins and methods for using synthetic melanins, such as, for sunscreening or self-tanning agents. Of these U.S. patents and patent applications, however, only one issued patent is relevant to our MELASYN products. Patent applications relevant to the MELASYN products are pending in foreign countries.

Pursuant to the Yale/OncoRx Agreement, we are the exclusive licensee of eight issued patents and one pending U.S. patent applications relating to our sulfonyl hydrazine prodrug technology, including patents relating to treatment of trypanosomiasis and cancer and for controlling neoplastic cell growth. We are also the exclusive licensee of a number of issued and pending U.S. and for foreign patent applications relating to:

(beta)-L-FddC, its composition and its use for the treatment of HIV and HBV infections and their use in combination with other anti-AIDS drugs;

the use of 3TC or mixtures containing 3TC for the treatment of HBV infection;

Triapine and other ribonucleotide reductase inhibitors.

We are aware that BioChem Pharma has been granted an issued U.S. patent with claims to methods of use of a compound of a group of compounds, including 3TC, for treating HBV. We believe that the BioChem Pharma patent (as well as other BioChem Pharma patent applications and/or patents) is licensed to Glaxo Group. Under the Yale/OncoRx agreement, we have rights in a patent application with claims directed to methods for the use of 3TC or a mixture containing 3TC for treating HBV. In November 1997, we requested that the U.S. Patent and Trademark Office declare an Interference between the BioChem patent and the Vion patent application. An Interference is a legal proceeding held when more than one patent application or at least one patent application and one or more patents, owned by different parties, contain claims to the same subject matter. An Interference proceeding determines which one of the parties is entitled to a

patent containing claims to the common subject matter.

To date, the Patent and Trademark Office has not granted our request for an Interference with the BioChem Pharma patent. There can be no guarantee that our request will ever be granted. Moreover, there can be no guarantee that if our request is granted, we will prevail in any Interference proceeding that is declared. Even if we do prevail, Interference can be a lengthy proceeding and it could be several years before a patent is issued.

The BioChem Pharma patent has a filing date earlier than that of the Vion patent application. If an Interference is declared between the BioChem Pharma patent and the Vion patent application, however, we believe that we may be able to prove that we are entitled to priority of invention for claims to a method of use of 3TC and/or a mixture containing 3TC for treating



HBV. However, there an be no guarantee that we will prevail and there is a substantial risk that we will not be able to prove priority and obtain a patent.

Further, even if we were to prevail in the Interference and were to obtain a patent with claims directed to the method of use of 3TC or a mixture containing 3TC for treating HBV, we would only have the right to go to court to exclude any third party, for example, BioChem Pharma, from using 3TC or a mixture containing 3TC in a method for treating HBV. It is possible, if we were to prevail in the Interference, other parties such as BioChem Pharma might be willing to take a license for the right to use 3TC in a method for treating HBV. There can be no guarantee that we would be successful in licensing such rights at acceptable terms.

It should be noted that even if we were to prevail in the Interference, we would not have any right to make, use, sell or import 3TC in the United States based on any patent we could obtain by prevailing in the Interference.

In addition, we are aware that third parties, including BioChem Pharma, Glaxo Group and Emory University have filed patent applications, some of which have issued relating to 3TC, mixtures containing 3TC, and methods of preparation and use of 3TC or mixtures containing 3TC as an anti-viral drug. In fact, we are aware that both BioChem Pharma and Emory have been granted patents that have claims directed to 3TC, itself, or a group of compounds including 3TC. Accordingly, even if we had rights to an issued patent with claims to a method of use of 3TC to treat HBV, we would not be able to make, use and sell or import 3TC in the United States unless we obtained a license from one or more third parties. There can be no guarantee that we could obtain such a license or that if available, the license would be on acceptable terms.

We or our licensors are prosecuting the patent applications of products we license both with the U.S. Patent and Trademark Office and various foreign patent agencies, but we do not know whether any of our applications will result in the issuance of any patents or, whether any issued patent will provide significant proprietary protection or will be circumvented or invalidated. During the course of patent prosecution, patent applications are evaluated for, among other things, utility, novelty, nonobviousness and enablement. The U.S. Patent and Trademark Office may require that the claims of an initially filed patent application be amended if it is determined that the scope of the claims include subject matter that is not useful, novel, nonobvious or enabled. Furthermore, in certain instances, the practice of a patentable invention may require a license from the holder of dominant patent rights. In cases where one party believes that it has a claim to an invention covered by a patent application or patent of a second party, the first party may attempt to provoke an interference proceeding in the U.S. Patent and Trademark Office or such a proceeding may otherwise be declared by the U.S. Patent and Trademark Office. In general, in an interference proceeding, the U.S. Patent and Trademark Office reviews the competing patents and/or patent applications to determine the validity of the competing claims, including, but not limited to, determining priority of invention. Any such determination would be subject to appeal in the appropriate United States federal courts.

We cannot predict whether our or our competitors' patent applications will result in valid patents being issued. An issued patent is entitled to a presumption of validity. The presumption may be challenged in litigation; a court could find any patent of ours or our competitors invalid and/or unenforceable. Litigation, which could result in substantial cost to us, may also be necessary to enforce our patent and proprietary rights and/or to determine the scope and validity of others proprietary rights. We may participate in interference proceedings that may in the future be declared by the United States Patent and Trademark Office to determine priority of invention. Interference and/or litigation proceedings could result in substantial cost to us.

The patent position of biotechnology and biopharmaceutical firms generally is highly uncertain and involves complex legal and factual questions. To date, no consistent policy has emerged regarding the breadth of claims allowed in biotechnology and biopharmaceutical patents.



GOVERNMENT REGULATION

Overview. Regulation by state and federal governmental authorities in the United States and foreign countries is a significant factor in the manufacture and marketing of our products and in our ongoing research and product development activities. All of our products will require regulatory clearances or approvals prior to commercialization. In particular, drugs, biologicals and medical devices are subject to rigorous preclinical testing and other approval requirements by the FDA pursuant to the FDC Act and the Public Health Service Act and regulations promulgated thereunder, as well as by similar health authorities in foreign countries. Various federal statutes and regulations also govern or influence the testing, manufacturing, safety, labeling, packaging, advertising, storage, registration, listing and recordkeeping related to marketing of such products. The process of obtaining these clearances or approvals and the subsequent compliance with appropriate federal statutes and regulations require the expenditure of substantial resources. We cannot be certain that any required FDA or other regulatory approval will be granted or, if granted, will not be withdrawn.

Drugs and Biologicals. Preclinical development of diagnostic and therapeutic drugs and biological products is generally conducted in the laboratory to evaluate the safety and the potential efficacy of a compound by relevant in vitro, or cell culture, and in vivo, or animal model, testing. When a product is tested prospectively to determine its safety for purposes of obtaining FDA approvals or clearances, such testing must be performed in accordance with good laboratory practices for nonclinical studies. The results of preclinical testing are submitted to the FDA as part of an IND. The IND must become effective, informed consent must be obtained from clinical subjects, and the study must be approved by an institutional review board before human clinical trials can begin.

Regulatory approval often takes a number of years and involves the expenditure of substantial resources. Approval time also depends on a number of factors, including the severity of the disease in question, the availability of alternative treatments and the risks and benefits demonstrated in clinical trials. Typically, clinical evaluation involves a three-phase process. In Phase I, clinical trials are conducted with a small number of subjects to determine the tolerated drug dose, early safety profile, proper scheduling and the pattern of drug distribution, absorption and metabolism. In Phase II, clinical trials are conducted with groups of patients afflicted with a specific disease in order to determine efficacy, dose-response relationships and expanded evidence of safety. In Phase III, large-scale, multi-center, controlled clinical trials are conducted in order to:

provide enough data for statistical proof of safety and efficacy;

compare the experimental therapy to existing therapies;

uncover any unexpected safety problems, such as side-effects; and

generate product labeling.

In the case of drugs for cancer and other life-threatening diseases, the initial human testing is generally conducted in patients rather than in healthy volunteers. Because these patients are already afflicted with the target disease, it is possible that such studies will provide results traditionally obtained in Phase II trials. These trials are referred to as 'Phase I/II' trials.

The results of the preclinical and clinical testing are submitted to the FDA either as part of a new drug application, or NDA, for drugs, or a product license application, or PLA, for biologics, for approval to commence commercial distribution. For a biological, the manufacturer generally must also obtain approval of an establishment license application. In responding to an NDA or PLA, the FDA may grant marketing approval, request additional information or deny the application if it determines that the application does not satisfy its regulatory approval criteria. It may take several years to obtain approval after submission of an NDA or PLA, although approval is not assured. The FDA also normally conducts a pre-approval inspection and other occasional inspections of an applicant's facilities to ensure compliance with current good manufacturing practices. Further, stringent FDA regulatory requirements continue after a

product is approved for marketing, and changes to products or labeling can require additional approvals. If any of our products is approved for marketing, we will be subject to stringent post-marketing requirements.



We also will be subject to widely varying foreign regulations governing clinical trials and pharmaceutical sales. Whether or not FDA approval has been obtained, approval of a product by the comparable regulatory authorities of foreign countries must be obtained before marketing the product in those countries. The approval process varies from country to country and the time may be longer or shorter than that required for FDA approval. We intend, to the extent possible, to rely on foreign licensees to obtain regulatory approval to market our products in foreign countries.

Orphan Drug Designation. Under the Orphan Drug Act, a sponsor may obtain designation by the FDA of a drug or biologic as an 'orphan' drug for a particular indication. Orphan Drug designation is granted to drugs for rare diseases or conditions, including many cancers, with a prevalence of less than 200,000 cases in the United States. The sponsor of a drug that has obtained Orphan Drug designation and which is the first to obtain approval of a marketing application for such drug is entitled to marketing exclusivity for a period of seven years for the designated indication. This means that no other company can market the same Orphan Drug for the same indication approved by the FDA for seven years after approval unless such company proves its drug is clinically superior or the approved Orphan Drug marketer cannot supply demand for the drug. Legislation is periodically considered that could significantly affect the Orphan Drug law. We received Orphan Drug designation for Promycin in September 1995 to treat head and neck cancer and in May 1997 received FDA approval of our request for Orphan Drug status for the use of Promycin to treat cervical cancer. We intend to seek this designation for other products where appropriate. There can be no assurance that future changes to the Orphan Drug Act would not diminish the value of any Orphan Drug designation obtained by us.

Drugs for Life-Threatening Illnesses. FDA regulatory procedures established in 1988 are intended to speed further the availability of new drugs intended to treat life-threatening and severely debilitating illnesses. These procedures provide for early and continuous consultation with the FDA regarding preclinical and clinical studies necessary to gain marketing approval. This regulatory framework also provides that if Phase I results are promising, Phase II clinical trials may be designed that obviate the need for lengthy, expensive Phase III testing. Notwithstanding the foregoing, approval may be denied by the FDA or traditional Phase III studies may be required. The FDA may also seek our agreement to perform post-approval Phase IV studies, which confirm product safety and efficacy.

The FDA has announced that the accelerated approval concept is being expanded for cancer drugs. The proposed changes are designed to speed drug approvals by requiring less extensive preapproval testing in some circumstances. Specifically, the FDA has stated that it may approve these drugs based on the use of surrogate markers. 'Partial responses,' such as a drug's effectiveness at short-term tumor shrinkage, that the FDA believes are clear indicators of therapeutic effect, would be sufficient to demonstrate efficacy for these drugs. This is in contrast to requiring the traditional 'full-endpoint' measures of improved survival or quality of life. Other provisions of the new initiatives include proactive solicitation by the FDA of expanded access filings for foreign-approved cancer drugs and greater patient representation on the FDA's Oncology Drugs Advisory Committee. Although agency officials have estimated that the changes will reduce by as much as a year the normal development time for most cancer drugs, it is uncertain whether and how these initiatives will actually be implemented by the FDA and whether they will have a significant impact on the approval process for cancer drugs.

Environmental Matters. We are subject to environmental laws, including those promulgated by OSHA, the EPA and the NRC, that govern activities or operations that may have adverse environmental effects, such as discharges to air and water, as well as handling and disposal practices for solid and hazardous wastes. These laws also impose strict liability for the costs of cleaning up, and for damages resulting from, sites of past spills, disposals or other releases of hazardous substances and materials for the investigation and remediation of environmental contamination at properties operated by us and at off-site locations where we have arranged for the disposal of hazardous substances. If it is determined that we are not in compliance with current environmental laws, we could be subject to fines and penalties. The amount of any such fines and penalties could be material.

Our facilities have made, and will continue to make, expenditures to comply with current and future environmental laws. We anticipate that we could incur additional capital and operating costs in the future to comply with existing environmental laws and new requirements arising from new or amended statutes and regulations. In addition, because the applicable regulatory agencies have not yet promulgated final standards for some existing environmental programs, we cannot at this time reasonably estimate the cost for compliance with these additional requirements. The amount of any such compliance costs could be material. We cannot predict the impact that future regulations will impose upon our business.

EMPLOYEES

As of July 23, 1999, we had 42 full-time employees, including 33 scientists and technicians. We plan to hire additional employees over the next 12 months to support continuing progress in both research and development. Our employees are not covered by any collective bargaining agreement. Additionally, we had seven scientific consultants on a part-time basis.

PROPERTIES

Our principal facility consists of approximately 19,000 square feet of leased laboratory and office space in New Haven, Connecticut at an annual rental of approximately $230,000. The lease expires in May 2001, with a right to renew for an additional five years.

LEGAL PROCEEDINGS

We are not a party to any material legal proceedings.



## MANAGEMENT

OUR EXECUTIVE OFFICERS AND DIRECTORS

Our executive officers and directors are as follows:

| NAME | AGE | POSITION |
|---|---|---|
| Alan Kessman..... | 52 | President, Chief Executive Officer and Director |
| Terrence W. Doyle, Ph.D... | 56 | Vice President, Research & Development |
| Thomas E. Klein..... | 50 | Vice President, Finance and Chief Financial Officer |
| Thomas Mizelle..... | 48 | Vice President, Operations and Secretary |
| Bijan Almassian, Ph.D..... | 46 | Vice President, Development |
| Ivan King, Ph.D..... | 44 | Vice President, Biology |
| William R. Miller(1)..... | 70 | Chairman of the Board |
| Michel C. Bergerac(1)..... | 67 | Director |
| Frank T. Cary(1)(2)..... | 78 | Director |
| James L. Ferguson..... | 72 | Director |
| Michael C. Kent..... | 59 | Director |
| Alan C. Sartorelli, Ph.D.. | 67 | Director |
| Walter B. Wriston(2)..... | 79 | Director |

---

(1) Member of the compensation committee.

(2) Member of the audit committee.

Alan Kessman has been our Chief Executive Officer since January 1999, our President since April 1999 and has been a director since October 1998. From 1983 to 1998, Mr. Kessman was Chairman, Chief Executive Officer and President of Executone Information Systems, Inc., a developer and marketer of voice and data communications systems, and its subsidiary eLottery, Inc. Mr. Kessman is a partner of PS Capital, LLC, an investment company.

Terrence W. Doyle, Ph.D. has been our Vice President, Research and Development since the merger with OncoRx and served in the same capacity for OncoRx from January 1994 until the merger. Dr. Doyle was an employee of the Bristol-Myers Squibb Company from 1967 to 1993. From 1990 to 1993, Dr. Doyle was

an executive director with Bristol-Myers. Dr. Doyle is the original holder of 41 U.S. patents for anti-infective, anti-inflammatory and anti-tumor drugs and the author of over 100 published research articles and abstracts on cancer chemotherapy.

Thomas E. Klein has been our Vice President, Finance and Chief Financial Officer since October 1995. From 1988 to 1994, Mr. Klein was Director of Finance and Treasurer of Novo Nordisk of North America, Inc.

Thomas Mizelle has been our Vice President, Operations since the merger with OncoRx and has been our Secretary since October 1995. Prior to the merger, Mr. Mizelle was Vice President, Business Development since August 1994. From May 1990 to July 1994, Mr. Mizelle served as Senior Vice President, Vice President, Sales and Marketing and Director of Sales of Immunex Corporation.

Bijan Almassian, Ph.D. has been our Vice President, Development since March 1997 and was named an executive officer in July 1999. From September 1995 to March 1997, Dr. Almassian was our Director of Development. From 1994 to 1995, Dr. Almassian was the Director of Pharmaceutical development at Genelabs Technologies, where he was responsible for product development of several anticancer and antiviral drugs and biologics. Before joining Genelabs, he held several scientific positions at Genzyme/Integrated Genetics, Instrumentation Laboratories and Orion Research.

Ivan King, Ph.D. has been our Vice President, Biology since September 1995 and became an executive officer in July 1999. From 1990 to 1995, Dr. King was a Section Leader in the



Department of Tumor Biology at Schering-Plough Research Institute in charge of the Cell Biology and In Vivo Biology groups where he was responsible for identifying targets, developing high throughput assays, evaluating in vitro and in vivo activities of drug candidates and recommending candidates for clinical development. Dr. King's first industrial position was as a Senior Research Scientist at Bristol-Myers Squibb.

William R. Miller has been Chairman of our Board since April 1995. From February 1995 until April 1995, Mr. Miller was Chairman of the Board of OncoRx Inc., which was merged into our subsidiary (then known as MelaRx Pharmaceuticals, Inc.) in April 1995. Mr. Miller is currently Chairman of the Board of SIBIA Neurosciences, Inc. and a director of ImClone Systems, Inc., Isis Pharmaceuticals, Inc., Transkaryotic Therapies, Inc., Westvaco Corporation and Xomed Surgical Products Inc. From 1964 until 1991, Mr. Miller was employed by Bristol-Myers Squibb Company, including as Vice Chairman of the Board commencing in 1985.

Michel C. Bergerac has been a director since 1992. Mr. Bergerac has been Chairman of M.C. Bergerac & Co., Inc., an investment advisory firm, since 1985. From 1974 to 1985, Mr. Bergerac was Chairman of the Board, President and Chief Executive Officer of Revlon, Inc.

Frank T. Cary has been a director since 1995. Mr. Cary is a director of Celgene Corporation, Cygnus Therapeutic Systems, ICOS Corporation, Lincare, Inc., Lexmark International Group, Inc. and Teltrend, Inc. From 1973 to 1981, Mr. Cary was Chairman of the Board and Chief Executive Officer of IBM.

James L. Ferguson has been a director since 1995. Mr. Ferguson is a director of ICOS Corporation. Mr. Ferguson was Chairman of the Board of General Foods Corporation from 1974 until 1989 and President from 1973 to 1977.

Michael C. Kent has been a director since 1995. Mr. Kent founded OncoRx in May 1993 and served as a director until April 1995. Since 1983, Mr. Kent has been President and Chief Executive Officer of Kent, Reynolds & Stuart, an executive search firm. Mr. Kent has been involved in the creation of a number of biotechnology companies, including Nova Pharmaceutical Corporation, Celgene Corporation, Neurogen Corporation, Biopure Corporation, PathoGenesis Corporation, Texas Biotechnology Corporation and ICOS Corporation.

Alan C. Sartorelli, Ph.D. has been a director since 1995. Dr. Sartorelli has been a professor of pharmacology at Yale University School of Medicine since 1967 and Chairman of our Scientific Advisory Board since April 1995. Dr. Sartorelli was chairman of the OncoRx Scientific Advisory Board from May 1993 to April 1995 and director of Yale Comprehensive Cancer Center from 1984 to 1993.

Walter B. Wriston has been a director since 1995. Mr. Wriston is a director of ICOS Corporation, York International Corporation and Cygnus, Inc. Mr. Wriston retired as Chairman and Chief Executive Officer of Citicorp and its principal subsidiary, Citibank, N.A., in 1984 after having served as Chief Executive

Officer for 17 years.

COMPENSATION OF DIRECTORS

We reimburse directors for expenses actually incurred in connection with each meeting of the board or any committee thereof attended. We also pay the chairman of the board $4,000 per meeting of the board attended and each other non-employee director $1,000 for each such meeting attended. Various directors are also entitled to automatic grants of options under our amended and restated 1993 Stock Option Plan.



SCIENTIFIC ADVISORY BOARD

We have established a scientific advisory board to provide specific expertise in areas of research and development relevant to our business. The scientific advisory board meets periodically with our scientific and development personnel and management to discuss our present and long-term research and development activities. The scientific advisory board members include:

| | |
|---|---|
| Alan C. Sartorelli, Ph.D..... | Chairman (see 'Management' section above) |
| Joseph R. Bertino, M.D..... | Chairman, Molecular Pharmacology and Therapeutics Program, Sloan-Kettering Institute for Cancer Research; Professor, Cornell University School of Medicine |
| Bruce Chabner, M.D..... | Clinical Director, Massachusetts General Hospital Cancer Center; Former Director, Division of Cancer Treatment at the National Cancer Institute; Professor, Harvard Medical School |
| Yung-Chi Cheng, Ph.D..... | Director, Developmental Therapeutics Program, Yale Comprehensive Cancer Center |
| Donald M. Crothers, Ph.D..... | Chairman, Department of Chemistry, Sterling Professor of Chemistry and Molecular Biophysics and Biochemistry, Yale University |
| Samuel J. Danishefsky, Ph.D... | Director, Laboratory for Bio-organic Chemistry, Memorial Sloan-Kettering Research Institute; Professor, Columbia University |
| James J. Fischer, M.D., Ph.D.. | Director, Radiotherapy Program, Yale Comprehensive Cancer Center; Robert E. Hunter Professor and Chairman, Department of Therapeutic Radiology, Yale University School of Medicine; Chief, Department of Therapeutic Radiology, Yale New Haven Medical Center; Director, Radio Therapy Program Yale Comprehensive Cancer Center. |
| Emil Frei III, M.D..... | Physician-in-Chief Emeritus and Former Director, Dana Farber Cancer Institute; Richard and Susan Smith Distinguished Professor, Harvard Medical School |
| George J. Todaro, M.D..... | Chief Executive Officer, Cytokine Networks, Inc.; Professor, Department of Pathology, University of Washington |
| David C. Ward, Ph.D..... | Former Chairman, Department of Human Genetics, Yale University School of Medicine; Professor of Biology, Molecular Biophysics and Biochemistry, Yale University School of Medicine |



EXECUTIVE COMPENSATION

The following table sets forth information concerning all cash and non-cash compensation awarded to, earned by or paid to our chief executive officer and each of the other executive officers who earned over $100,000 and were serving at the end of 1998, for services in all capacities to us, our subsidiaries and predecessors.

SUMMARY COMPENSATION TABLE

<TABLE>
<CAPTION>

| | | | LONG-TERM COMPENSATION AWARDS | |
|---|---|---|---|---|
| | | ANNUAL COMPENSATION | SECURITIES | |

| NAME AND PRINCIPAL POSITION | YEAR | SALARY | BONUS | UNDERLYING OPTIONS |
|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> |
| John A. Spears | 1998 | $246,750 | $37,013 | 12,000 |
| Former President and Chief Executive Officer(1) | 1997 | 234,557 | 61,000 | -- |
| | 1996 | 189,167 | 70,500 | 15,000 |
| Terrence W. Doyle | 1998 | 183,750 | 27,563 | 9,600 |
| Vice President, Research and Development | 1997 | 174,549 | 38,000 | -- |
| | 1996 | 154,167 | 42,000 | 12,000 |
| Thomas E. Klein | 1998 | 157,500 | 23,625 | 9,600 |
| Vice President, Finance and Chief Financial Officer | 1997 | 148,486 | 33,000 | -- |
| | 1996 | 129,167 | 36,000 | 37,000 |
| Thomas Mizelle | 1998 | 183,750 | 27,563 | 9,600 |
| Vice President, Operations and Secretary | 1997 | 173,362 | 38,000 | -- |
| | 1996 | 154,167 | 42,000 | 62,000 |

</TABLE>

---

(1) We were a party to an employment agreement with Mr. Spears. See ' -- Employment Agreements.' Mr. Spears was our Chief Executive Officer until January 1999 and President until April 1999.

The following table sets forth the grant of stock options made during the year ended December 31, 1998 to the persons named in the summary compensation table:

OPTION GRANTS IN LAST FISCAL YEAR

<TABLE>
<CAPTION>

| NAME | NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED | PERCENT OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL YEAR(1) | EXERCISE PRICE PER SHARE | EXPIRATION DATE | POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM(2) | |
|---|---|---|---|---|---|---|
| | | | | | 5% | 10% |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| John A. Spears | 12,000 | 5.4% | $3.0313 | 1/29/2008 | $59,280 | $94,320 |
| Terrence W. Doyle | 9,600 | 4.3 | 3.0313 | 1/29/2008 | 47,424 | 75,456 |
| Thomas E. Klein | 9,600 | 4.3 | 3.0313 | 1/29/2008 | 47,424 | 75,456 |
| Thomas Mizelle | 9,600 | 4.3 | 3.0313 | 1/29/2008 | 47,424 | 75,456 |

</TABLE>

---

(1) Computed based on an aggregate of 221,112 shares issuable upon exercise of options granted to employees during the year ended December 31, 1998.

(2) These amounts represent assumed rates of appreciation in the price of our common stock during the terms of the options in accordance with rates specified in applicable federal securities regulations. The 5% and 10% assumed annual rates of compounded stock price appreciation do not represent our estimate or projection of our future common stock prices. Each option listed in the table has a 10-year term. Actual gains, if any, on stock options exercised will depend on the future price of the common stock. This is not a representation that the rates of appreciation reflected in the table will be achieved.



The following table sets forth information with respect to unexercised stock options held by the persons named in the summary compensation table at December 31, 1998. No stock options were exercised in 1998 by such persons.

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

<TABLE>
<CAPTION>

| | SHARES ACQUIRED | NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END | VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END(1) |
|---|---|---|---|

| NAME | ON EXERCISE | VALUE REALIZED | EXERCISABLE | UNEXERCISABLE | EXERCISABLE | UNEXERCISABLE |
|---|---|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| John A. Spears..... | -- | -- | 383,812 | 19,500 | $1,538,147 | $29,718 |
| Terrence W. Doyle..... | -- | -- | 6,000 | 15,600 | 4,875 | 23,775 |
| Thomas E. Klein..... | -- | -- | 74,750 | 46,850 | 78,313 | 59,713 |
| Thomas Mizelle..... | -- | -- | 106,000 | 53,100 | 134,250 | 70,650 |

</TABLE>

---

(1) Computed based upon the difference between the closing price of our common stock on December 31, 1998, which was $5.00, and the exercise price.

EMPLOYMENT AGREEMENTS

Effective January 11, 1999, we entered into an agreement with Alan Kessman and PS Capital LLC, an entity of which Mr. Kessman is a member, pursuant to which Mr. Kessman serves as our chief executive officer. Mr. Kessman receives a base salary of $400,000 per year. The agreement does not provide for any payments upon a change in control or any other severance payments. As an inducement to enter into the agreement, on January 11, 1999, we granted to Mr. Kessman options to purchase an aggregate of 980,000 shares of common stock. The foregoing grants consist of (1) an option to purchase 760,000 shares at an exercise price of $5.775, representing a 10% premium to the market price on the date prior to the date of grant, such option to vest 25% on July 11, 2000, 50% on July 11, 2001, 75% on July 11, 2002 and 100% on July 11, 2003 and (2) an option to purchase 220,000 shares at an exercise price of $5.25, representing the market price on the date prior to the date of grant, such option having vested in full on July 11, 1999, six months from the date of grant. The option to purchase 220,000 shares of common stock is not terminable if Mr. Kessman is no longer acting as our Chief Executive Officer. We are currently negotiating a new employment agreement with Mr. Kessman. Mr. Kessman has agreed to enter into this agreement in conjunction with the closing of this offering. Pursuant to this new agreement, which will terminate on December 31, 2003, Mr. Kessman will receive a base salary of $400,000 per year and will be eligible for a bonus of up to 50% of his base salary based on the achievement of specified objectives.

Effective January 16, 1998, we entered into an employment agreement with John A. Spears, then our President and Chief Executive Officer. The agreement was for a term of three years and provided for an annual base salary of $246,750. In the event of our termination of the employment agreement for any reason other than 'just cause' or death, including a 'change in control,' we were required to pay Mr. Spears his base salary for the remaining term of the employment agreement through January 2001, subject to the obligation of Mr. Spears to mitigate damages by seeking new employment. We also had the right at any time after the first anniversary of the date of the agreement to terminate the employment agreement without cause upon ten days notice, upon payment to Mr. Spears of a single lump sum equal to one year's base salary, plus an amount equal to the average annual cash bonus paid to Mr. Spears during the prior two years. Mr. Spears was relieved of his obligations as Chief Executive Officer in January 1999 and was relieved of his obligations as President and as a director in April 1999. As a result, the employment agreement was terminated and we agreed to make bi-monthly payments to Mr. Spears in the same amounts as his base salary due pursuant to the separation and release agreement through the earlier of January 16, 2001 or the date on which Mr. Spears secures full-time employment; provided, we will receive a credit against such payments equal to 75% of any gross income earned by Mr. Spears from providing services as a part-time employee or consultant; and provided further, that Mr.



Spears will receive a lump-sum payment of 40% of the balance of payments otherwise payable through January 16, 2001 if he secures full-time employment elsewhere, such amount to be payable only if we close an underwritten public offering resulting in gross proceeds to us of at least $10 million. Because Mr. Spears obtained a new position, we are no longer obligated for some these payments. We also agreed to pay Mr. Spears his 1998 bonus of $37,012.50, and Mr. Spears agreed to a lock-up provision regarding certain of the shares underlying his stock options and further agreed to a confidentiality covenant.

SEVERANCE AGREEMENTS

Effective October 15, 1998, we entered into severance agreements with Thomas Mizelle, our Vice President, Operations, Terrence W. Doyle, our Vice President, Research and Development and Thomas E. Klein, our Vice President, Finance, pursuant to which each of these officers would be entitled to certain payments in the event such officer loses his employment during the twelve-month

period following a 'change in control.' Specifically, if a 'change in control' occurs, the officer shall be entitled to a lump sum severance payment equal to the sum of twelve months of the officer's monthly base salary as in effect as of the date of termination or immediately prior to the change in control, whichever is greater, plus the average of the last two cash bonus payments made to the officer prior to the change in control. The officer would also be entitled to all payments necessary to provide him with group health insurance benefits substantially similar to those which he was receiving immediately prior to the date of termination until the earlier of 18 months after such termination or the date he has obtained new full-time employment. The foregoing amounts are not payable if termination of the officer is because of his death, by us for cause, or by the officer other than for good reason. For purposes of the severance agreements, a 'change in control' means that (1) any person or entity becomes the beneficial owner of our securities representing 30 percent or more of the combined voting power of the then outstanding securities; (2) during any period of two consecutive years, individuals who, at the beginning of such period, constitute the board, and any new director (other than a director designated by an acquiring person) whose election by the board or nomination for election by our stockholders was approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute at least a majority thereof; or (3) our stockholders approve a merger or consolidation (other than certain recapitalizations).

1993 AMENDED AND RESTATED STOCK OPTION PLAN

In April 1993, our board adopted the 1993 Amended and Restated Stock Option Plan pursuant to which our employees, officers, directors, consultants and advisers are eligible to receive incentive stock options within the meaning of Section 422 of the Internal Revenue Code and non-qualified options. In January 1999, the board amended the plan to increase the number of shares which may be granted under the plan to 3,000,000. This amendment was approved by our stockholders in June 1999. The plan, which expires in April 2003, is administered by the compensation committee of our board. The purposes of the plan are to ensure the retention of existing executive personnel, key employees, directors, consultants and advisors and to provide additional incentive by permitting such individuals to participate in our ownership, and the criteria to be utilized by the board or the compensation committee in granting options pursuant to the plan will be consistent with these purposes. The plan also provides for automatic grants of options to certain directors. There are currently 43 employees, nine directors and seven consultants eligible to receive grants under the plan.

Options granted under the plan may be either incentive options or non-qualified options. Incentive options granted under the plan are exercisable for a period of up to 10 years from date of grant at an exercise price that is not less than the fair market value of the common stock on the date of the grant, except that the term of an incentive option granted under the plan to a stockholder owning more than 10% of the outstanding voting power may not exceed five years and its exercise price may not be less than 110% of the fair market value of the common stock



on the date of the grant. To the extent that the aggregate fair market value, as of the date of grant, of the shares for which incentive options become exercisable for the first time by an optionee during the calendar year exceeds $100,000, the portion of the option that is in excess of the $100,000 limitation will be treated as a non-qualified option. Additionally, the aggregate number of shares of common stock that may be subject to options granted to any person in a calendar year shall not exceed 25% of the maximum number of shares of common stock that may be issued from time to time under the plan. Options granted under the plan to our officers, directors or employees may be exercised only while the optionee is employed or retained by us or within 90 days of the date of termination of the employment relationship or directorship. However, options that are exercisable at the time of termination by reason of death or permanent disability of the optionee may be exercised within 12 months of the date of termination of the employment relationship or directorship. Upon the exercise of an option, payment may be made by cash or by any other means that the board or the compensation committee determines. No option may be granted under the plan after April 14, 2003.

Options may be granted only to our employees, officers, directors, consultants and advisors as the board or the compensation committee shall select from time to time in its sole discretion, provided that only our employees are eligible to receive incentive options. An optionee may be granted more than one option under the plan. The board or the compensation committee, as the case may be, will, in its discretion, determine who will be granted options, the time or times at which options shall be granted, the number of shares subject to each

option and whether the options are incentive options or non-qualified options. In making this determination, consideration may be given to the value of the services rendered by the respective individuals, their present and potential contributions to our success and such other factors deemed relevant in accomplishing the purpose of the plan.

Under the plan, the optionee has none of the rights of a stockholder with respect to the shares issuable upon the exercise of the option until shares are actually issued upon exercise of the option. No adjustment is made for dividends or other rights for which the record date is prior to the date such stock certificate is issued, except as provided in the plan. During the lifetime of the optionee, an option shall be exercisable only by the optionee. No option may be sold, pledged, assigned, hypothecated, transferred or disposed of in any manner other than by will or by the laws of decent and distribution.

The board may amend or terminate the plan except that stockholder approval is required to effect a change so as to increase the aggregate number of shares that may be issued under the plan, to modify the requirements as to eligibility to receive options, to increase materially the benefits accruing to participants or as otherwise may be legally required. No action taken by the board may affect any outstanding option grant without the consent of the optionee.

The provisions of our amended and restated 1993 Stock Option Plan also provide for the automatic grant of non-qualified stock options to purchase shares of common stock to our directors who are not our employees or principal stockholders. Eligible directors elected after August 1995 are granted a director option to purchase 20,000 shares of common stock on the date such person is first elected or appointed a director. Further, commencing on the day immediately following the date of the annual meeting of stockholders, each eligible director, other than directors who received an initial director option since the last annual meeting, will be granted a director option to purchase 5,000 shares of common stock on the day immediately following the date of each annual meeting of stockholders. The size of this automatic grant for the chairman of the board has been increased from 5,000 shares per year to 20,000 shares per year, and the size of the automatic grant for the other eligible directors has been increased from 5,000 shares per year to 15,000 shares per year. The exercise price for each share subject to a director option shall be equal to the fair market value of the common stock on the date of grant. Director options will expire the earlier of 10 years after the date of grant or 90 days after the termination of the director's service on the board.

During the fiscal year ended December 31, 1998, Mr. Kessman was granted an initial director option to purchase 20,000 shares of common stock at an exercise price of $2.563 per share, and



Messrs. Miller, Bergerac, Cary, Ferguson, Kent, Sartorelli and Wriston were each granted options under the plan, which included the automatic grant, to purchase 15,000 shares of common stock, at an exercise price of $4.875 per share.

SENIOR EXECUTIVE OFFICER PLAN

The purpose of this plan is to secure for us and our stockholders the benefits arising from capital stock ownership by our Chief Executive Officer, who is expected to contribute to our future growth and success. The plan permits grants of options to purchase shares of common stock. Options granted pursuant to the plan shall be authorized by action of the board of directors, or a committee designated by the board, and are non-statutory options that are not intended to meet the requirements of Section 422 of the Internal Revenue Code of 1986, as amended. The stock subject to options granted under the plan are shares of authorized but unissued or reacquired common stock. Subject to adjustment, the maximum number of shares of common stock that may be issued and sold under the plan is 980,000 shares. The maximum number of options, 980,000, were granted to Alan Kessman, our Chief Executive Officer, in January 1999.



## PRINCIPAL STOCKHOLDERS

The following table sets forth, as of July 23, 1999, and as adjusted to reflect the sale of shares in this offering, information with respect to the beneficial ownership of our common stock by (1) each person known to us to beneficially own 5% or more of the outstanding shares of our common stock,

(2) each of our directors, (3) our chief executive officer and each of our four other most highly compensated executive officers and (4) all of the directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC, which attribute beneficial ownership of securities to persons who possess sole or shared voting power and/or investment power with respect to those securities. Additionally, shares beneficially owned include shares that may be acquired pursuant to the exercise of fully vested options and warrants that are exercisable within 60 days of consummation of this offering. Except as otherwise indicated, the named beneficial owner has the sole voting and investment power over the shares listed and the address of each beneficial owner is c/o Vion Pharmaceuticals, Inc., 4 Science Park, New Haven, Connecticut 06511.

<TABLE>
<CAPTION>

| | BENEFICIALLY OWNED BEFORE THE OFFERING | | | | BENEFICIALLY OWNED AFTER THE OFFERING | |
|---|---|---|---|---|---|---|
| NAME OF BENEFICIAL OWNER | NUMBER OF COMMON STOCK | NUMBER OF CLASS A PREFERRED STOCK(1) | TOTAL NUMBER OF COMMON STOCK | PERCENT OF COMMON STOCK | NUMBER OF COMMON STOCK | PERCENT OF COMMON STOCK |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Michel C. Bergerac(2)..... | 38,750 | -- | 38,750 | * | 38,750 | * |
| Frank T. Cary(3)..... | 62,718 | -- | 62,718 | * | 62,718 | * |
| James L. Ferguson(4)..... | 22,250 | -- | 22,250 | * | 22,250 | * |
| Michael C. Kent(5)..... | 347,056 | -- | 347,056 | 2.2% | 347,056 | 1.8% |
| Alan Kessman(6)..... | 224,000 | -- | 224,000 | * | 224,000 | * |
| William R. Miller(7)..... | 171,906 | -- | 171,906 | 1.1% | 171,906 | * |
| Alan C. Sartorelli, Ph.D(8)..... | 442,758 | -- | 442,758 | 2.8% | 442,758 | 2.4% |
| Walter B. Wriston(9)..... | 57,718 | -- | 57,718 | * | 57,718 | * |
| Terrence W. Doyle, Ph.D(10)..... | 280,124 | -- | 280,124 | 1.8% | 280,124 | 1.5% |
| Thomas E. Klein(11)..... | 104,684 | -- | 104,684 | * | 104,684 | * |
| Thomas Mizelle(12)..... | 128,410 | -- | 128,410 | * | 128,410 | * |
| John A. Spears(13)..... | 422,317 | -- | 422,317 | 2.6% | 422,317 | 2.2% |
| Elliott Associates, L.P.<br>Westgate International, L.P.<br>Martley International, Inc.<br>c/o Elliott Associates, L.P.<br>712 Fifth Avenue, 36th Floor<br>New York, NY 10019(14)..... | 2,563,322 | -- | 2,563,322 | 16.3% | 2,563,322 | 13.7% |
| Phoenix Partners L.P.<br>Morgens Waterfall Vintiadis Investments N.V.<br>Betje Partners<br>c/o Morgens Waterfall Vintiadis & Co., Inc.<br>10 East 50th Street<br>New York, NY 10022(15)..... | 302,787 | 206,479 | 876,340 | 5.6% | 876,340 | 4.7% |
| Kingdon Capital Management Corp.<br>152 West 57th Street,<br>50th Floor<br>New York, NY 10019(16)..... | -- | 230,350 | 639,861 | 4.1% | 639,861 | 3.4% |
| All directors and executive officers as a group<br>(12 persons)(17)..... | 1,687,007 | -- | 1,687,007 | 10.5% | 1,687,007 | 8.8% |

</TABLE>

---

* Less than one percent.

(1) The Class A Preferred Stock is convertible into our common stock by dividing (i) the sum of the $10.00 per share stated value by (ii) $3.60 per share (as adjusted from time to time for

(footnotes continued on next page)



(footnotes continued from previous page)

certain events of dilution). As of July 23, 1999, each share of Class A Preferred Stock was convertible into 2.777777 shares of our common stock.

(2) Represents shares issuable upon exercise of options.

(3) Includes 10,000 shares issuable upon exercise of options.

(4) Includes 21,250 shares issuable upon exercise of options.

(5) Includes 14,302 shares of common stock beneficially owned by Mr. Kent's wife, as to which Mr. Kent disclaims beneficial ownership. Also includes 3,750 shares issuable upon exercise of options.

(6) Includes 220,000 shares issuable upon exercise of options. Does not include 780,000 shares issuable upon exercise of options that are not immediately exercisable.

(7) Includes 28,750 shares issuable upon exercise of options.

(8) Includes (i) 190,874 shares beneficially owned by Dr. Sartorelli's wife and (ii) 57,260 shares held in trust for Dr. Sartorelli's grandchildren, for which Dr. Sartorelli's wife serves as trustee, as to which Dr. Sartorelli disclaims beneficial ownership. Does not include 57,260 shares beneficially owned by other family members of Dr. Sartorelli, which were received as gifts from Dr. Sartorelli. Also includes 3,750 shares issuable upon exercise of options.

(9) Includes 10,000 shares issuable upon exercise of options.

(10) Includes 86,600 shares held by Dr. Doyle's wife and children, as to which Dr. Doyle disclaims beneficial ownership. Also includes 8,400 shares issuable upon exercise of options.

(11) Includes 83,400 shares issuable upon exercise of options. Also includes 1,199 shares of common stock held by Mr. Klein's wife and children.

(12) Includes 120,900 shares issuable upon exercise of options and 12,210 shares issuable upon exercise of warrants. Also includes 488 shares of common stock held by Mr. Mizelle's children.

(13) Includes 386,812 shares issuable upon exercise of options.

(14) Beneficial ownership information is based upon data set forth in a Schedule 13D Amendment No. 2 filed with the SEC on April 16, 1999. Elliott Associates, L.P. owns 401,989 shares of our common stock and beneficially owns 2,500 shares of our 5% Convertible Preferred Stock Series 1998, which are convertible into 722,195 shares of common stock. Westgate International, L.P., which has its business address at c/o Midland Bank Trust Corporation (Cayman) Limited, P.O. Box 1109, Mary Street, Grand Cayman, Cayman Islands, British West Indies, owns 405,231 shares of our common stock and beneficially owns 2,500 shares of our 5% Convertible Preferred Stock Series 1998, which are convertible into 722,195 shares of common stock. Pursuant to the Certificate of Designation for our 5% Convertible Preferred Stock Series 1998, the aggregate percentage ownership by Elliott Associates, L.P. and Westgate International, L.P. of common stock is limited to 9.9% of the common stock, although effective June 8, 1999, the threshold is being increased from 9.9% to 19.9%. Martley International, Inc. is the investment manager for Westgate International, L.P. and has shared voting and dispository power over the shares held by Westgate International, L.P. Martley International, Inc. disclaims beneficial ownership of all such shares.

(15) Beneficial ownership information is based in part upon data set forth in a Schedule 13G filed with the SEC on February 12, 1999. Class A Preferred Stock consists of 103,238 shares held by Phoenix Partners L.P., 72,160 shares held by Morgens Waterfall Vintiadis Investments N.V. and 31,081 shares held by Betje Partners. Morgens, Waterfall, Vintiadis & Co., Inc. is deemed to beneficially own all such shares by virtue of its status as investment advisor to the foregoing entities.

(16) Consists of 138,208 shares held by M. Kingdon Offshore, N.V., 46,071 shares held by Kingdon Partners, L.P. and 46,071 shares held by Kingdon Associates, L.P. Kingdon Capital Management Corp. is a general partner of Kingdon Partners, L.P. and Kingdon Associates, L.P. and is the investment advisor to M. Kingdon Offshore, N.V. Kingdon Capital disclaims beneficial ownership of all indicated shares.

(17) Includes 342,700 shares issuable upon exercise of options.



## CERTAIN TRANSACTIONS

Michael Kent, one of our directors, is a principal of an executive search firm that has rendered services for us. We paid the firm $60,000 for services rendered for the year ended December 31, 1997 and $120,000 for services rendered

for the year ended December 31, 1998.

We and Dr. Alan Sartorelli, one of our directors, who is affiliated with Yale University, entered into a five year consulting agreement on September 29, 1995 providing for various advisory services that is renewable for one additional year. Under the agreement, Dr. Sartorelli receives an annual fee of $48,000.

On August 27, 1998, Elliott Associates, L.P., together with Westgate International, L.P., two of our principal stockholders, exercised their rights as holders of the 5% Convertible Preferred Stock Series 1998, to nominate a candidate for election to our board of directors. That candidate, Alan Kessman, is now our President and Chief Executive Officer, as well as a director.

In April 1999, we completed a private placement of 893,915 shares of our common stock. 446,957 of these shares were sold to Elliott Associates, L.P. and Westgate International, L.P., two of our principal stockholders. All shares were sold at a price of approximately $4.47 per share, which was 90% of the average closing price of the common stock on the Nasdaq Small Cap Market for the 10 consecutive trading days immediately prior to April 8, 1999, for aggregate proceeds of $4,000,000.

## DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 35,000,000 shares of common stock, $.01 par value, and 5,000,000 shares of preferred stock, $.01 par value.

As of June 30, 1999, we had 15,567,219 shares of common stock outstanding, 493,902 shares of Class A convertible preferred stock and 5,000 shares of redeemable preferred stock outstanding. Upon the closing of this offering, and after giving effect to the issuance of 3,600,000 shares of common stock in this offering, there will be 19,167,219 shares of common stock outstanding.

### COMMON STOCK

Subject to preferences that may be applicable to any preferred stock outstanding at the time, holders of our common stock are entitled to receive dividends at times and in amounts as the board may determine. The holders of our common stock have one vote for each share they hold on all matters submitted to a vote of the stockholders. The holders of a majority of the shares of common stock voted can elect all of the directors nominated for election. The holders of our common stock are not entitled to preemptive rights and our common stock is not subject to conversion or redemption. Upon a liquidation, dissolution or winding-up, we will distribute pro rata to the holders of our common stock our remaining assets, after payment of liquidation preferences, if any, on any outstanding shares of preferred stock and payment of claims of creditors. Each outstanding share of our common stock is, and all shares of our common stock being purchased in this offering will be, duly and validly issued, fully paid and nonassessable.

### PREFERRED STOCK

The 5,000,000 authorized shares of preferred stock may by issued in one or more series without further stockholder action. The board is authorized to determine the terms, limitations and relative rights and preferences of the preferred stock, to establish series of preferred stock and to determine the variations among series. If we issue preferred stock, it would have priority over our common stock with respect to dividends and to other distributions, including the distribution of assets upon liquidation. In addition, we may be obligated to repurchase or redeem it. The board can issue preferred stock without the approval of the holders of our common stock. The holders of preferred stock may have voting and conversion rights, including multiple voting rights, which could adversely affect the rights of the holders of our common stock.



### CLASS A CONVERTIBLE PREFERRED STOCK

Each share of Class A Preferred Stock is immediately convertible into 2.777777 shares of our common stock and is entitled to vote on all matters on an 'as if' converted basis. The shares of Class A Preferred Stock pay semi-annual dividends of 5% per annum, payable in additional shares of Class A Preferred Stock, which are immediately convertible into our common stock. In the event that the closing bid price of our common stock exceeds $10.3125 for 20 trading days in any 30 trading day period, we can redeem the Class A Preferred Stock at $10.00 per share plus all declared and unpaid dividends thereon. We cannot pay cash dividends on our common stock without the consent of a majority of holders of the Class A Preferred Stock.

REDEEMABLE CONVERTIBLE PREFERRED STOCK SERIES 1998

As of the date of this prospectus, there are 5,000 shares of our Redeemable Convertible Preferred Stock Series 1998 issued and outstanding.

The shares of Series 1998 Preferred Stock are entitled to accrued cumulative dividends at a rate of 5% yearly, compounded quarterly, and payable when and as declared by the board in kind. If there is a liquidation, dissolution or winding up, the holders of our Series 1998 Preferred Stock are entitled to be paid $1,000 per share plus any accrued and unpaid dividends on our Series 1998 Preferred Stock out of our available assets, before any payment may be made to the holders of our common stock. The shares of Series 1998 Preferred Stock are non-voting. Each share of Series 1998 Preferred Stock is convertible into common stock based on the formula of issued price plus accrued dividends divided by $3.60.

REGISTRATION RIGHTS

In conjunction with this offering, we have agreed to grant to the underwriter a warrant to purchase 360,000 shares of common stock. This warrant will have registration rights.

DELAWARE ANTI-TAKEOVER LAW AND CERTAIN CHARTER PROVISIONS

Under Section 203 of the Delaware General Corporation Law, certain 'business combinations' between a Delaware corporation, whose stock generally is publicly traded or held of record by more than 2,000 stockholders, and an 'interested stockholder' are prohibited for a three-year period following the date that such stockholder became an interested stockholder, unless:

- the corporation has elected in its certificate of incorporation or bylaws not to be governed by the Delaware anti-takeover law (we have not made such an election);
- the business combination was approved by the board of the corporation before the other party to the business combination became an interested stockholder;
- upon consummation of the transaction that made it an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the commencement of the transaction (excluding voting stock owned by directors who are also officers or held in employee stock plans in which the employees do not have a right to determine confidentially whether to tender or vote stock held by the plan); or
- the business combination was approved by the board and ratified by 66 2/3% of the voting stock which the interested stockholder did not own.

The three-year prohibition does not apply to certain business combinations proposed by an interested stockholder following the announcement or notification of certain extraordinary transactions involving the corporation and a person who had not been an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation's directors. The term 'business combination' is defined generally to include mergers or consolidations between a Delaware corporation and an interested stockholder, transactions with an interested stockholder involving the assets or stock of the corporation or its majority-owned subsidiaries and transactions that increase an interested stockholder's percentage



ownership of stock. The term 'interested stockholder' is defined generally as a stockholder who becomes beneficial owner of 15% or more of a Delaware corporation's voting stock. Section 203 could have the effect of delaying, deferring or preventing a change in control of us.

AUTHORIZED BUT UNISSUED SHARES

The authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval. We may use these shares for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. This could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

LIMITATION OF LIABILITY AND INDEMNIFICATION MATTERS

The provisions of our certificate of incorporation may have the practical effect in some cases of eliminating our stockholders' ability to collect monetary damages from our directors. We believe that these provisions in our certificate of incorporation and bylaws are necessary to attract and retain qualified persons as directors and officers.

## TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company.



# SHARES ELIGIBLE FOR FUTURE SALE

Upon completion of this offering, we will have outstanding an aggregate of 19,167,219 shares of our common stock, assuming no exercise of the underwriter's over-allotment option and no exercise of outstanding options or warrants. All of these shares will be freely tradeable without restriction or further registration under the Securities Act, unless such shares are purchased by 'affiliates' as that term is defined in Rule 144 under the Securities Act.

## LOCK-UP AGREEMENTS

All of our officers and directors and Elliott Associates and its affiliates have signed lock-up agreements under which they agreed not to transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for shares of our common stock, for a period of 180 days after the date of this prospectus. Transfers or dispositions can be made sooner:

- with the prior written consent of Brean Murray & Co., Inc.;
- in the case of gifts or estate planning transfers where the donee signs a lock-up agreement; or
- in the case of distributions to stockholders or affiliates of the stockholders where the recipient signs a lock-up agreement.

## RULE 144

In general, under Rule 144 as currently in effect, beginning 90 days after the date of this prospectus, a person who has beneficially owned shares of our common stock for at least one year would be entitled to sell within any three-month period a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately 191,672 shares immediately after this offering; or
- the average weekly trading volume of our common stock on the Nasdaq SmallCap Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to that sale.

Sales under Rule 144 are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us.

## RULE 144(k)

Under Rule 144(k), a person who is not deemed to have been one of our affiliates at any time during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for at least two years, including the holding period of any prior owner other than an affiliate, is entitled to sell those shares without complying with the manner of sale, public information, volume limitation or notice provisions of Rule 144. Therefore, unless otherwise restricted, Rule 144(k) shares may be sold immediately upon the completion of this offering.

## REGISTRATION RIGHTS

In conjunction with this offering, we have agreed to grant to the underwriter a warrant to purchase 360,000 shares of common stock. This warrant will have registration rights.

## STOCK OPTIONS AND WARRANTS

As of July 23, 1999, options and warrants to purchase 7,625,286 shares of common stock were issued and outstanding, of which 6,106,253 are currently

exercisable. Of such warrants, there are 1,071,232 Class A Warrants outstanding and 1,308,732 Class B Warrants outstanding. The Class A and Class B Warrants are publicly traded. Each Class A Warrant entitles the holder to purchase, at an exercise price of $4.63, subject to adjustment, one share of common stock and one Class B



Warrant, and each Class B Warrant entitles the holder to purchase, at an exercise price of $6.23, subject to adjustment, one share of common stock. The warrants are exercisable at any time after issuance through August 13, 2000. The warrants are subject to redemption by us for $.05 per warrant, upon 30 days' written notice, if the average closing bid price of the common stock exceeds $7.30 per share with respect to the Class A Warrants and $9.80 per share with respect to the Class B Warrants for a 30 consecutive business day period ending within 15 days of the date of the notice of redemption. In addition, in conjunction with this offering, we have agreed to grant to the underwriter a warrant to purchase 360,000 shares of common stock.



## UNDERWRITING

Subject to the terms and conditions set forth in an underwriting agreement, Brean Murray & Co., Inc. has agreed to purchase, and we have agreed to sell an aggregate of 3,600,000 shares of common stock. The number of shares of common stock that the underwriter has agreed to purchase is set forth below.

<TABLE>
<CAPTION>

| UNDERWRITER | NUMBER OF SHARES |
|---|---|
| <S> | <C> |
| Brean Murray & Co., Inc..... | |
| Total..... | 3,600,000 |

</TABLE>

Upon the terms and subject to the conditions of the underwriting agreement, we are obligated to sell, and the underwriter is obligated to purchase, all of the shares of common stock set forth in the table above if any of the shares of common stock are purchased. The underwriting agreement provides that we will indemnify the underwriter against certain liabilities, including civil liabilities under the Securities Act, or will contribute to payments that the underwriter may be required to make in respect thereof.

The underwriter has advised us that it proposes initially to offer the common stock directly to the public at the offering price set forth on the cover page of this prospectus and to selected dealers at a price that represents a concession of not more than $ per share; and the underwriter may allow, and such dealers may reallow, a concession of not more than $ per share to certain other dealers. After the public offering, the offering price and other selling terms may be changed by the underwriter. The common stock is offered subject to receipt and acceptance by the underwriter, and to certain other conditions, including the right to reject orders in whole or in part.

We have granted an option to the underwriter, exercisable during the 30-day period after the date of this prospectus, to purchase up to an aggregate of 540,000 additional shares of common stock to cover over-allotments, if any, at the offering price set forth on the cover page of this prospectus, less underwriting discounts and commissions. To the extent that the underwriter exercises this option, the underwriter will have a firm commitment, subject to certain conditions, to purchase such additional shares in approximately the same proportion as set forth in the above table. The underwriter may purchase such shares only to cover over-allotments made in connection with this offering.

We, our officers, directors and certain of our stockholders have each agreed that we and they will not, without the prior written consent of Brean Murray & Co., Inc., for a period ending 180 days after the date of this prospectus, directly or indirectly, sell, offer, contract or grant an option to

sell (including without limitation any short sale), pledge, transfer, establish an open put equivalent position or otherwise dispose of any shares of common stock, options or warrants to acquire shares of common stock or securities exchangeable or exercisable or convertible into shares of common stock held by us or them, or publicly announce the intention to do any of the foregoing. Brean Murray & Co., Inc. may, in its sole discretion and at any time without prior notice, release any or all of the shares of common stock subject to these lock-up agreements.

We have agreed to reimburse the underwriter for $125,000 of the underwriter's accountable out-of-pocket expenses (including fees of its counsel) in connection with the sale of the common stock offered hereby.

In connection with the offering, we have agreed to sell to Brean Murray & Co., Inc., for nominal consideration, warrants to purchase 360,000 shares of common stock from us (10% of the number of shares offered hereby). The warrants are exercisable, in whole or in part, at an exercise price of $ per share, which is equal to 120% of the offering price, or through cashless



exercise at any time during the four-year period commencing one year after the date of this prospectus. The warrant agreement pursuant to which the warrants will be issued will contain provisions providing for adjustment of the exercise price and the number and type of securities issuable upon exercise of the warrants should any one or more of certain specified events occur. The warrants grant to the holders thereof certain rights of registration for the securities issuable upon exercise of the warrants.

In connection with the offering, the underwriter may engage in passive market making transactions in our common stock on Nasdaq immediately prior to the commencement of sales in the offering, in accordance with Rule 103 of Regulation M. Passive market making consists of displaying bids on Nasdaq limited by the bid prices of independent market makers and purchases limited by such prices and effected in response to order flow. Net purchases by a passive market maker on each day are limited to a specified percentage of the passive market maker's average daily trading volume in the common stock during a specified period and must be discontinued when such limit is reached. Passive market making may stabilize the market price of the common stock at a level above that which might otherwise prevail and, if commenced, may be discontinued at any time.

In connection with the offering, the underwriter and selling group members, if any, may engage in stabilizing, syndicate short covering transactions, penalty bids or other transactions during the offering that may stabilize, maintain or otherwise affect the market price of the common stock at a level above that which might otherwise prevail in the open market. Stabilizing transactions are bids for and purchases of the common stock for the purpose of preventing or retarding a decline in the market price of the common stock to facilitate the offering. Syndicate short covering transactions are bids to purchase and actual purchases of common stock on behalf of the underwriter to provide them with enough common stock to deliver to those purchasing common stock in the offering. A penalty bid is an arrangement that permits the underwriter to reclaim a selling concession when the common stock originally sold by the syndicate member is purchased in a syndicate covering transaction. Such stabilizing, syndicate short covering transactions, penalty bids and other transactions, if commenced, may be discontinued at any time.

## LEGAL MATTERS

Certain legal matters with respect to the legality of the issuance of the shares of common stock offered by this prospectus will be passed upon for us by Fulbright & Jaworski L.L.P., New York, New York. Certain legal matters in connection with the common stock offered hereby will be passed upon for the underwriters by Piper & Marbury L.L.P., New York, New York.

## EXPERTS

The financial statements as of December 31, 1998 and for each of the three years in the period ended December 31, 1998 included in this prospectus and elsewhere in the registration statement have been audited by Ernst & Young LLP, independent auditors, as set forth in their report thereon appearing elsewhere in this prospectus (which contains an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern as described in Note 1 to the financial statements), and are included in reliance upon such report given upon the authority of such firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 with respect to the common stock being sold in this offering. This prospectus constitutes a part of that registration statement. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules to the registration statement, because some parts have been omitted in accordance with rules and regulations of the SEC. For further information about us and our common stock being sold in this offering, please refer to the registration statement and the exhibits and schedules filed as a part of the registration statement. Statements contained in this



prospectus as to the contents of any contract, agreement or any other document referred to are not necessarily complete; reference is made in each case to the copy of the contract or document filed as an exhibit to the registration statement. Each statement is qualified in all respects by reference to the exhibit.

We are also subject to the informational requirements of the Securities Exchange Act of 1934. Therefore, we file reports, proxy statements and other information with the SEC. You can read and copy all of our filings, including the registration statement of which this prospectus forms a part, at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C., 20549. You may obtain information on the operation of the SEC's Public Reference Room by calling the SEC at 1-800-SEC-0300. You can also read and copy all of our filings at the offices of the Nasdaq Stock Market, 1735 K Street N.W., Washington, D.C. 20006. In addition, all of our filings are available on the SEC's Web site on the Internet that is located at http://www.sec.gov.

You may also request a copy of any or all of these filings, at no cost, by writing or telephoning us at Vion Pharmaceuticals, Inc., 4 Science Park, New Haven, Connecticut 06511, Attention: Thomas E. Klein, Vice President, Finance and Chief Financial Officer, Telephone: (203) 498-4210.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

INDEX TO FINANCIAL STATEMENTS





REPORT OF INDEPENDENT AUDITORS

The Board of Directors and Shareholders
VION PHARMACEUTICALS, INC.

We have audited the accompanying balance sheet of Vion Pharmaceuticals, Inc. (a Development Stage Company) as of December 31, 1997 and 1998 and the related statements of operations, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 1998 and the period from May 1, 1994 (inception) to December 31, 1998. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Vion Pharmaceuticals, Inc. at December 31, 1997 and 1998 and the results of its operations and its cash flows for each of the three years in the period ended December 31, 1998 and the period from May 1, 1994 (inception) to December 31, 1998 in conformity with generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that Vion Pharmaceuticals, Inc. will continue as a going concern. As more fully described in Note 1, since commencement of operations, the Company has incurred recurring operating losses and requires substantial amounts of additional funding to continue its operations. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments to reflect the possible future effect on the recoverability and classification of assets or the amounts or classification of liabilities that may result from the outcome of this uncertainty.

/s/ ERNST & YOUNG LLP

Stamford, Connecticut
February 12, 1999



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
BALANCE SHEET

<TABLE>
<CAPTION>

| ASSETS | DECEMBER 31, 1997 | DECEMBER 31, 1998 |
|---|---|---|
| <S> | <C> | <C> |
| Current assets: | | |
| Cash and cash equivalents | $ 3,890,621 | $ 3,821,234 |
| Short-term investments (Includes $2,277,088 and $1,129,886 restricted, repectively) | 7,088,540 | 2,594,497 |
| Accounts receivable | 728,899 | 1,251,618 |
| Other current assets | 118,752 | 107,198 |
| Total current assets | 11,826,812 | 7,774,547 |
| Property and equipment, net | 1,301,680 | 1,026,184 |
| Security deposits | 34,894 | 51,347 |
| Research contract prepayments | 416,945 | 416,945 |
| Total assets | $ 13,580,331 | $ 9,269,023 |
| LIABILITIES AND SHAREHOLDERS' EQUITY | | |
| Current liabilities: | | |
| Obligation under capital leases -- current | $ 274,853 | $ 291,668 |
| Accounts payable and accrued expenses | 874,350 | 2,437,682 |
| Total current liabilities | 1,149,203 | 2,729,350 |
| Obligation under capital leases -- long term | 472,578 | 180,960 |
| Total liabilities | 1,621,781 | 2,910,310 |
| Redeemable Preferred Stock: | | |
| 5% convertible preferred stock Series 1998, $0.01 par value, authorized: 15,000 shares; issued and | | |

| | | |
|---|---|---|
| outstanding: 5,000 shares (redemption value $5,125,000) | -- | 4,854,505 |
| **Shareholders' equity** | | |
| Preferred stock, $0.01 par value -- 5,000,000 shares authorized consisting of: | | |
| Class A convertible preferred stock, $0.01 par value, authorized: 3,500,000 shares; issued and outstanding: 757,632 in 1997 and 616,656 in 1998 (liquidation preference $7,576,000 in 1997; $6,167,000 in 1998) | 7,576 | 6,167 |
| Class B convertible preferred stock, $0.01 par value, authorized: 100,000 shares; issued and outstanding: 4,592 in 1997 and none in 1998 | 46 | -- |
| Class C convertible preferred stock, $0.01 par value, authorized: 25,000 shares; issued and outstanding: none | -- | -- |
| Common stock, $0.01 par value, authorized: 35,000,000 shares; issued and outstanding: 9,833,934 in 1997 and 13,953,046 in 1998 | 98,339 | 139,530 |
| Additional paid-in-capital | 47,661,639 | 52,024,648 |
| Deferred compensation | (72,128) | (37,496) |
| Accumulated deficit | (35,736,922) | (50,628,641) |
| | 11,958,550 | 1,504,208 |
| Total liabilities and shareholders' equity | $ 13,580,331 | $ 9,269,023 |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
STATEMENT OF OPERATIONS

<TABLE>
<CAPTION>

| | YEAR ENDED | | | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH |
|---|---|---|---|---|
| | DECEMBER 31, 1996 | DECEMBER 31, 1997 | DECEMBER 31, 1998 | DECEMBER 31, 1998 |
| <S> | <C> | <C> | <C> | <C> |
| **Revenues:** | | | | |
| Contract research grants | $ 51,779 | $ 48,221 | $ 308,787 | $ 408,787 |
| Research support | -- | 1,222,912 | 1,647,202 | 2,870,114 |
| Technology license revenues | -- | 4,000,000 | -- | 4,000,000 |
| Total revenues | 51,779 | 5,271,133 | 1,955,989 | 7,278,901 |
| **Operating expenses:** | | | | |
| Research and development | 5,975,089 | 7,675,486 | 10,709,401 | 27,493,176 |
| General and administrative | 2,113,077 | 2,639,486 | 2,202,944 | 9,040,826 |
| Nonrecurring collaboration restructuring fee | -- | 600,000 | -- | 600,000 |
| Purchased research and development | -- | -- | -- | 4,481,405 |
| Amortization of finance charges | -- | -- | -- | 345,439 |
| Total operating expenses | 8,088,166 | 10,914,972 | 12,912,345 | 41,960,846 |
| Loss from operations | (8,036,387) | (5,643,839) | (10,956,356) | (34,681,945) |
| Interest Income | (437,993) | (343,911) | (540,240) | (1,406,188) |
| Interest Expense | 10,285 | 43,666 | 61,553 | 160,666 |
| Net Loss | (7,608,679) | (5,343,594) | (10,477,669) | (33,436,423) |
| Preferred stock dividends and accretion | (11,627,404) | (1,131,740) | (4,414,050) | (17,173,194) |
| Loss applicable to common shareholders | $(19,236,083) | $(6,475,334) | $(14,891,719) | $(50,609,617) |

| | | | | |
|---|---|---|---|---|
| Basic and diluted loss applicable to common shareholders per share..... | $(2.52) | $(0.75) | $(1.24) | |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

<TABLE>
<CAPTION>

| | CLASS A CONVERTIBLE PREFERRED STOCK | | CLASS B CONVERTIBLE PREFERRED STOCK | | COMMON STOCK | | ADDITIONAL PAID-IN |
|---|---|---|---|---|---|---|---|
| | SHARES | AMOUNT | SHARES | AMOUNT | SHARES | AMOUNT | CAPITAL |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> | <C> |
| Common stock issued for cash -- July 1994..... | -- | $ -- | -- | $-- | 2,693,244 | $ 26,932 | $ -- |
| Common stock issued for services -- August 1994..... | | | | | 159,304 | 1,593 | |
| Net loss..... | | | | | | | |
| Balance -- December 31, 1994..... | -- | -- | -- | -- | 2,852,548 | 28,525 | -- |
| Stock options issued for compensation -- February 1995..... | | | | | | | 540,000 |
| Reverse acquisition of MelaRx Pharmaceuticals, Inc. -- April 1995..... | | | | | 2,000,000 | 20,000 | 4,300,000 |
| Shares repurchased pursuant to employment agreements -- April 1995..... | | | | | (274,859) | (2,749) | |
| Private placement of common stock -- April 1995..... | | | | | 76,349 | 763 | 205,237 |
| Warrants issued with bridge notes -- April 1995..... | | | | | | | 200,000 |
| Initial public offering of units of one common share, one Class A warrant and one Class B warrant at $4.00 per unit -- August 1995 and September 1995.... | | | | | 2,875,000 | 28,750 | 9,667,460 |
| Issuance of common stock..... | | | | | 1,250 | 13 | 488 |
| Receipts from sale of unit purchase option..... | | | | | | | 250 |
| Net loss..... | | | | | | | |
| Balance at December 31, 1995..... | -- | -- | -- | -- | 7,530,288 | 75,302 | 14,913,435 |
| Issuance of Class A convertible preferred stock..... | 1,250,000 | 12,500 | | | | | 22,890,075 |
| Conversion of Class A convertible preferred stock..... | (164,970) | (1,650) | | | 458,255 | 4,582 | (2,932) |
| Class A convertible preferred stock dividend..... | 21,998 | 220 | | | | | 255,661 |
| Issuance of common stock..... | | | | | 29,418 | 294 | 102,426 |
| Compensation associated with stock option grants..... | | | | | | | 190,407 |
| Amortization of deferred compensation..... | | | | | | | |
| Net loss..... | | | | | | | |
| Balance at December 31, 1996..... | 1,107,028 | 11,070 | -- | -- | 8,017,961 | 80,178 | 38,349,072 |
| Conversion of Class A convertible preferred stock..... | (396,988) | (3,970) | | | 1,102,757 | 11,028 | (7,058) |
| Class A convertible preferred stock dividend..... | 47,592 | 476 | | | | | 623,038 |
| Issuance of Class B convertible preferred stock..... | | | 4,850 | 49 | | | 4,851,662 |
| Conversion of Class B convertible preferred stock..... | | | (258) | (3) | 64,642 | 647 | (644) |
| Accretion of dividend payable on Class B convertible preferred stock..... | | | | | | | 138,365 |
| Extension/reissuance of underwriter warrants..... | | | | | | | 168,249 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Exercise of warrants | | | | | 238 | 3 | (6) |
| Issuance of common stock | | | | | 598,336 | 5,983 | 3,463,818 |
| Exercise of stock options | | | | | 50,000 | 500 | 19,500 |
| Compensation associated with stock option grants | | | | | | | 55,643 |
| Amortization of deferred compensation | | | | | | | |
| Net loss | | | | | | | |
| Balance at December 31, 1997 | 757,632 | 7,576 | 4,592 | 46 | 9,833,934 | 98,339 | 47,661,639 |
| Conversion of Class B convertible preferred stock | | | (4,592) | (46) | 1,205,178 | 12,052 | (12,006) |
| Accretion of dividend payable on Class B convertible preferred stock | | | | | | | 286,776 |
| Premium on conversion dividend on Class B convertible preferred stock | | | | | 585,898 | 5,859 | 2,043,532 |
| Conversion of Class A convertible preferred stock | (174,981) | (1,749) | | | 486,062 | 4,860 | (3,111) |
| Class A convertible preferred stock dividend | 34,005 | 340 | | | | | 329,206 |
| Discount on Series 1998 convertible preferred stock | | | | | | | 1,597,218 |
| Series 1998 convertible preferred stock accretion | | | | | | | -- |
| Common stock issued in exchange for cancellation of outstanding warrants | | | | | 1,792,952 | 17,929 | 8,441,442 |
| | | | | | | | (8,502,064) |
| Exercise of stock options | | | | | 32,750 | 328 | 119,854 |
| Exercise of warrants | | | | | 16,272 | 163 | 10,910 |
| Compensation associated with stock option grants | | | | | | | 51,252 |
| Amortization of deferred compensation | | | | | | | |
| Net loss | | | | | | | |
| Balance at December 31, 1998 | 616,656 | $6,167 | -- | $-- | 13,953,046 | $139,530 | $52,024,648 |

<CAPTION>

| | DEFERRED COMPENSATION | ACCUMULATED DEFICIT | TOTAL SHAREHOLDERS' EQUITY |
|---|---|---|---|
| <S> | <C> | <C> | <C> |
| Common stock issued for cash -- July 1994 | $ -- | $ (19,877) | $ 7,055 |
| Common stock issued for services -- August 1994 | | (1,176) | 417 |
| Net loss | | (475,946) | (475,946) |
| Balance -- December 31, 1994 | -- | (496,999) | (468,474) |
| Stock options issued for compensation -- February 1995 | | | 540,000 |
| Reverse acquisition of MelaRx Pharmaceuticals, Inc. -- April 1995 | | | 4,320,000 |
| Shares repurchased pursuant to employment agreements -- April 1995 | | 2,029 | (720) |
| Private placement of common stock -- April 1995 | | | 206,000 |
| Warrants issued with bridge notes -- April 1995 | | | 200,000 |
| Initial public offering of units of one common share, one Class A warrant and one Class B warrant at $4.00 per unit -- August 1995 and September 1995 | | | 9,696,210 |
| Issuance of common stock | | | 501 |
| Receipts from sale of unit purchase option | | | 250 |
| Net loss | | (9,530,535) | (9,530,535) |
| Balance at December 31, 1995 | -- | (10,025,505) | 4,963,232 |
| Issuance of Class A convertible preferred stock | | (11,371,523) | 11,531,052 |
| Conversion of Class A convertible preferred stock | | | -- |
| Class A convertible preferred stock | | | |

| | | | |
|---|---|---|---|
| dividend | | (255,881) | -- |
| Issuance of common stock | | | 102,720 |
| Compensation associated with stock option grants | (190,407) | | -- |
| Amortization of deferred compensation | 83,647 | | 83,647 |
| Net loss | | (7,608,679) | (7,608,679) |
| Balance at December 31, 1996 | (106,760) | (29,261,588) | 9,071,972 |
| Conversion of Class A convertible preferred stock | | | -- |
| Class A convertible preferred stock dividend | | (623,514) | -- |
| Issuance of Class B convertible preferred stock | | (369,861) | 4,481,850 |
| Conversion of Class B convertible preferred stock | | | -- |
| Accretion of dividend payable on Class B convertible preferred stock | | (138,365) | -- |
| Extension/reissuance of underwriter warrants | | | 168,249 |
| Exercise of warrants | | | (3) |
| Issuance of common stock | | | 3,469,801 |
| Exercise of stock options | | | 20,000 |
| Compensation associated with stock option grants | | | 55,643 |
| Amortization of deferred compensation | 34,632 | | 34,632 |
| Net loss | | (5,343,594) | (5,343,594) |
| Balance at December 31, 1997 | (72,128) | (35,736,922) | 11,958,550 |
| Conversion of Class B convertible preferred stock | | | -- |
| Accretion of dividend payable on Class B convertible preferred stock | | (286,776) | -- |
| Premium on conversion dividend on Class B convertible preferred stock | | (2,049,391) | -- |
| Conversion of Class A convertible preferred stock | | | -- |
| Class A convertible preferred stock dividend | | (329,546) | -- |
| Discount on Series 1998 convertible preferred stock | | (1,597,218) | -- |
| Series 1998 convertible preferred stock accretion | | (151,119) | (151,119) |
| Common stock issued in exchange for cancellation of outstanding warrants | | | (42,693) |
| Exercise of stock options | | | 120,182 |
| Exercise of warrants | | | 11,073 |
| Compensation associated with stock option grants | | | 51,252 |
| Amortization of deferred compensation | 34,632 | | 34,632 |
| Net loss | | (10,477,669) | (10,477,669) |
| Balance at December 31, 1998 | $ (37,496) | $(50,628,641) | $ 1,504,208 |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
STATEMENT OF CASH FLOWS

<TABLE>
<CAPTION>

| | FOR THE YEAR ENDED DECEMBER 31, | | | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH DECEMBER 31, |
|---|---|---|---|---|
| | 1996 | 1997 | 1998 | 1998 |
| <S> | <C> | <C> | <C> | <C> |

| | | | | |
|---|---|---|---|---|
| Cash flows from operating activities: | | | | |
| Net loss | $ (7,608,679) | $(5,343,594) | $(10,477,669) | $(33,436,423) |
| Adjustments to reconcile net loss to net cash used in operating activities | | | | |
| Purchased research and development | -- | -- | -- | 4,481,405 |
| Amortization of financing costs | -- | -- | -- | 345,439 |
| Depreciation and amortization | 125,838 | 303,746 | 496,776 | 951,982 |
| Increase in other current assets | (87,810) | (741,016) | (511,165) | (1,357,830) |
| Increase in other assets | (176,906) | 192,670 | (16,453) | (466,577) |
| Increase in accounts payable and accrued expenses | 185,054 | 380,223 | 1,563,332 | 2,403,150 |
| Extension/reissuance of placement agent warrants | -- | 168,249 | -- | 168,249 |
| Stock issued for services | -- | 600,000 | -- | 600,417 |
| Stock options issued for compensation | 83,647 | 90,275 | 85,884 | 799,806 |
| Net cash used in operating activities | (7,478,856) | (4,349,447) | (8,859,295) | (25,510,382) |
| Cash flows used for investing activities: | | | | |
| Purchase of marketable securities | (11,796,338) | (8,121,720) | (2,498,422) | (24,707,588) |
| Maturities of marketable securities | 9,459,000 | 5,661,626 | 6,992,465 | 22,113,091 |
| Cash portion of MelaRx acquisition | -- | -- | -- | 4,061 |
| Acquisition of fixed assets | (262,907) | (299,131) | (221,280) | (1,033,733) |
| Net cash provided by (used in) investing activities | (2,600,245) | (2,759,225) | 4,272,763 | (3,624,169) |
| Cash flows provided by financing activities: | | | | |
| Initial public offering | -- | -- | -- | 9,696,210 |
| Net proceeds from issuance of common stock | 2,720 | 2,889,801 | 77,489 | 3,283,566 |
| Net proceeds from issuance of preferred stock | 11,531,052 | 4,481,850 | 4,703,386 | 20,716,288 |
| Repurchase of common stock | -- | -- | -- | (720) |
| Net proceeds from bridge financing | -- | -- | -- | 1,704,269 |
| Repayments of bridge financing | -- | -- | -- | (2,000,000) |
| Advances from stockholders | -- | -- | -- | 250,000 |
| Repayments to stockholders | -- | -- | -- | (250,000) |
| Exercise of warrants | -- | (3) | 11,073 | 11,070 |
| Receipts from sale of unit purchase option | -- | -- | -- | 250 |
| Repayment of equipment capital leases | (17,235) | (160,724) | (274,803) | (455,148) |
| Net cash provided by financing activities | 11,516,537 | 7,210,924 | 4,517,145 | 32,955,785 |
| Net (decrease) increase in cash | 1,437,436 | 102,252 | (69,387) | 3,821,234 |
| Cash and cash equivalents at beginning of period | 2,350,933 | 3,788,369 | 3,890,621 | -- |
| Cash and cash equivalents at end of period | $ 3,788,369 | $ 3,890,621 | $ 3,821,234 | $ 3,821,234 |

</TABLE>

Supplemental schedule of noncash investing and financing activities:

Capital lease obligations of $239,866, $593,489 and $22,899 were incurred for the years ended December 31, 1996, December 31, 1997 and December 31, 1998, respectively, when the company entered into leases for laboratory and office equipment.

An investor of the Company did not exercise the option to require the Company to repurchase shares of preferred stock for $100,000, and the investor received 23,859 shares of common stock during 1996, which had been converted from previously held preferred stock.

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
NOTES TO FINANCIAL STATEMENTS

1. THE COMPANY

Vion Pharmaceuticals, Inc., formerly OncoRx, Inc., (the 'Company') was incorporated in May 1993 and began operations on May 1, 1994. The Company is in the development stage and is principally devoted to the research and development of therapeutic products for the treatment of cancer and cancer related disorders.

In April 1995, the Company merged into OncoRx Research Corp. a previously unaffiliated company ('Research'). The stockholders of the Company were issued shares of common and preferred stock of MelaRx Pharmaceuticals Inc. ('MelaRx'), the 100% owner of Research, in exchange for all of the outstanding shares of the Company. On April 20, 1995, the Company merged into OncoRx Research Corp., a wholly-owned subsidiary of MelaRx, which was renamed OncoRx, Inc. after the merger. The stockholders of the Company were issued 2,654,038 common and 23,859 preferred shares of MelaRx in exchange for 2,000,000 shares of common stock of the Company valued at $2.16 per share (fair value). In August 1995, the Company completed an initial public offering ('IPO') (see Note 5) resulting in net proceeds to the Company of approximately $9,696,000.

As the shareholders of the Company obtained a majority interest in the merged company for accounting purposes, the Company is treated as the acquirer. Therefore, the transaction is recorded as a purchase in the Company's financial statements which include the results of operations of the Company from inception and MelaRx from the date of acquisition. The excess of cost over the fair value of MelaRx's net tangible assets, $4,481,405, was treated as purchased research and development and expensed immediately.

The accompanying financial statements are prepared assuming the Company will continue as a going concern; however, at its current and planned rate of spending, the Company's cash, cash equivalents and short-term investments are not sufficient to allow it to continue operations through the 1999 calendar year. The Company requires other sources of capital in order to meet such budgeted expenditures and to continue its operations throughout the year. The Company is seeking to enter into significant strategic partnerships with pharmaceutical companies for the development of its core technologies, through which it would anticipate receiving some of the substantial revenues and financing required to continue operations beyond the year end. The Company is also seeking to raise funds through additional means, including (1) private and public placements of its securities; (2) spin-off, refinancing, or partial sale or disposition of its rights to certain of its non-core technologies; and (3) equipment lease financing. No assurance can be given that the Company will be successful in arranging financing through any of these alternatives.

Failure to obtain such financing will require the Company to delay, renegotiate, or omit payment on its outside research funding commitments causing it to substantially curtail its operations, resulting in a material adverse effect on the Company. The financial statements do not include any adjustments to reflect the possible future effect on the recoverability and classification of assets or the amounts or classification of liabilities that may result from the outcome of this uncertainty.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### CASH EQUIVALENTS

The Company considers all highly liquid investments with a maturity of three months or less at the date of purchase to be cash equivalents.





### FAIR VALUE OF FINANCIAL INSTRUMENTS

The estimated fair value of amounts reported in the financial statements have been determined by using available market information and appropriate valuation methodologies. All current assets and current liabilities are carried at cost, which approximates fair value, because of their short-term nature.

### SHORT-TERM INVESTMENTS

The Company accounts for short-term investments in accordance with Statement of Financial Accounting Standards No. 115, 'Accounting for Certain Investments in Debt and Equity Securities.' The Company's investments in debt securities, which typically mature in one year or less, are classified as available for sale and are carried at fair value, which approximates cost plus accrued interest at December 31, 1997 and 1998.

PROPERTY AND EQUIPMENT

Property and equipment is stated at cost. Depreciation of equipment is computed under the straight-line method over the estimated useful lives of the assets (three to seven years). Leasehold improvements are carried at cost and depreciated on a straight line basis over the shorter of the life of the lease or the estimated useful lives of the assets.

INCOME TAXES

The Company accounts for income taxes under the liability method in accordance with Statement of Financial Accounting Standards No. 109, 'Accounting for Income Taxes' (SFAS 109). Under this method, deferred income taxes are recognized for the tax consequences of 'temporary differences' by applying enacted statutory tax rates applicable to future years to differences between the financial statement carrying amounts and the tax bases of assets and liabilities.

DEFINED CONTRIBUTION PLAN

The Company sponsors a defined contribution plan (the 'Plan') that covers all employees who meet the eligibility conditions set forth in the Plan. Employee contributions to the Plan are voluntary and are based on eligible compensation, as defined therein. In accordance with the terms of the Plan, no Company contributions are made to the Plan.

SMALL BUSINESS INNOVATION RESEARCH GRANT

On September 27, 1996 the Company was awarded a Small Business Innovation Research ('SBIR') grant for the Inhibitors of Ribonucleotide Reductase program. The award was for reimbursable direct costs of up to $100,000.

The SBIR grant expired on March 30, 1997. The Company recognized $51,779 and $48,221 of revenue from the SBIR grant for reimbursement of expenses incurred for the years ended December 31, 1996 and 1997, respectively.

During 1998 the Company was awarded a SBIR grant from the National Cancer Institute for the Reduced Toxicity of Tumor-Targeted Salmonella for $100,000, which was fully utilized, and an award for $373,565 for the Inhibitors of Ribonucleotide Reductase programs. The SBIR grants reimburse the company for allowable expenses and are recorded as contract research grants in the statement of operations.





USE OF ESTIMATES

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

PER SHARE DATA

The following table sets forth the computation of basic and diluted earnings per share:

<TABLE>
<CAPTION>

| | 1996 | 1997 | 1998 |
|---|---|---|---|
| <S> | <C> | <C> | <C> |
| Numerator: | | | |
| Net loss | $ (7,608,679) | $(5,343,594) | $(10,477,669) |
| Preferred stock dividends and accretion | (11,627,404) | (1,131,740) | (4,414,050) |
| Numerator for basic and diluted loss applicable to common shareholders per share | $(19,236,083) | $(6,475,334) | $(14,891,719) |
| Denominator: | | | |
| Denominator for basic and diluted loss applicable to common shareholders per share | 7,641,546 | 8,670,717 | 11,977,121 |
| Basic and diluted loss applicable to | | | |

| | | | |
|---|---|---|---|
| common shareholders per share..... | $(2.52) | $(0.75) | $(1.24) |

</TABLE>

For additional disclosures regarding warrants and Class A, B and Series 1998 Convertible Preferred Stock, see Note 5. For additional disclosures regarding stock options, see Note 6. These potentially dilutive securities were not included in diluted loss applicable to common shareholders per share as the effect would be antidilutive.

3. PROPERTY AND EQUIPMENT

The following is a summary of property and equipment as of December 31:

<TABLE>
<CAPTION>

| | 1997 | 1998 |
|---|---|---|
| <S> | <C> | <C> |
| Office equipment..... | $ 177,331 | $ 208,498 |
| Furniture and fixtures..... | 163,251 | 170,482 |
| Laboratory equipment..... | 202,762 | 322,998 |
| Leasehold improvements..... | 285,765 | 325,512 |
| Leased equipment under capital lease..... | 927,777 | 950,676 |
| | 1,756,866 | 1,978,166 |
| Less accumulated depreciation..... | (455,206) | (951,982) |
| Net property and equipment..... | $1,301,680 | $1,026,184 |

</TABLE>

4. RESEARCH AND LICENSE AGREEMENTS

BOEHRINGER INGELHEIM AGREEMENT

On November 24, 1997, the Company and Boehringer Ingelheim International GmbH of Germany ('BI') entered into an exclusive worldwide licensing agreement for the development and marketing of Promycin'r' (porfiromycin), Vion's most advanced anticancer agent. The agreement provides the Company with exclusive co-promotion rights to Promycin in the United States and Canada. BI will have exclusive worldwide rights to market and sell Promycin outside the United





States and Canada. The Company is responsible for the manufacturing and supply of Promycin for all territories.

In exchange for these rights, the Company received $4.0 million in upfront technology access fees and net proceeds of $2,869,801 from the sale of 448,336 shares of common stock at a premium to the then current market price. BI also reimbursed the Company for certain initial development costs and will share in future worldwide development costs.

The Company had cash equivalents and short-term investments of $10,979,161 at December 31, 1997 and $6,415,731 at December 31, 1998. These balances include $2,777,088 and $1,129,886 of restricted investments for Promycin development expenses at December 31, 1997 and 1998 respectively. Pursuant to the BI Agreement, the Company must use the BI license fee of $4.0 million exclusively for Promycin development expenses. The Company recorded $1,222,912 and $1,647,202 of Promycin development expenses as research support revenue under the agreement during 1997 and 1998, respectively. Included in the Company's total current assets as of December 31, 1998 is $1,189,369 in receivables from BI.

COVANCE AGREEMENT

During the quarter ended June 30, 1997, the Company entered into a Clinical Development Agreement (the 'Agreement') with Covance Clinical Research Unit Ltd. and Covance Inc. ('Covance'). Pursuant to the Agreement, the Company is contracting to Covance the selection and management of clinical sites and the preparation of clinical trial reports arising from clinical trials performed by Covance regarding the Company's product candidate Promycin for the inclusion in a regulatory submission. The Company has incurred expenses of $1,633,974 and $2,610,213 for the years ended December 31, 1997 and 1998, respectively, under

this agreement which has been expensed as incurred as research and development. Included in the Company's total current liabilities at December 31, 1998 are payables to Covance Development Service Corporation for $1,589,588.

YALE/MELARX AGREEMENT

Pursuant to a License Agreement between the Company and Yale University ('Yale'), as amended and restated as of August 1, 1992, the Company has obtained rights to a synthetic form of melanin which the Company has named MELASYN. In the first quarter of 1998, the Company terminated an agreement with Creative Polymers pursuant to which Creative Polymers had agreed to be the exclusive selling agent for MELASYN, and agreed to license its MELASYN technology in an exclusive worldwide agreement with San-Mar Laboratories, a leading manufacturer of private label cosmetics and pharmaceuticals. Under the terms of the agreement, Vion granted an exclusive worldwide license to San-Mar for the manufacture and sales of products containing MELASYN. Vion will receive a royalty on products sold by San-Mar with guaranteed minimum annual royalties of $50,000 per year over an initial three-year period.

The Company has agreed to reimburse Yale for its costs in connection with the research projects performed under the direction and supervision of Dr. John Pawelek of the Department of Dermatology in an amount currently equal to $852,000 per year. Technology licensed by the Company from research conducted under this agreement includes the inventions collectively known as TAPET. The agreement is for a term ending June 30, 2001, subject to earlier termination as defined. The Company also has an option to obtain an exclusive license for any inventions that result from research projects by Yale which are relating to synthetic melanin funded by the Company.

The Company and Yale entered into a License Agreement dated December 15, 1995 pursuant to which the Company received a nontransferable worldwide exclusive license, expiring over the





lives of the patents, to three inventions relating to gene therapy for melanoma. Pursuant to this agreement, the Company has paid Yale a $100,000 fee, and has agreed to pay future milestone payments based on the status of clinical trials and regulatory approvals. In addition, Yale is entitled to royalties on sales, if any, of resulting products and sublicensing revenues.

YALE/ONCORX AGREEMENT

Pursuant to a License Agreement dated August 31, 1994, as amended, Yale granted the Company an exclusive, nontransferable, worldwide license to make, have made, use, sell and practice certain inventions and research for therapeutic and diagnostic purposes. The term of the license is the expiration of any patents relating to any inventions or, with respect to nonpatented inventions or research, 17 years. Yale is entitled to royalties on sales, if any, of resulting products and sublicensing revenues and, with regard to one patent, milestone payments based on the status of clinical trials and regulatory approvals.

YALE SUBSCRIPTION ASSIGNMENT AND ASSUMPTION AGREEMENT

On June 4, 1992, the Company entered into a Subscription, Assignment and Assumption Agreement (the 'SAAA') with Yale. Pursuant to the agreement as amended and extended, the Company is to provide funding for certain research in the field of dermatology by Yale. The agreement was renewed in June 1998 for a three-year period and provides for quarterly payments to Yale in accordance with agreed upon annual budgets. The payments are recorded as expense when incurred. The Company was granted exclusive licenses to inventions in countries where patents are effective and nonexclusive licenses elsewhere expiring over the lives of the patents and 20 years, respectively. The Company is obligated to pay royalties on sales of licensed products.

5. SHAREHOLDERS' EQUITY

On April 20, 1995, 2,000,000 shares of common stock valued at $2.16 per share were issued in conjunction with the merger with MelaRx (see Note 1). Shortly prior to the consummation of the Merger, the Company issued 76,349 shares of common stock for net proceeds of $206,000 after deducting placement fees of $14,000.

On August 17, 1995 and September 6, 1995, the Company completed an IPO of

2,875,000 units, consisting of an aggregate of 2,875,000 shares of common stock, 2,875,000 redeemable Class A Warrants and 2,875,000 redeemable Class B Warrants at a price of $4.00 per unit. Each Class A Warrant entitles the holder to purchase one share of common stock and one Class B Warrant. Each Class B Warrant entitles the holder to purchase one share of common stock. These warrants are exercisable through August 13, 2000. The net proceeds to the Company of the IPO were approximately $9,696,000 before repayment of the bridge financing noted below.

In conjunction with the Company's IPO, the Company granted the underwriter an option, exercisable until August 14, 2000, to purchase up to 250,000 units at $5.20 per unit, subject to adjustment.

Commencing with its IPO, and including the gross proceeds therefrom, the Company has raised a gross amount of $33,850,000 to date, through the issuance of common and preferred stock.

BRIDGE FINANCING

In April 1995, the Company issued $2,000,000 in 10% promissory notes and warrants to purchase 1,000,000 shares of common stock at $3.00 per share for net proceeds of $1,704,000. The promissory notes were recorded net of a discount of $200,000, attributable to the fair value of the





bridge warrants. The notes were paid at the closing of the IPO of the Company's securities described above, and the warrants, which are exercisable over four years, were converted into Class A Warrants at that time.

PRIVATE PLACEMENT OF CLASS A CONVERTIBLE PREFERRED STOCK

On May 22, 1996, the Company completed a private placement of 1,250,000 shares of Class A Convertible Preferred Stock, at $10.00 per share, resulting in net proceeds to the Company of $11,531,052. Each share of Class A Preferred Stock is immediately convertible into 2.777777 shares of the Company's common stock and is entitled to vote on all matters on an 'as if' converted basis. The Company recorded an imputed one-time non-cash dividend of approximately $11.4 million as a result of the difference between the conversion price and the quoted market price of the Company's common stock as of the date of issuance as required by the Financial Accounting Standards Board Emerging Issues Task Force D-60 'Accounting for the Issuance of Convertible Preferred Stock and Debt Securities with a Nondetachable Conversion Feature' (EITF D-60). The $11.4 million has been recognized as a charge against accumulated deficit with a corresponding increase in additional paid-in capital. The imputed non-cash dividend has been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. In connection with the foregoing transaction, the Company also issued to the placement agent warrants, exercisable over a five-year period, to purchase an aggregate of 546,875 shares of the Company's common stock at prices ranging from $3.96 to $12.00. The shares of Class A Preferred Stock pay semi-annual dividends of 5% per annum, payable in additional shares of Class A Preferred Stock, which are immediately convertible into common stock of the Company. The Company has recorded non-cash dividends as a charge against the accumulated deficit and a credit to additional paid-in capital based on the quoted market price of the common stock as of the date of the issuance of the preferred dividends of $255,881 in 1996, $623,514 in 1997 and $329,546 in 1998. The non-cash dividend has been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. The issue contains a provision for a 15% one-time dividend payable in additional Class A Preferred Stock if the Company redeems the issue within 3 years. In the event that the closing bid price of the Company's common stock exceeds $10.3125 for 20 trading days in any 30 trading day period, the Company can redeem the Class A Preferred Stock at the issue price plus all declared and unpaid dividends thereon. If all of the 616,656 outstanding shares of the Company's Class A Preferred Stock were thusly redeemed, their redemption value would be $6,166,560. The issuance of the Class A Preferred Stock at closing also triggered certain antidilution adjustment provisions of the Company's outstanding warrants, resulting in the issuance of additional warrants. The Company cannot pay cash dividends on Common Stock without the consent of a majority of holders of the Class A Preferred Stock.

PRIVATE PLACEMENT OF CLASS B CONVERTIBLE PREFERRED STOCK

On August 20, 1997, the Company completed a private placement of 4,850 shares of non-voting Class B Convertible Preferred Stock, at $1,000 per share,

resulting in net proceeds to the Company of $4,481,450. Shares of Class B Preferred Stock were immediately convertible into shares of common stock including an accretion of 8% per annum. The difference between the conversion price and the quoted market price of the Company's common stock at the date of issuance, $369,861, was recognized upon the issuance of the preferred securities as a charge against accumulated deficit, with a corresponding increase in additional paid-in capital. The imputed non-cash dividend has been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. Shares of the Class B Preferred Stock are eligible, under certain circumstances, to receive dividends paid in Class C Preferred Stock. The Class C Preferred Stock was immediately convertible into shares of common stock at the average closing bid price of





the Company's common stock for thirty consecutive business days ending on the private placement closing date and was not entitled to dividends. Conversions of Class B Preferred Stock from January 1, 1998 through August 10, 1998 resulted in Class C dividends representing 180,141 shares of common stock valued at $622,749. In addition, the Company recorded accretion of 37,168 shares of common stock valued at $138,365 in 1997, and 61,078 shares of common stock valued at $263,737 through August 10, 1998. These dividends were recorded as a charge against accumulated deficit, with a corresponding increase in paid-in capital. The dividends have been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders.

On August 11, 1998, the Company reached agreement with each of the holders of its Class B Convertible Preferred Stock such that the holders of the Class B Preferred Stock would convert an aggregate of 2,892 shares of Class B Preferred Stock, constituting all of the outstanding Class B Preferred Stock, into an aggregate of 1,070,423 shares of common stock. This included Class C dividends representing 304,188 shares of common stock valued at $1,069,525, and accretion of 6,553 shares of common stock valued at $23,039. As part of this agreement, an additional 101,569 common shares were issued to holders of the Class B Preferred Stock. In accordance with Financial Accounting Standards Board Emerging Issues Task Force D-42 'The Effect on the Calculation of Earnings Per Share for the Redemption or Induced Conversion of Preferred Stock' (EITF D-42), the excess of the fair value of the common stock issued upon conversion over the fair value of the common stock issuable pursuant to the original conversion terms ($357,117), has been added to the dividend requirement to arrive at loss applicable to common shareholders. In addition, holders of the Class B Preferred Stock waived their 'anti-dilution' rights arising from the issuance of the Series 1998 Preferred Stock.

PRIVATE PLACEMENT OF 5% REDEEMABLE CONVERTIBLE PREFERRED STOCK SERIES 1998

On June 30, 1998, the Company completed a private placement of 5,000 shares of non-voting 5% Redeemable Convertible Preferred Stock Series 1998 ('Series 1998 Preferred Stock'). The Series 1998 Preferred Stock was issued at $1,000 per share, resulting in net proceeds to the Company of $4,703,386. The shares of Series 1998 Preferred Stock accrue dividends of 5% per annum payable in-kind. Each share of Series 1998 Preferred Stock is convertible into Common Stock based on the formula of issued price plus accrued dividends divided by $3.60. Dividends other than non-cash dividends paid in-kind with respect to other classes or series of preferred stock require consent of two-thirds majority interest of the holders of Series 1998 Preferred Stock. The Series 1998 Preferred Stock is mandatorily redeemable at $1,000 per share plus dividends on June 30, 2003. In connection with the sale of the Series 1998 Preferred Stock, the Company imputed a one-time non-cash dividend of approximately $1.6 million as a result of the difference between the conversion price and the quoted market price of the Company's common stock at the date of issuance as required by EITF D-60. Such amount was recognized upon issuance of the Series 1998 Preferred Stock as a charge against the accumulated deficit with a corresponding increase to additional paid-in capital. The imputed non-cash dividend has been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. The dividend requirement on Preferred Stock also reflects the amortization of the costs of completing the offering and the accretion of the 5% per annum dividend. The issuance of the Series 1998 Preferred Stock at closing also triggered certain antidilution adjustment provisions of the Company's outstanding warrants, resulting in the issuance of additional warrants.

WARRANT EXCHANGE OFFER

On May 19, 1998, the Company commenced an offer to exchange each outstanding Class A Warrant, at the option of the holder, for either (A) 0.438

shares of common stock or (B) 0.254





shares of common stock and $0.66 in cash. The Company simultaneously offered to exchange each outstanding Class B Warrant, at the holder's option, for either (A) 0.212 shares of common stock or (B) 0.123 shares of common stock and $0.32 in cash. The Exchange Offer was not conditioned upon the exchange of a minimum number of Class A Warrants or Class B Warrants. As a result of the Exchange Offer 3,209,806 Class A Warrants and 1,881,835 Class B Warrants were exchanged for 1,395,027 and 397,925 shares of the Company's Common Stock and $39,007 and $3,686 in cash, respectively.

ANTIDILUTION ADJUSTMENT

As a result of the sale on May 22, 1996 of 1,250,000 shares of Class A Convertible Preferred Stock, an adjustment was made to the exercise price of the Class A Warrants and the Class B Warrants and there was a corresponding distribution of additional Class A Warrants and Class B Warrants. Specifically, on July 12, 1996 (the 'Payment Date'), each holder of a Class A Warrant at the close of business on July 3, 1996 (the 'Record Date') was issued an additional 0.1 Class A Warrant and the exercise price of the Class A Warrants was reduced from $5.20 to $4.73. In addition, on the Payment Date, each holder of a Class B Warrant on the close of business on the Record Date was issued an additional 0.1 Class B Warrant and the exercise price of the Class B Warrants was reduced from $7.00 to $6.37.

Subsequently, as a result of the sale on June 30, 1998 of 5,000 shares of Series 1998 Redeemable Preferred Stock, an additional adjustment was made to the exercise price of the Class A Warrants and the Class B Warrants with a corresponding distribution of additional Class A Warrants and Class B Warrants. Specifically, on September 8, 1998 (the 'Payment Date') each holder of a Class A Warrant at the close of business on August 26, 1998 (the 'Record Date') received an additional 0.02 (2 per 100 outstanding) Class A Warrants and the exercise price of the Class A Warrants was reduced from $4.73 to $4.63. In addition, on the Payment Date each holder of a Class B Warrant on the close of business on the Record Date received an additional 0.02 (2 per 100 outstanding) Class B Warrants and the exercise price of the Class B Warrants was reduced from $6.37 to $6.23.

ISSUANCE AND EXTENSION OF PLACEMENT AGENT WARRANTS

In connection with its role as placement agent for two private financings of the Company's predecessor MelaRx, Inc., D.H. Blair Investment Banking Corporation was issued warrants to purchase 56,504 and 11,929 shares of common stock at $3.56 per share, expiring August 20, 1997 and November 1, 1997; respectively, warrants to purchase 23,632 shares at $4.44 per share, expiring March 3, 1998, and warrants to purchase 110,421 shares at $4.44 per share, expiring July 5, 1998. The warrants to purchase 56,504 shares of common stock at $3.56 per share initially expired on October 31, 1997; however, the Company agreed to reissue the expired warrants and extend the expiration date of all such warrants to July 5, 1998. The extension, which was approved by the Board of Directors in 1997, resulted in an expense of $168,249. As of July 5, 1998, warrants to purchase 94,336 shares elected a 'cashless' exercise into 13,949 shares of common stock; warrants to purchase 108,150 shares expired.

ISSUANCE OF COMMON STOCK TO YALE UNIVERSITY

Effective July 24, 1997, the Company and Yale amended two license agreements between the parties pursuant to which Yale agreed to reduce certain amounts payable by the Company under such agreements. As a result, the Company issued 150,000 shares of common stock to Yale valued at $600,000.





6. EMPLOYEE STOCK OPTION PLAN

The Company has elected to follow Accounting Principles Board Opinion No. 25, 'Accounting for Stock Issued to Employees' (APB 25) and related Interpretations in accounting for its employee stock options because, as discussed below, the alternative fair value accounting provided for under FASB Statement No. 123, 'Accounting for Stock-Based Compensation,' requires use of option valuation models that were not developed for use in valuing employee stock options. Under APB 25, if the exercise price of the Company's employee stock options equals the market price of the underlying stock on the date of grant, no compensation expense is recognized.

In July 1995, the Board of Directors of the Company adopted the Amended and Restated 1993 Stock Option Plan (the 'Option Plan'). The Option Plan originally provided for the granting of incentive stock options or non-qualified stock options to employees, officers, directors, and consultants of the Company, to purchase up to an aggregate of 534,750 shares of common stock. On January 31, 1996, the Board of Directors adopted, subject to stockholder approval, an amendment to the plan increasing the number of shares which may be issued under the plan from 534,750 to 1,000,000. The amendment to the Option Plan was adopted by the stockholders at the Company's annual meeting on April 18, 1996. On January 29, 1997, the Board of Directors adopted an amendment to the Option Plan increasing the number of shares which may be issued under the Option Plan from 1,000,000 to 1,500,000 which was approved by the stockholders at the Company's annual meeting on April 16, 1997. Incentive options granted under the Option Plan are exercisable for a period of up to ten years from the date of grant at an exercise price which is not less than the fair market value of the common stock on the date of the grant except that the term of an incentive option granted under the Option Plan to a stockholder owning more than 10% of the outstanding voting power may not exceed five years and its exercise price may not be less than 110% of the fair market value of the Common Stock on the date of grant. Options granted to date under the Option Plan become exercisable in no less than four equal annual installments commencing no earlier than the first anniversary of the date of grant. No option may be granted under the Option Plan after April 14, 2003.

Through December 31, 1996, 1997 and 1998, options to purchase an aggregate of 896,750, 1,033,050 and 1,394,162 shares, respectively, had been granted under the Option Plan. The Company recognized $55,643, $51,252 and $55,643 of compensation expense in 1998, 1997 and 1996, respectively, for options granted under the Option Plan which was a result of stock options granted to non-employees. The Company recognized $83,647 of compensation expense in 1996 for options granted under the Option Plan which was a result of stock options granted to non-employees and the issuance of certain stock options subject to approval by the shareholders of the Company resulting in compensation expense of $51,907 and $31,740, respectively.

The provisions of the Option Plan provide for the automatic grant of non-qualified stock options to purchase shares of common stock ('Director Options') to directors of the Company who are not employees or principal stockholders of the Company ('Eligible Directors'). Eligible Directors of the Company elected subsequent to the public offering are granted a Director Option to purchase 20,000 shares of common stock on the date such person is first elected or appointed a director (an 'Initial Director Option'). Each Eligible Director, other than directors who received an Initial Director Option since the last annual meeting, is granted a Director Option to purchase 5,000 shares of Common Stock ('Automatic Grant') on the day immediately following the date of each annual meeting of stockholders, as long as such director is a member of the Board of Directors. The exercise price for each share subject to a Director Option shall be equal to the fair market value of the common stock on the date of grant. Director Options are exercisable in four equal annual installments, commencing one year from the date of grant. Director Options expire the earlier of ten years after the date of grant or ninety days after the termination of the director's service on the Board of Directors. The number of director options issued were 140,000





and 35,000 in 1998 and 1997, respectively. Of the Director Options issued in 1998, options for 20,000 shares represent an initial Director Option and options for 120,000 shares represent Automatic Grants.

Pro forma information regarding net income and earnings per share is required by Statement 123, and has been determined as if the Company had accounted for its employee stock options under the fair value method of that Statement. The fair value for these options granted under the Option Plan was

estimated at the date of grant using a Black-Scholes option pricing model with the following weighted average assumptions for 1996, 1997 and 1998, respectively: risk-free interest rates of 6.28%, 5.77% and 4.70%; volatility factors of the expected market price of the Company's common stock of .563, .490 and .806; and a weighted average expected life of the option of 7 years. The Company has assumed no dividend yield in 1996, 1997 and 1998 because it did not pay cash dividends on its common stock and does not expect to pay cash dividends in the foreseeable future.

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

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options vesting period. The Company's pro forma information follows:

<TABLE>
<CAPTION>

| | 1996 | 1997 | 1998 |
|---|---|---|---|
| <S> | <C> | <C> | <C> |
| Pro forma net loss | $ (7,824,863) | $(5,650,169) | $(10,925,090) |
| Pro forma dividends and accretion | (11,627,404) | (1,131,740) | (4,414,050) |
| Pro forma loss applicable to common shareholders | $(19,452,267) | $(6,781,909) | $(15,339,140) |
| Pro forma basic and diluted loss applicable to common shareholders per share: | $(2.55) | $(0.78) | $(1.28) |

</TABLE>

A summary of the Company's stock option activity under the Option Plan, and related information for the years ended December 31 follows:

<TABLE>
<CAPTION>

| | 1996 | | 1997 | | 1998 | |
|---|---|---|---|---|---|---|
| | OPTIONS (000) | WEIGHTED AVERAGE EXERCISE PRICE | OPTIONS (000) | WEIGHTED AVERAGE EXERCISE PRICE | OPTIONS (000) | WEIGHTED AVERAGE EXERCISE PRICE |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Outstanding -- beginning of year | 533 | $3.86 | 885 | $3.93 | 981 | $4.00 |
| Granted | 364 | 4.06 | 136 | 4.53 | 361 | 3.71 |
| Exercised | -- | -- | -- | -- | (30) | 3.77 |
| Forfeited | (12) | 4.25 | (40) | 4.26 | (50) | 4.28 |
| Outstanding -- end of year | 885 | $3.93 | 981 | $4.00 | 1,262 | $3.91 |
| Exercisable at end of year | 221 | $3.71 | 422 | $3.83 | 571 | $3.94 |
| Weighted average fair value of options granted during the year | $2.60 | | $2.65 | | $3.97 | |

</TABLE>





A summary of the Company's ranges of exercise prices and weighted average remaining contractual life of options outstanding and of weighted average exercise price of options currently exercisable under the Option Plan as of December 31, 1998 follows:

<TABLE>
<CAPTION>

| RANGE | NUMBER OF OUTSTANDING SHARES (000) | WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS OUTSTANDING | NUMBER OF OPTIONS EXERCISABLE (000) | WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS EXERCISABLE | WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE OF OPTIONS OUTSTANDING |
|---|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> | <C> |
| $3.625-$5.625..... | 1,191 | $4.08 | 522 | $4.25 | 7.48 years |
| $2.219-$2.400..... | 26 | 2.26 | 6 | 2.40 | 1.67 years |
| $.40..... | 43 | .40 | 43 | .40 | 7.98 years |

A summary of the Company's ranges of exercise prices and weighted average remaining contractual life of options outstanding and of weighted average exercise price of options currently exercisable under the Option Plan as of December 31, 1997 follows:

<TABLE>
<CAPTION>

| RANGE | NUMBER OF OUTSTANDING SHARES (000) | WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS OUTSTANDING | NUMBER OF OPTIONS EXERCISABLE (000) | WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS EXERCISABLE | WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE OF OPTIONS OUTSTANDING |
|---|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> | <C> |
| $3.625-$5.625..... | 932 | $4.18 | 373 | $4.24 | 7.88 years |
| $2.40..... | 6 | 2.40 | 6 | 2.40 | 2.67 years |
| $.40..... | 43 | .40 | 43 | .40 | 2.67 years |

</TABLE>

A summary of the Company's stock option activity outside the Option Plan, and related information for the years ended December 31 follows:

<TABLE>
<CAPTION>

| | 1996 | | 1997 | | 1998 | |
|---|---|---|---|---|---|---|
| | OPTIONS (000) | WEIGHTED AVERAGE EXERCISE PRICE | OPTIONS (000) | WEIGHTED AVERAGE EXERCISE PRICE | OPTIONS (000) | WEIGHTED AVERAGE EXERCISE PRICE |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Outstanding -- beginning of year..... | 404 | $.21 | 398 | $.21 | 348 | $.18 |
| Granted..... | -- | -- | -- | | -- | |
| Exercised..... | (6) | .40 | (50) | .40 | (1) | .40 |
| Forfeited..... | -- | -- | -- | | -- | |
| Outstanding -- end of year..... | 398 | $.21 | 348 | $.18 | 347 | $.18 |
| Exercisable at end of year..... | 398 | $.21 | 348 | $.18 | 347 | $.18 |

</TABLE>

A summary of the Company's ranges of exercise prices and weighted average remaining contractual life of options outstanding and of weighted average exercise price of options currently exercisable outside the Option Plan as of December 31, 1998 follows:

<TABLE>
<CAPTION>

| RANGE | NUMBER OF OUTSTANDING SHARES (000) | WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS OUTSTANDING | NUMBER OF OPTIONS EXERCISABLE (000) | WEIGHTED AVERAGE EXERCISE PRICE OF OPTIONS EXERCISABLE | WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE OF OPTIONS OUTSTANDING |
|---|---|---|---|---|---|
| <S> | <C> | <C> | <C> | <C> | <C> |
| $5.00..... | .5 | $5.00 | .5 | $5.00 | 1.67 years |
| $ .40..... | 61 | .40 | 61 | .40 | 1.67 years |
| $ .13..... | 286 | .13 | 286 | .13 | 5.00 years |

</TABLE>

7. INCOME TAXES

At December 31, 1998, the Company had available for federal income tax purposes net operating loss carryforwards of approximately $6,360,000 and a general business credit of $621,000 expiring in 2010 through 2013. The difference between the deficit accumulated during the development stage for financial reporting purposes and the net operating loss carryforwards for tax purposes is primarily due to certain costs which are not currently deductible for tax purposes, preferred stock dividends and differences in accounting and tax basis resulting from the merger described in Note 1. Significant differences have resulted from amortizing previously capitalized research and development expenses. The ability of the Company to realize a future tax benefit from a portion of its net operating loss carryforwards and general business credits may be limited due to changes in ownership of the Company. The U.S. statutory rate is 34%; however, the Company has recorded no provision or benefit for income taxes in the financial statements due to recurring losses. Accordingly, the Company has provided a full valuation allowance against its deferred tax assets. The valuation allowance increased by $3,401,800, $2,033,517 and $4,330,671 during 1996, 1997 and 1998, respectively.

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

<TABLE>
<CAPTION>

| | DECEMBER 31, 1997 | DECEMBER 31, 1998 |
|---|---|---|
| <S> | <C> | <C> |
| Deferred tax assets: | | |
| Operating loss carryforwards | $ 988,629 | $ 2,561,162 |
| Research and development costs | 6,110,481 | 8,610,163 |
| General business tax credit | 346,407 | 621,326 |
| AMT tax credit | -- | 9,966 |
| Total deferred tax assets | 7,445,517 | 11,802,617 |
| Total deferred tax liabilities | -- | (26,429) |
| Total deferred tax assets and liabilities | 7,445,517 | 11,776,188 |
| Valuation allowance for deferred tax assets and liabilities | (7,445,517) | (11,776,188) |
| Total net deferred tax assets | $ -- | $ -- |

</TABLE>

8. COMMITMENTS AND CONTINGENCIES

The Company is the lessee of equipment under capital leases expiring in 2000. Effective February 1, 1996, the Company entered into a noncancelable operating lease for its facility expiring in 1999. Effective April 1, 1996, the Company entered into noncancelable operating leases for laboratory and office equipment expiring in 2000. The future minimum lease payments under the capital and operating leases as of December 31, 1998 are as follows:

<TABLE>
<CAPTION>

| | CAPITAL LEASE | OPERATING LEASE |
|---|---|---|
| <S> | <C> | <C> |
| Year ending December 31: | | |
| 1999 | $322,198 | $209,873 |
| 2000 | 183,890 | 184,237 |
| 2001 | 5,681 | 76,092 |
| Thereafter | -- | -- |
| Total minimum lease payments | 511,769 | $470,202 |
| Less amount representing interest | 39,141 | |
| Present value of minimum lease payments | $472,628 | |

</TABLE>

The cost of assets under capital leases amounted to $927,777 at December 31, 1997 and $950,676 at December 31, 1998. Accumulated amortization relating to the leased equipment amounted to $185,204 at December 31, 1997 and $483,782 at December 31, 1998. Amortization expense included in depreciation expense, relating to the leased equipment, amounted to $20,692, $159,791 and $298,578, $483,782, respectively, for the year ended December 31, 1996, the year ended December 31, 1997, the year ended December 31, 1998 and the period from May 1, 1994 (inception) through December 31, 1998

Rent expense amounted to $181,093, $249,799, $270,298, and $738,955, respectively, for the year ended December 31, 1996, the year ended December 31, 1997, the year ended December 31, 1998, and the period from May 1, 1994 (inception) through December 31, 1998.

On December 10, 1997 the Company entered into a sale and leaseback agreement with FINOVA Technology Finance, Inc. The cost of assets under the capital lease is $360,284 which is being depreciated over the lease term of 3 years.

Under the terms of an employment agreement, the Company is obligated to pay the president of the Company an annual salary of $246,750 through January 2001.

A former director of the Company is a party to a Consulting and Finder's Agreement dated June 4, 1992 and amended February 17, 1995 ('Agreement') with the Company. This Agreement entitles him to receive an annual fee equal to 10% of the net after-tax profits of the Company attributable to the sale or licensing of products or technology licensed pursuant to the Company's agreement with Yale (see Note 4), until the cumulative total of such fees equal $3,000,000. Such fee continues to be payable not withstanding the director's death or incapacity until the $3,000,000 has been paid.

The Company has various commitments relating to its research agreements (see Note 4).

9. RELATED PARTY TRANSACTIONS

A director of the Company is a principal of a management consulting firm that has rendered various consulting services for the Company. The Company paid the firm $120,000, $60,000 and $120,000 for services rendered for the years ended December 31, 1996, 1997 and 1998, respectively.

The Company and one of its directors, who is affiliated with Yale University, entered into a five year consulting agreement on September 29, 1995 which is renewable for one additional year, providing for various advisory services. Under the agreement, the director receives an annual fee of $48,000.

10. SUBSEQUENT EVENT

In connection with the retention its Chief Executive Officer, the Company granted options to purchase an aggregate amount of 980,000 shares of the Company's Common Stock. The options have exercise prices ranging from the fair market value on the date of grant to 110% of the fair market value on the date of grant.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

BALANCE SHEET

<TABLE>
<CAPTION>

| | MARCH 31, 1998 | MARCH 31, 1999 (UNAUDITED) |
|---|---|---|
| <S> | <C> | <C> |
| ASSETS | | |
| Current assets: | | |
| Cash and cash equivalents (Includes $870,418 restricted in 1999) | $ 3,015,191 | $ 3,656,359 |
| Short-term investments (Includes $2,502,827 restricted in 1998) | 6,045,950 | -- |
| Accounts receivable | 363,019 | 525,994 |

| | | |
|---|---|---|
| Other current assets | 95,069 | 93,124 |
| Total current assets | 9,519,229 | 4,275,477 |
| Property and equipment, net | 1,201,479 | 923,140 |
| Security deposits | 34,894 | 51,347 |
| Research contract prepayments | 416,945 | 416,945 |
| Total assets | $ 11,172,547 | $ 5,666,909 |
| LIABILITIES AND SHAREHOLDERS' EQUITY | | |
| Current liabilities: | | |
| Obligation under capital leases -- current | $ 274,853 | $ 267,317 |
| Accounts payable and accrued expenses | 1,031,372 | 1,332,339 |
| Total current liabilities | 1,306,225 | 1,599,656 |
| Obligation under capital leases -- long term | 392,521 | 129,138 |
| Total liabilities | 1,698,746 | 1,728,794 |
| Redeemable Preferred Stock: | | |
| 5% convertible preferred stock Series 1998, $0.01 par value, authorized: 15,000 shares; issued and outstanding: 5,000 shares (redemption value $5,187,500) | -- | 4,935,378 |
| Shareholders' equity: | | |
| Preferred stock, $0.01 par value -- 5,000,000 shares authorized consisting of: | | |
| Class A convertible preferred stock, $0.01 par value, authorized: 3,500,000 shares; issued and outstanding: 757,632 in 1998 and 559,077 in 1999 (liquidation preference $7,576,000 in 1998 and $5,590,770 in 1999) | 7,576 | 5,591 |
| Class B convertible preferred stock, $0.01 par value, authorized: 100,000 shares; issued and outstanding: 3,477 in 1998 and none in 1999 | 35 | -- |
| Common stock, $0.01 par value, authorized: 35,000,000 shares; issued and outstanding: 10,275,588 in 1998 and 14,145,285 in 1999 | 102,756 | 141,453 |
| Additional paid-in-capital | 48,300,509 | 52,026,274 |
| Deferred compensation | 63,470 | (28,838) |
| Accumulated deficit | (38,873,605) | (53,141,743) |
| | 9,600,741 | (997,263) |
| Total liabilities and shareholders' equity | $ 11,299,487 | $ 5,666,909 |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

STATEMENT OF OPERATIONS

<TABLE>
<CAPTION>

| | THREE MONTHS ENDED MARCH 31, | | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH MARCH 31, |
|---|---|---|---|
| | 1998 | 1999 | 1999 |
| | (UNAUDITED) | | (UNAUDITED) |
| <S> | <C> | <C> | <C> |
| Revenues: | | | |
| Contract research grants | $ -- | $ 61,946 | $ 470,733 |
| Research support | 274,842 | 259,468 | 3,129,582 |
| Technology license revenues | -- | 50,000 | 4,050,000 |
| Total revenues | 274,842 | 371,414 | 7,650,315 |
| Operating expenses: | | | |
| Research and development | 2,273,522 | 2,347,801 | 29,840,977 |
| General and administrative | 631,709 | 504,601 | 9,545,427 |

| | | | |
|---|---|---|---|
| Nonrecurring collaboration restructuring fee..... | -- | -- | 600,000 |
| Purchased research and development..... | -- | -- | 4,481,405 |
| Amortization of finance charges..... | -- | -- | 345,439 |
| Total operating expenses..... | 2,905,231 | 2,852,402 | 44,813,248 |
| Loss from operations..... | (2,630,389) | (2,480,988) | (37,162,933) |
| Interest income..... | (142,874) | (60,366) | (1,466,554) |
| Interest expense..... | 18,705 | 11,607 | 172,273 |
| Net loss..... | (2,506,220) | (2,432,229) | (35,868,652) |
| Preferred stock dividends and accretion..... | (630,464) | (80,873) | (17,254,067) |
| Loss applicable to common shareholders..... | $(3,136,684) | $(2,513,102) | $(53,122,719) |
| Basic and diluted loss applicable to common shareholders per share..... | $(0.32) | $(0.18) | |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

<TABLE>
<CAPTION>

| | CLASS A CONVERTIBLE PREFERRED STOCK | | CLASS B CONVERTIBLE PREFERRED STOCK | | COMMON STOCK | | ADDITIONAL PAID-IN | DEFERRED | ACCUMULATED |
|---|---|---|---|---|---|---|---|---|---|
| | SHARES | AMOUNT | SHARES | AMOUNT | SHARES | AMOUNT | CAPITAL | COMPENSATION | DEFICIT |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> | <C> | <C> | <C> |
| Common stock issued for cash -- July 1994..... | -- | $ -- | -- | $ -- | 2,693,244 | $26,932 | $ -- | $ -- | $ (19,877) |
| Common stock issued for services -- August 1994..... | | | | | 159,304 | 1,593 | | | (1,176) |
| Net loss..... | | | | | | | | | (475,946) |
| Balance -- December 31, 1994..... | -- | -- | -- | -- | 2,852,548 | 28,525 | -- | -- | (496,999) |
| Stock options issued for compensation -- February 1995..... | | | | | | | 540,000 | | |
| Reverse acquisition of MelaRx Pharmaceuticals, Inc. -- April 1995..... | | | | | 2,000,000 | 20,000 | 4,300,000 | | |
| Shares repurchased pursuant to employment agreements -- April 1995..... | | | | | (274,859) | (2,749) | | | 2,029 |
| Private placement of common stock -- April 1995..... | | | | | 76,349 | 763 | 205,237 | | |
| Warrants issued with bridge notes -- April 1995..... | | | | | | | 200,000 | | |
| Initial public offering of units of one common share, one Class A warrant and one Class B warrant at $4.00 per unit -- August 1995 and September 1995..... | | | | | 2,875,000 | 28,750 | 9,667,460 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Issuance of common stock..... | | | | | 1,250 | 13 | 488 | | |
| Receipts from sale of unit purchase option..... | | | | | | | 250 | | |
| Net loss..... | | | | | | | | | (9,530,535) |
| Balance at December 31, 1995..... | -- | -- | -- | -- | 7,530,288 | 75,302 | 14,913,435 | -- | (10,025,505) |
| Issuance of Class A convertible preferred stock..... | 1,250,000 | 12,500 | | | | | 22,890,075 | | (11,371,523) |
| Conversion of Class A convertible preferred stock..... | (164,970) | (1,650) | | | 458,255 | 4,582 | (2,932) | | |
| Class A convertible preferred stock dividend..... | 21,998 | 220 | | | | | 255,661 | | (255,881) |
| Issuance of common stock..... | | | | | 29,418 | 294 | 102,426 | | |
| Compensation associated with stock option grants..... | | | | | | | 190,407 | (190,407) | |
| Amortization of deferred compensation..... | | | | | | | | 83,647 | |
| Net loss..... | | | | | | | | | (7,608,679) |
| Balance at December 31, 1996 | 1,107,028 | 11,070 | -- | -- | 8,017,961 | 80,178 | 38,349,072 | (106,760) | (29,261,588) |
| Conversion of Class A convertible preferred stock..... | (396,988) | (3,970) | | | 1,102,757 | 11,028 | (7,058) | | |
| Class A convertible preferred stock dividend..... | 47,592 | 476 | | | | | 623,038 | | (623,514) |
| Issuance of Class B convertible preferred stock..... | | | 4,850 | 49 | | | 4,851,662 | | (369,861) |
| Conversion of Class B convertible preferred stock..... | | | (258) | (3) | 64,642 | 647 | (644) | | |
| Accretion of dividend payable on Class B convertible preferred stock..... | | | | | | | 138,365 | | (138,365) |
| Extension/reissuance of underwriter warrants..... | | | | | | | 168,249 | | |
| Exercise of warrants..... | | | | | 238 | 3 | (6) | | |
| Issuance of common stock..... | | | | | 598,336 | 5,983 | 3,463,818 | | |
| Exercise of stock options..... | | | | | 50,000 | 500 | 19,500 | | |
| Compensation associated with stock option grants..... | | | | | | | 55,643 | | |
| Amortization of deferred compensation..... | | | | | | | | 34,632 | |
| Net loss..... | | | | | | | | | (5,343,594) |
| Balance at December 31, 1997..... | 757,632 | $ 7,576 | 4,592 | $ 46 | 9,833,934 | $98,339 | $47,661,639 | $ (72,128) | $(35,736,922) |

<CAPTION>

| | TOTAL SHAREHOLDERS' EQUITY |
|---|---|
| <S> | <C> |
| Common stock issued for cash -- July 1994..... | $ 7,055 |

| | |
|---|---|
| Common stock issued for services -- August 1994..... | 417 |
| Net loss..... | (475,946) |
| Balance -- December 31, 1994..... | (468,474) |
| Stock options issued for compensation -- February 1995..... | 540,000 |
| Reverse acquisition of MelaRx Pharmaceuticals, Inc. -- April 1995..... | 4,320,000 |
| Shares repurchased pursuant to employment agreements -- April 1995..... | (720) |
| Private placement of common stock -- April 1995..... | 206,000 |
| Warrants issued with bridge notes -- April 1995..... | 200,000 |
| Initial public offering of units of one common share, one Class A warrant and one Class B warrant at $4.00 per unit -- August 1995 and September 1995..... | 9,696,210 |
| Issuance of common stock..... | 501 |
| Receipts from sale of unit purchase option..... | 250 |
| Net loss..... | (9,530,535) |
| Balance at December 31, 1995..... | 4,963,232 |
| Issuance of Class A convertible preferred stock..... | 11,531,052 |
| Conversion of Class A convertible preferred stock..... | -- |
| Class A convertible preferred stock dividend..... | -- |
| Issuance of common stock..... | 102,720 |
| Compensation associated with stock option grants..... | -- |
| Amortization of deferred compensation..... | 83,647 |
| Net loss..... | (7,608,679) |
| Balance at December 31, 1996 | 9,071,972 |
| Conversion of Class A convertible preferred stock..... | -- |
| Class A convertible preferred stock dividend..... | -- |
| Issuance of Class B convertible preferred stock..... | 4,481,850 |
| Conversion of Class B convertible preferred stock..... | -- |
| Accretion of dividend | |

| | |
|---|---|
| payable on Class B convertible preferred stock..... | -- |
| Extension/reissuance of underwriter warrants..... | 168,249 |
| Exercise of warrants..... | (3) |
| Issuance of common stock..... | 3,469,801 |
| Exercise of stock options..... | 20,000 |
| Compensation associated with stock option grants..... | 55,643 |
| Amortization of deferred compensation..... | 34,632 |
| Net loss..... | (5,343,594) |
| Balance at December 31, 1997..... | $11,958,550 |

</TABLE>

(continued on next page)



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY
(continued)

<TABLE>
<CAPTION>

| | CLASS A CONVERTIBLE PREFERRED STOCK | | CLASS B CONVERTIBLE PREFERRED STOCK | | COMMON STOCK | | ADDITIONAL PAID-IN | DEFERRED | ACCUMULATED |
|---|---|---|---|---|---|---|---|---|---|
| | SHARES | AMOUNT | SHARES | AMOUNT | SHARES | AMOUNT | CAPITAL | COMPENSATION | DEFICIT |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> | <C> | <C> | <C> |
| Conversion of Class B convertible preferred stock..... | | | (4,592) | $ (46) | 1,205,178 | $12,052 | $ (12,006) | | |
| Accretion of dividend payable on Class B convertible preferred stock..... | | | | | | | 286,776 | | $ (286,776) |
| Premium on Conversion dividend on class B convertible preferred stock..... | | | | | 585,898 | 5,859 | 2,043,532 | | (2,049,391) |
| Conversion of Class A convertible preferred stock..... | (174,981) | $(1,749) | | | 486,062 | 4,860 | (3,111) | | |
| Class A convertible preferred stock dividend..... | 34,005 | 340 | | | | | 329,206 | | (329,546) |
| Discount on Series 1998 convertible preferred stock..... | | | | | | | 1,597,218 | | (1,597,218) |
| Series 1998 convertible preferred stock accretion..... | | | | | | | -- | | (151,119) |
| Common stock issued in exchange for cancellation of outstanding warrants..... | | | | | 1,792,952 | 17,929 | 8,441,442<br>(8,502,064) | | |
| Exercise of stock options..... | | | | | 32,750 | 328 | 119,854 | | |
| Exercise of warrants..... | | | | | 16,272 | 163 | 10,910 | | |
| Compensation | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| associated with stock option grants..... | | | | | | | 51,252 | | |
| Amortization of deferred compensation..... | | | | | | | | $ 34,632 | |
| Net loss..... | | | | | | | | | (10,477,669) |
| Balance at December 31, 1998..... | 616,656 | 6,167 | -- | -- | 13,953,046 | 139,530 | 52,024,648 | (37,496) | (50,628,641) |
| Conversion of Class A convertible preferred stock..... | (57,579) | (576) | | | 159,946 | 1,600 | (1,024) | | |
| Class A convertible preferred stock dividend..... | | | | | | | | | |
| Series 1998 convertible preferred stock accretion..... | | | | | | | | | (80,873) |
| Exercise of stock options..... | | | | | 6,250 | 63 | 2,436 | | |
| Common stock issued in exchange for cancellation of outstanding warrants..... | | | | | 102 | 1 | 473 | | |
| Exercise of warrants..... | | | | | 25,941 | 259 | (259) | | |
| Amortization of deferred compensation..... | | | | | | | | 8,658 | |
| Net loss..... | | | | | | | | | (2,432,229) |
| Balance at March 31, 1999..... | 559,077 | $ 5,591 | -- | $ -- | 14,145,285 | $141,453 | $52,026,274 | $ (28,838) | $(53,141,743) |

<CAPTION>

| | TOTAL SHAREHOLDERS' EQUITY |
|---|---|
| <S> | <C> |
| Conversion of Class B convertible preferred stock..... | $ -- |
| Accretion of dividend payable on Class B convertible preferred stock..... | -- |
| Premium on Conversion dividend on class B convertible preferred stock..... | -- |
| Conversion of Class A convertible preferred stock..... | -- |
| Class A convertible preferred stock dividend..... | -- |
| Discount on Series 1998 convertible preferred stock..... | -- |
| Series 1998 convertible preferred stock accretion..... | (151,119) |
| Common stock issued in exchange for cancellation of outstanding warrants..... | (42,693) |
| Exercise of stock options..... | 120,182 |
| Exercise of warrants..... | 11,073 |
| Compensation associated with | |

| | |
|---|---|
| stock option grants | 51,252 |
| Amortization of deferred compensation | 34,632 |
| Net loss | (10,477,669) |
| Balance at December 31, 1998 | 1,504,208 |
| Conversion of Class A convertible preferred stock | -- |
| Class A convertible preferred stock dividend | -- |
| Series 1998 convertible preferred stock accretion | (80,873) |
| Exercise of stock options | 2,499 |
| Common stock issued in exchange for cancellation of outstanding warrants | 474 |
| Exercise of warrants | -- |
| Amortization of deferred compensation | 8,658 |
| Net loss | (2,432,229) |
| Balance at March 31, 1999 | $ (997,263) |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
STATEMENT OF CASH FLOWS

<TABLE>
<CAPTION>

| | FOR THE THREE MONTHS ENDED MARCH 31, | | FOR THE PERIOD FROM MAY 1, 1994 (INCEPTION) THROUGH |
|---|---|---|---|
| | 1998 | 1999 | MARCH 31, 1999 |
| | (UNAUDITED) | | (UNAUDITED) |
| <S> | <C> | <C> | <C> |
| Cash Flows from operating activities: | | | |
| Net loss | $(2,506,220) | $(2,432,229) | $(35,868,652) |
| Adjustments to reconcile net loss to cash flows used in operating activities | | | |
| Purchased research and development | -- | -- | 4,481,405 |
| Amortization of financing costs | -- | -- | 345,439 |
| Depreciation and amortization | 122,438 | 124,138 | 1,076,120 |
| (Increase) in other current assets | 389,563 | 739,698 | (618,132) |
| (Increase) in other assets | -- | -- | (466,577) |
| Increase in accounts payable and accrued expense | 157,022 | (1,105,343) | 1,297,807 |
| Accretion on Class B preferred stock | -- | -- | -- |
| Extension/reissuance of placement agent warrants | -- | -- | 168,249 |
| Stock issued for services | -- | -- | 600,417 |
| Stock options issued for compensation | 21,471 | 8,658 | 808,464 |
| Net cash (used in) operating activities | (1,815,726) | (2,665,078) | (28,175,460) |

| | | | |
|---|---|---|---|
| Cash flows used for investing activities: | | | |
| Purchase of marketable securities..... | -- | -- | (24,707,588) |
| Maturities of marketable securities..... | 1,042,590 | 2,594,497 | 24,707,588 |
| Cash portion of MelaRx acquisition..... | -- | -- | 4,061 |
| Acquisition of fixed assets..... | (22,238) | (21,094) | (1,054,827) |
| Net cash provided by (used in) investing activities..... | 1,020,352 | 2,573,403 | (1,050,766) |
| Cash flows provided by financing activities: | | | |
| Initial public offering..... | -- | -- | 9,696,210 |
| Net proceeds from issuance of common stock..... | -- | -- | 3,283,566 |
| Net proceeds from issuance of preferred stock..... | -- | -- | 20,716,288 |
| Repurchase of common stock..... | -- | -- | (720) |
| Net proceeds from bridge financing..... | -- | -- | 1,704,269 |
| Repayments of bridge financing..... | -- | -- | (2,000,000) |
| Advances from stockholders..... | -- | -- | 250,000 |
| Repayments to stockholders..... | -- | -- | (250,000) |
| Exercise of warrants..... | -- | 2,973 | 14,043 |
| Receipts from sale of unit purchase option..... | -- | -- | 250 |
| Repayment of equipment capital lease..... | (80,056) | (76,173) | (531,321) |
| Net cash provided by (used in) financing activities..... | (80,056) | (73,200) | 32,882,585 |
| Net increase (decrease) in cash..... | (875,430) | (164,875) | 3,656,359 |
| Cash and cash equivalents at beginning of period..... | 3,890,621 | 3,821,234 | -- |
| Cash and cash equivalents at end of period..... | $ 3,015,191 | $ 3,656,359 | $ 3,656,359 |

</TABLE>

The accompanying notes are an integral part of these financial statements.



VION PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)
NOTES TO FINANCIAL STATEMENTS

(NOTE A) -- THE COMPANY

Vion Pharmaceuticals, Inc., formerly OncoRx, Inc., (the 'Company') was incorporated in May 1993 and began operations on May 1, 1994. The Company is in the development stage and is principally devoted to the research and development of therapeutic products for the treatment of cancer and cancer related disorders.

In April 1995, the Company merged into OncoRx Research Corp. a previously unaffiliated company ('Research'). The stockholders of the Company were issued shares of common and preferred stock of MelaRx Pharmaceuticals Inc. ('MelaRx'), the 100% owner of Research, in exchange for all of the outstanding shares of the Company. On April 20, 1995, the Company merged into OncoRx Research Corp., a wholly-owned subsidiary of MelaRx, which was renamed OncoRx, Inc. after the merger. The stockholders of the Company were issued 2,654,038 common and 23,859 preferred shares of MelaRx in exchange for 2,000,000 shares of common stock of the Company valued at $2.16 per share (fair value). In August 1995, the Company completed an initial public offering ('IPO') resulting in net proceeds to the Company of approximately $9,696,000.

As the shareholders of the Company obtained a majority interest in the merged company, for accounting purposes, the Company is treated as the acquirer. Therefore, the transaction is recorded as a purchase in the Company's financial statements which include the results of operations of the Company from inception and MelaRx from the date of acquisition. The excess of cost over the fair value of MelaRx's net tangible assets, $4,481,405, was treated as purchased research and development and expensed immediately.

The accompanying financial statements are prepared assuming the Company will continue as a going concern; however, at its current and planned rate of spending, the Company's cash, cash equivalents and short term investments are not sufficient to allow it to continue operations through the 1999 calendar year. The Company requires other sources of capital in order to meet such budgeted expenditures and to continue its operations throughout the year. The Company is seeking to enter into significant strategic partnerships with

pharmaceutical companies for the development of its core technologies, through which it would anticipate receiving some of the substantial revenues and financing required to continue operations beyond the year end. The Company is seeking to raise funds through additional means, including (1) sales of its securities; (2) spin-off, refinancing, or partial sale or disposition of its rights to certain of its non-core technologies; and (3) equipment lease financing. No assurance can be given that the Company will be successful in arranging financing through any of these alternatives.

Failure to obtain such financing will require the Company to delay, renegotiate, or omit payment on its outside research funding commitments causing it to substantially curtail its operations, resulting in a material adverse effect on the Company. The financial statements do not include any adjustments to reflect the possible future effect on the recoverability and classification of assets or the amounts or classification of liabilities that may result from the outcome of this uncertainty.

(NOTE B) -- BASIS OF PRESENTATION

The accompanying unaudited financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-QSB. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation have been included. Operating results for the three month period ended March 31, 1999 are not necessarily indicative of the results that may be expected for the year ending December 31, 1999. For further information, refer to the financial statements and footnotes





thereto included in the Company's Annual Report for the fiscal year ended December 31, 1998 on Form 10-KSB/A Amendment No. 1 (File No. 0-25634).

(NOTE C) -- SHAREHOLDERS' EQUITY

On April 20, 1995, 2,000,000 shares of common stock valued at $2.16 per share were issued in conjunction with the merger with MelaRx (see Note A). Shortly prior to the consummation of the Merger, the Company issued 76,349 shares of common stock for net proceeds of $206,000 after deducting placement fees of $14,000.

On August 17, 1995 and September 6, 1995, the Company completed an IPO of 2,875,000 units, consisting of an aggregate of 2,875,000 shares of common stock, 2,875,000 redeemable Class A Warrants and 2,875,000 redeemable Class B Warrants at a price of $4.00 per unit. Each Class A Warrant entitles the holder to purchase one share of common stock and one Class B Warrant. Each Class B Warrant entitles the holder to purchase one share of common stock. These warrants are exercisable through August 13, 2000. The net proceeds to the Company of the IPO were approximately $9,696,000 before repayment of the bridge financing noted below.

In connection with the Company's IPO, the Company granted the underwriter an option, exercisable until August 14, 2000 to purchase up to 250,000 units at $5.20 per unit, subject to adjustment.

Commencing with its IPO, and including the gross proceeds therefrom, the Company has raised a gross amount of $33,850,000 to date, through the issuance of common and preferred stock.

PRIVATE PLACEMENT OF CLASS A CONVERTIBLE PREFERRED STOCK

On May 22, 1996, the Company completed a private placement of 1,250,000 shares of Class A Convertible Preferred Stock, at $10.00 per share, resulting in net proceeds to the Company of $11,531,052. Each share of Class A Preferred Stock is immediately convertible into 2.777777 shares of the Company's common stock and is entitled to vote on all matters on an 'as if converted' basis. The Company recorded an imputed one-time non-cash dividend of approximately $11.4 million as a result of the difference between the conversion price and the quoted market price of the Company's common stock as of the date of issuance as required by the Financial Accounting Standards Board Emerging Issues Task Force D-60 'Accounting for the Issuance of Convertible Preferred Stock and Debt Securities with a Nondetachable Conversion Feature' (EITF D-60). The $11.4 million has been recognized as a charge against accumulated deficit with a

corresponding increase in additional paid-in capital. The imputed non-cash dividend has been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. In connection with the foregoing transaction, the Company also issued warrants to the placement agent, exercisable over a five year period, to purchase an aggregate of 546,875 shares of the Company's common stock at prices ranging from $3.96 to $12.00. The shares of Class A Preferred Stock pay semi-annual dividends of 5% per annum, payable in additional shares of Class A Preferred Stock, which are immediately convertible into common stock of the Company. The Company has recorded non-cash dividends as a charge against the accumulated deficit and a credit to additional paid-in capital based on the quoted market price of the common stock as of the date of the issuance of the preferred dividends of $623,514 in 1997 and $329,546 in 1998. The non-cash dividend has been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. The issue contains a provision for a 15% one time dividend payable in additional Class A Preferred Stock if the Company redeems the issue within 3 years from the date of issuance. In the event that the closing bid price of the Company's common stock exceeds $10.3125 for 20 trading days in any 30 trading day period, the Company can redeem the Class A Preferred Stock at the issue price plus all declared and unpaid dividends thereon. If all of the





559,077 outstanding shares of the Company's Class A Preferred Stock were thus redeemed, their redemption value would be $5,590,770. The issuance of the Class A Preferred Stock at closing also triggered certain antidilution adjustment provisions of the Company's outstanding warrants, resulting in the issuance of additional warrants. The Company can not pay cash dividends on Common Stock without the consent of a majority of holders of the class A Preferred Stock.

PRIVATE PLACEMENT OF CLASS B CONVERTIBLE PREFERRED STOCK

On August 20, 1997, the Company completed a private placement of 4,850 shares of non-voting Class B Convertible Preferred Stock, at $1,000 per share, resulting in net proceeds to the Company of $4,481,450. Shares of Class B Preferred Stock were convertible into shares of common stock including an accretion of 8% per annum. For the three-month period ended March 31, 1998 the Class B accretion totaled $121,164. Shares of the Class B Preferred Stock were also eligible, under certain circumstances, to receive dividends paid in Class C Preferred Stock. The Class C Preferred Stock was immediately convertible into shares of common stock at the average closing bid price of the Company's common stock for thirty consecutive business days ending on the private placement closing date and were not entitled to dividends. Conversions of Class B Preferred Stock in the quarter ended March 31, 1998 resulted in additional dividends of Class C preferred stock representing 155,200 shares of common stock valued at $509,300. These dividends and the Class B accretion were recorded as a charge against accumulated deficit, with a corresponding increase to additional paid-in capital for the period ending March 31, 1998. These dividends and accretion have been included in the dividend requirement on Preferred Stock and the loss applicable to common shareholders. On August 11, 1998, the Company reached agreement with each of the holders of its Class B Preferred Stock that the holders would convert all of the outstanding shares of Class B Preferred Stock into an aggregate of 867,806 shares of common stock.

PRIVATE PLACEMENT OF 5% REDEEMABLE CONVERTIBLE PREFERRED STOCK SERIES 1998

On June 30, 1998, the Company completed a private placement of 5,000 shares of non-voting 5% Redeemable Convertible Preferred Stock Series 1998 ('Series 1998 Preferred Stock'). The Series 1998 Preferred Stock was issued at $1,000 per share, resulting in net proceeds to the Company of $4,703,386. The shares of Series 1998 Preferred Stock accrue dividends of 5% per annum. Each share of Series 1998 Preferred Stock is convertible into Common Stock based on the formula of issued price plus accrued dividends divided by $3.60. Dividends other than non-cash dividends paid in-kind with respect to other classes or series of preferred stock require consent of two-thirds majority interest of the holders of Series 1998 Preferred Stock. The Series 1998 Preferred Stock is manditorily redeemable at $1,000 per share plus dividends on June 30, 2003. In connection with the sale of the Series 1998 Preferred Stock, the Company imputed a one-time non-cash dividend of approximately $1.6 million as a result of the difference between the conversion price and the quoted market price of the Company's common stock at the date of issuance as required by EITF D-60. Such amount was recognized upon issuance of the Series 1998 Preferred Stock as a charge against the accumulated deficit with a corresponding increase to additional paid-in capital. The imputed non-cash dividend has been included in

the dividend requirement on Preferred Stock and the loss applicable to common shareholders. The dividend requirement on Preferred Stock also reflects the amortization of the costs of completing the offering and the accretion of the 5% per annum dividend. The issuance of the Series 1998 Preferred Stock at closing also triggered certain antidilution adjustment provisions of the Company's outstanding warrants, resulting in the issuance of additional warrants (See Note D).





WARRANT EXCHANGE OFFER

On May 19, 1998, the Company commenced an offer to exchange each outstanding Class A Warrant, at the option of the holder, for either (A) 0.438 shares of common stock or (B) 0.254 shares of common stock and $0.66 in cash. The Company simultaneously offered to exchange each outstanding Class B Warrant, at the holder's option, for either (A) 0.212 shares of common stock or (B) 0.123 shares of common stock and $0.32 in cash. The Exchange Offer was not conditioned upon the exchange of a minimum number of Class A Warrants or Class B Warrants. As a result of the Exchange Offer, 3,209,806 Class A Warrants and 1,881,835 Class B Warrants were exchanged for 1,395,027 and 397,925 shares of the Company's Common Stock and $39,007 and $3,686 in cash, respectively.

(NOTE D) -- ANTIDILUTION ADJUSTMENT

As a result of the sale on May 22, 1996 of 1,250,000 shares of Class A Convertible Preferred Stock, an adjustment was made to the exercise price of the Class A Warrants and the Class B Warrants and there was a corresponding distribution of additional Class A Warrants and Class B Warrants. Specifically, on July 12, 1996 (the 'Payment Date') each holder of a Class A Warrant at the close of business on July 3, 1996 (the 'Record Date') was issued an additional 0.1 Class A Warrant and the exercise price of the Class A Warrants was reduced from $5.20 to $4.73. In addition, on the Payment Date each holder of a Class B Warrant on the close of business on the Record Date was issued an additional 0.1 Class B Warrant and the exercise price of the Class B Warrants was reduced from $7.00 to $6.37.

Subsequently, as a result of the sale on June 30, 1998 of 5,000 shares of Series 1998 Preferred Stock, an additional adjustment was made to the exercise price of the Class A Warrants and the Class B Warrants with a corresponding distribution of additional Class A Warrants and Class B Warrants. Specifically, on September 8, 1998 (the 'Payment Date') each holder of a Class A Warrant at the close of business on August 26, 1998 (the 'Record Date') received an additional 0.02 (2 per 100 outstanding) Class A Warrants and the exercise price of the Class A Warrants was reduced from $4.73 to $4.63. In addition, on the Payment Date each holder of a Class B Warrant on the close of business on the Record Date received an additional 0.02 (2 per 100 outstanding) Class B Warrants and the exercise price of the Class B Warrants was reduced from $6.37 to $6.23.

(NOTE E) -- RESEARCH AND LICENSE AGREEMENTS

BOEHRINGER INGELHEIM AGREEMENT

On November 24, 1997, the Company and Boehringer Ingelheim International GmbH of Germany ('BI') entered into an exclusive worldwide licensing agreement for the development and marketing of Promycin'r' (porfiromycin), Vion's most advanced anticancer agent. The agreement provides the Company with exclusive co-promotion rights to Promycin in the United States and Canada. BI will have exclusive worldwide rights to market and sell Promycin outside the United States and Canada. The Company is responsible for the manufacturing and supply of Promycin for all territories.

In exchange for these rights, the Company received $4.0 million in upfront technology access fees and net proceeds of $2,869,801 from the sale of 448,336 shares of common stock at a premium to the then current market price. BI also reimbursed the Company for certain initial development costs and will share in future worldwide development costs.

The Company has cash equivalents and short-term investments of $3,656,359 at March 31, 1999. This balance includes $870,418 of restricted investments for Promycin development expenses.

Pursuant to the BI Agreement, the Company must use the BI license fee of $4.0 million exclusively for Promycin development expenses.

The Company recorded $259,468 of Promycin development expenses as research support revenue under the agreement during the first three months of 1999. Included in the company's total current assets as of March 31, 1999 is $486,499 in receivables from BI.

COVANCE AGREEMENT

During the quarter ended June 30, 1997, the Company entered into a Clinical Development Agreement (the 'Agreement') with Covance Clinical Research Unit Ltd. and Covance Inc. ('Covance'). Pursuant to the Agreement, the Company is contracting to Covance the selection and management of clinical sites and the preparation of clinical trial reports arising from clinical trials performed by Covance regarding the Company's product candidate Promycin for the inclusion in a regulatory submission. The Company has incurred estimated expenses of $210,000 for the quarter ended March 31, 1999 under this agreement which has been expensed as incurred as research and development. Included in the company's total current liabilities at March 31, 1999 are payables to Covance Development Service Corporation for $377,989.

(NOTE F) -- PER SHARE DATA

The following table sets forth the computation of basic and diluted earnings per share:

<TABLE>
<CAPTION>

| | 1999 | 1998 |
|---|---|---|
| <S> | <C> | <C> |
| Numerator: | | |
| Net loss | $(2,432,229) | $(2,506,220) |
| Preferred stock dividends and accretion | (80,873) | (630,464) |
| Numerator for basic and diluted loss applicable to common shareholders per share | $(2,513,102) | $(3,136,684) |
| Denominator: | | |
| Denominator for basic and diluted loss applicable to common shareholders per share | 14,034,943 | 9,891,509 |
| Basic and diluted loss applicable to common shareholders per share | $(0.18) | $(0.32) |

</TABLE>

For additional disclosures regarding warrants and Class A Convertible Preferred Stock see Note C and D. These potentially dilutive securities were not included in diluted loss per share applicable to common shareholders as the effect would be antidilutive. Under the Financial Accounting Standards Board Statement No. 128, which the Company has adopted, the dilutive effect of stock options has been excluded.

(NOTE G) -- SUBSEQUENT EVENTS

In April 1999, the Company consummated a private placement of the Company's Common Stock. Pursuant to the private placement, the Company issued 893,915 shares of Common Stock at a price of approximately $4.47 per share (the 'Purchase Price'), for aggregate proceeds of $4,000,000.

Subject to certain exceptions, if at any time during the twelve-month period following the closing of the private placement, the Company issues or agrees to issue any Common Stock at a price per share which is less than the Purchase Price, or if the Company issues or agrees to issue any rights, options, warrants or other securities which are directly or indirectly convertible into or exchangeable for Common Stock for a consideration per share of Common Stock deliverable upon conversion or exchange of such rights, options, warrants or other securities which is less than the

Purchase Price (any such new issuance price per share being referred to as the 'New Issue Price'), then the Company shall immediately thereafter issue to the investors in the private placement, on a pro rata basis, additional registered, listed shares of Common Stock such that the total number of shares of Common Stock issued pursuant to the private placement will equal at least $4,000,000 divided by the New Issue Price. The foregoing provisions will cease to be effective after the date, if any, upon which the Company completes a private placement or public offering of its Common Stock at a price per share in excess of the Purchase Price and also resulting in gross proceeds equal to or greater than $11,000,000.



[COMPANY LOGO]

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth the Company's estimates (other than the Securities and Exchange Commission registration fee, the NASD filing fee and the Nasdaq National Market listing fee) of the expenses to be incurred in connection with the issuance and distribution of the shares of Common Stock being registered, other than underwriting discounts and commissions:

<TABLE>
<S> <C>
Securities and Exchange Commission registration fee..... $ 6,186.19
NASD filing fee..... $ 2,726.00
Nasdaq National Market listing fee..... $100,000.00*
Printing and engraving expenses..... $150,000.00*
Legal fees and expenses..... $150,000.00*
Blue Sky fees..... $ 25,000.00*
Accounting fees and expenses..... $ 40,000.00*
Transfer agent and registrar fees..... $ 3,500.00*
Miscellaneous expenses..... $ 22,587.81*
Total..... $500,000.00
</TABLE>

---

* estimated

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Under the General Corporation Law of the State of Delaware ('DGCL'), a corporation may include provisions in its certificate of incorporation that will relieve its directors of monetary liability for breaches of their fiduciary duty to the corporation, except under certain circumstances, including a breach of the director's duty of loyalty, acts or omissions of the director not in good faith or which involve intentional misconduct or a knowing violation of law, the approval of an improper payment of a dividend or an improper purchase by the corporation of stock or any transaction from which the director derived an improper personal benefit. The registrant's Restated Certificate of Incorporation, as amended, eliminates the personal liability of directors to the registrant or its stockholders for monetary damages for breach of fiduciary duty as a director with certain limited exceptions set forth in the DGCL.

Section 145 of the DGCL grants to corporations the power to indemnify each officer and director against liabilities and expenses incurred by reason of the fact that he or she is or was an officer or director of the corporation if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The registrant's Restated Certificate of Incorporation, as amended, and Bylaws provide for indemnification of each officer and director of the registrant to the fullest extent permitted by the DGCL. Section 145 of the DGCL also empowers corporations to purchase and maintain insurance on behalf of

any person who is or was an officer or director of the corporation against liability asserted against or incurred by him in any such capacity, whether or not the corporation would have the power to indemnify such officer or director against such liability under the provisions of Section 145. The registrant has purchased and maintains a directors' and officers' liability policy for such purposes.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES

Private Placement of Class A Convertible Preferred Stock.

On May 22, 1996, the Company completed a private placement of 1,250,000 shares of Class A Convertible Preferred Stock, at $10.00 per share, resulting in net proceeds to the Company of



$11,531,052. Each share of Class A Preferred Stock is immediately convertible into 2.777777 shares of the Company's common stock and is entitled to vote on all matters on an 'as if converted' basis. In connection with the foregoing transaction, the Company also issued warrants to the placement agent, exercisable over a five year period, to purchase an aggregate of 546,875 shares of the Company's common stock at prices ranging from $3.96 to $12.00. The shares of Class A Preferred Stock pay semi-annual dividends of 5% per annum, payable in additional shares of Class A Preferred Stock, which are immediately convertible into common stock of the Company. In the event that the closing bid price of the Company's common stock exceeds $10.3125 for 20 trading days in any 30 trading day period, the Company can redeem the Class A Preferred Stock at the issue price plus all declared and unpaid dividends thereon. If all of the 493,902 outstanding shares their redemption value would be $4,939,020. The issuance of antidilution adjustment provisions of the Company's outstanding warrants, resulting in the issuance of additional warrants. the consent of a majority of holders of the Class A Preferred Stock.

Private Placement of Class B Convertible Preferred Stock:

On August 20, 1997, the Company completed a private placement of 4,850 shares of non-voting Class B Convertible Preferred Stock at $1,000 per share, resulting in net proceeds to the Company of $4,481,450. Shares of Class B Preferred Stock were convertible into shares of common stock including an accretion of 8% per annum. For the three-month period ended March 31, 1998 the Class B accretion totaled $121,164. Shares of the Class B Preferred Stock were also eligible, under certain circumstances, to receive dividends paid in Class C Preferred Stock.

Private Placement of 5% Redeemable Convertible Preferred Stock Series 1998

On June 30, 1998, the Company completed a private placement of 5,000 shares of non-voting 5% Redeemable Convertible Preferred Stock Series 1998 ('Series 1998 Preferred Stock'). The Series 1998 Preferred Stock was issued at $1,000 per share, resulting in net proceeds to the Company of $4,703,386. The shares of Series 1998 Preferred Stock accrue dividends of 5% per annum. Each share of Series 1998 Preferred Stock is convertible into Common Stock based on the formula of issued price plus accrued dividends divided by $3.60.

Private Placement of Common Stock in 1999

In April 1999, the Company consummated a private placement of the Company's Common Stock. Pursuant to the private placement, the Company issued 893,915 shares of Common Stock at a price of approximately $4.47 per share, for aggregate proceeds of $4,000,000.

No underwriters were engaged in connection with the foregoing sales of securities. Such sales of common stock and preferred stock were made in reliance upon the exemption from registration set forth in Section 4(2) of the Securities Act of 1933 and Rule 506 of Regulation D promulgated thereunder for transactions not involving a public offering, and all purchasers were accredited investors as such term is defined Rule 501(a) of Regulation D.



ITEM 16. EXHIBITS

<TABLE>

<CAPTION>

| EXHIBIT NUMBER | DESCRIPTION |
|---|---|
| <S> | <C> |
| 1.1 | -- Form of Underwriting Agreement |
| 2.1 | -- Agreement and Plan of Merger among MelaRx Pharmaceuticals, Inc., OncoRx Research Corp. and OncoRx, Inc. dated as of April 19, 1995(1) |
| 2.2 | -- Certificate of Merger, dated April 20, 1995(1) |
| 3.1 | -- Restated Certificate of Incorporation, as amended(2) |
| 3.2 | -- By-laws(1) |
| 4.1 | -- Form of Underwriter's Unit Purchase Option(1) |
| 4.2 | -- Form of Warrant Agreement for Class A and Class B Warrants(1) |
| 4.3 | -- Rights Agreement dated as of October 26, 1998 between Vion Pharmaceuticals, Inc. and American Stock Transfer & Trust Company (includes form of Right Certificate attached as Exhibit A and a Summary of Rights to Purchase Common Shares attached as Exhibit B thereto)(3) |
| 4.4 | -- Form of Warrant Agreement by and between Vion Pharmaceuticals, Inc. and Brean Murray & Co., Inc. dated , 1999. |
| 4.5 | -- Form of Underwriter's Warrant (included as Exhibit A to Exhibit 4.4 above) |
| 5.1 | -- Opinion of Fulbright & Jaworski L.L.P.* |
| 10.1 | -- License Agreement between Yale University and OncoRx, Inc. dated as of August 31, 1994(1) |
| 10.2 | -- Letter Agreement between Yale University and OncoRx, Inc. dated August 19, 1994(1) |
| 10.3 | -- Extension Agreement between Yale University and MelaRx Pharmaceuticals, Inc., dated as of July 1, 1992(1) |
| 10.4 | -- Form of License Agreement between Yale University and MelaRx Pharmaceuticals, Inc. (1) |
| 10.5 | -- Letter Agreement between Yale University and MelaRx Pharmaceuticals, Inc., dated as of February 2, 1995(1) |
| 10.6 | -- Employment Agreement between the Registrant and John A. Spears, dated as of January 16, 1995(1) |
| 10.7 | -- Stock Option Agreement between OncoRx, Inc. and John A. Spears, dated February 2, 1995(1) |
| 10.8 | -- Employment Letter from MelaRx Pharmaceuticals, Inc. to Thomas Mizelle, dated as of July 29, 1994(1) |
| 10.9 | -- Marketing Services Agreement between MelaRx Pharmaceuticals, Inc. and Creative Polymers, Inc. dated as of March 21, 1994(1) |
| 10.10 | -- Amended and Restated 1993 Stock Option Plan of the Registrant(4) |
| 10.11 | -- Lease Agreement between Science Park Development Corporation and Vion Pharmaceuticals, Inc., dated as of February 1, 1996(5) |
| 10.12 | -- Option Agreement between the Registrant and PMP, Inc., dated April 27, 1995(1) |
| 10.13 | -- Agreement between MelaRx Pharmaceuticals, Inc. and certain shareholders, dated February 17, 1995(1) |
| 10.14 | -- Consulting and Finder's Agreement between MelaRx Pharmaceuticals, Inc. and Jacob A. Melnick, dated June 4, 1992, as amended by Agreement dated February 17, 1995(1) |
| 10.15 | -- Form of Indemnification Agreement(1) |
| 10.16 | -- Letter Agreement between Yale University and OncoRx, Inc. (formerly MelaRx Pharmaceuticals, Inc.), dated July 5, 1995(1) |
| 10.17 | -- Lease between Science Park Development Corporation and OncoRx, Inc. dated August 10, 1995(6) |
| 10.18 | -- Master Lease Agreement between Citicorp Leasing, Inc. and OncoRx, Inc. dated September 27, 1995(6) |
| 10.19 | -- Sale and Leaseback Agreement and Master Equipment Lease Agreement between FINOVA Technology Finance, Inc. and Vion Pharmaceuticals, Inc. dated as of October 17, 1996(7) |
| 10.20 | -- Clinical Development Agreement between Vion Pharmaceuticals, Inc., Covance Clinical Research Unit Ltd. and Covance Inc. (Confidential treatment has been granted with regard to certain provisions of this exhibit)(8) |
| 10.21 | -- Amendment No. 1 to License Agreement between Yale University and Vion Pharmaceuticals, Inc. (f/k/a OncoRx, Inc.) dated as of June 12, 1997(8) |

</TABLE>

<TABLE>
<CAPTION>
EXHIBIT
NUMBER | DESCRIPTION
---|---
<S> | <C>
10.22 | -- Amendment No. 2 to License Agreement between Yale University and Vion Pharmaceuticals, Inc. (f/k/a OncoRx, Inc.) dated as of June 12, 1997(8)
10.23 | -- Collaborative Development and Distribution Agreement between Boehringer Ingelheim International GmbH and Vion Pharmaceuticals, Inc. dated November 24, 1997 (Confidential treatment has been requested with regard to certain provisions of this exhibit)(5)
10.24 | -- Sale and Leaseback Agreement between FINOVA Technology Finance, Inc. and Vion Pharmaceuticals, Inc. dated as of December 10, 1997(5)
10.25 | -- Employment Agreement dated January 16, 1998 between Vion Pharmaceuticals, Inc. and John A. Spears(2)
10.26 | -- License Agreement dated February 9, 1998 between Vion Pharmaceuticals, Inc. and San Mar Laboratories Inc.(9)
10.27 | -- Amendment No. 3 to a License Agreement between Yale University and Vion Pharmaceuticals, Inc. (f/k/a OncoRx, Inc.) dated as of September 25, 1998.(9)
10.28 | -- Form of Severance Agreement between the Company and Terrence W. Doyle, Thomas E. Klein and Thomas Mizelle.(10)
10.29 | -- Employment Agreement between the Company, Alan Kessman and PS Capital LLC.(10)
10.30 | -- Senior Executive Stock Option Plan.(10)
10.31 | -- Severance Agreement between the Company and John Spears, dated April 7, 1999.*
21.1 | -- Subsidiaries of the Registrant(9)
23.1 | -- Consent of Ernst & Young L.L.P.
23.2 | -- Consent of Fulbright & Jaworksi L.L.P (contained in the opinion filed as Exhibit 5.1)*
24.1 | -- Power of Attorney (included on the signature page hereof)
</TABLE>

---

* To be filed by amendment.

(1) Incorporated by reference to the Company's Registration Statement on Form SB-2 (File No. 33-93468), effective August 14, 1995.

(2) Incorporated by reference to the Company's Quarterly Report on form 10-QSB for the quarterly period ended June 30, 1998.

(3) Incorporated by reference to the Company's Current Report on Form 8-K filed on October 26, 1998.

(4) Incorporated by reference to the Company's Registration Statement on Form S-8 (File No. 333-39407), effective November 4, 1997.

(5) Incorporated by reference to the Annual Report on Form 10-KSB for the fiscal year ended December 31, 1997.

(6) Incorporated by reference to the Quarterly Report on form 10-QSB for the quarter ended September 30, 1995.

(7) Incorporated by reference to the Annual Report on Form 10-KSB for the fiscal year ended December 31, 1996.

(8) Incorporated by reference to the Quarterly Report on Form 10-QSB for the quarter ended June 30, 1997.

(9) Incorporated by reference to the Annual Report on Form 10-KSB for the fiscal year ended December 31, 1998.

(10) Incorporated by reference to the Quarterly Report on form 10-QSB for the quarter ended March 31, 1999.

ITEM 17. UNDERTAKINGS

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended (the 'Act') may be permitted to directors, officers, and controlling persons of the Registrant pursuant to the foregoing provisions, 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 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 of whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, as amended, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new Registration Statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.



## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New Haven, State of Connecticut, on July 26, 1999.

VION PHARMACEUTICALS, INC.

By: /S/ ALAN KESSMAN
.....

ALAN KESSMAN,
PRESIDENT AND CHIEF EXECUTIVE OFFICER

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Alan Kessman and Thomas E. Klein, or either of them, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and any registration statement relating to the offering hereunder pursuant to Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or either of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

<TABLE>
<CAPTION>

| SIGNATURE | TITLE | DATE |
|---|---|---|
| <S> | <C> | <C> |
| /S/ WILLIAM R. MILLER<br>WILLIAM R. MILLER | Chairman of the Board | July 26, 1999 |
| /S/ ALAN KESSMAN<br>ALAN KESSMAN | President, Chief Executive Officer and Director (Principal Executive Officer) | July 26, 1999 |
| /S/ THOMAS E. KLEIN<br>THOMAS E. KLEIN | Vice President -- Finance and Chief Financial Officer (Principal Financial and Accounting Officer) | July 26, 1999 |
| /S/ MICHEL C. BERGERAC<br>MICHEL C. BERGERAC | Director | July 26, 1999 |
| /S/ FRANK T. CARY<br>FRANK T. CARY | Director | July 26, 1999 |
| JAMES FERGUSON | Director | July , 1999 |



| SIGNATURE | TITLE | DATE |
|---|---|---|
| <C> | <S> | <C> |
| /S/ MICHAEL C. KENT<br>MICHAEL C. KENT | Director | July 26, 1999 |
| /S/ ALAN C. SARTORELLI<br>ALAN C. SARTORELLI | Director | July 26, 1999 |
| /S/ WALTER B. WRISTON<br>WALTER B. WRISTON | Director | July 26, 1999 |



STATEMENT OF DIFFERENCES

The registered trademark symbol shall be expressed as 'r'

Exhibit 1.1

VION PHARMACEUTICALS, INC.

3,600,000 Shares of Common Stock

UNDERWRITING AGREEMENT

_____ __, 1999

BREAN MURRAY & CO., INC.
570 Lexington Avenue
New York, New York 10022-6822

Ladies and Gentlemen:

VION PHARMACEUTICALS, INC., a Delaware corporation (the "Company"), proposes to sell an aggregate of 3,600,000 shares (the "Firm Shares") of Common Stock, par value $.01 per share (the "Common Stock"), of the Company, to you (the "Underwriter"). The Company also has agreed to grant to you an option (the "Option") to purchase up to an additional 540,000 shares of Common Stock (the "Option Shares") on the terms and for the purposes set forth in Section 1(b) hereto. The Firm Shares and the Option Shares are hereinafter collectively referred to as the "Shares." The words "you" and "your" refer to the Underwriter.

The Company hereby confirms as follows its agreement with the Underwriter.

1. Agreement to Sell and Purchase.

(a) On the basis of the representations, warranties and agreements of the Company herein contained and subject to all the terms and conditions of this Agreement, the Company agrees to sell to the Underwriter and the Underwriter agrees to purchase from the Company at a purchase price of $ _____ per share, the Firm Shares, plus such additional number of Option Shares which the Underwriter may become obligated to purchase pursuant to Sections 1(b) hereof.

(b) Subject to all the terms and conditions of this Agreement, the Company grants the Option to the Underwriter to purchase the Option Shares at the same price per share as the Underwriter shall pay for the Firm Shares. The Option may be exercised only to cover over-allotments in the sale of the Firm Shares by the Underwriter and may be exercised in whole or in part at any time and from time to time on or before the 30th day after the date of this Agreement (or on the next business day if the 30th day is not a business day), upon notice (the "Option Shares Notice") in writing or by telephone (confirmed in writing) by the Underwriter to the

Company no later than 5:00 p.m., New York City time, at least two and no more than five business days before the closing date specified in the Option Shares Notice (the "Option Closing Date") setting forth the aggregate number of Option Shares to be purchased on the Option Closing Date. (As used herein, "business day" means a day on which the New York Stock Exchange is open for trading and on which banks in New York are open for business and not permitted by law or executive order to be closed.) On the Option Closing Date, the Company will sell to the Underwriter the number of Option Shares set forth in the Option Shares Notice.

2. Delivery and Payment.

(a) Delivery of the Firm Shares shall be made to the Underwriter at the office of the Underwriter, 570 Lexington Avenue, New York, New York 10022-6822, and in consideration therefor payment of the purchase price shall be made to the Company by wire transfer of immediately available funds to the Company's account at [Name and address of financial institution], ABA No. _____, Account No. _____ (the "Closing"). Such delivery and payment shall be made on or before 10:00 a.m., New York time, on the third business day following the date of this Agreement, or at such other time and date as may be agreed upon by the Company and the Underwriter (such date is hereinafter referred to as the "Closing Date"). Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of the Underwriter hereunder.

(b) To the extent the Option is exercised, delivery of the Option Shares against payment by the Underwriter (in the manner specified above) will take place at the offices specified above for the Closing at the time and date (which may be the Closing Date) specified in the Option Shares Notice.

(c) Certificates evidencing the Shares shall be in definitive form and shall be registered in such names and in such denominations as the Underwriter shall request at least two business days prior to the Closing Date or the Option Closing Date, as the case may be, by written notice to the Company. For the purpose of expediting the checking and packaging of certificates for the Shares, the Company agrees to make such certificates available for inspection at least 24 hours prior to the Closing Date or the Option Closing Date, as the case may be.

(d) The cost of original issue tax stamps, if any, in connection with the issuance, sale and delivery of the Shares by the Company to the Underwriter

shall be borne by the Company. The Company will pay and render the Underwriter and any subsequent holder of the Shares harmless from any and all liabilities with respect to or resulting from any failure or delay in paying federal or state stamp and other transfer taxes, if any, that may be payable in connection with the issuance, sale or delivery to the Underwriter of the Shares.

3. Representations and Warranties of the Company. The Company represents, warrants and covenants to the Underwriter that:



(a) A registration statement on Form S-1 (Registration No. 333-_____) relating to the Shares, including a preliminary prospectus relating to the Shares and any amendments to such registration statement as may have been required prior to the date of this Agreement, has been prepared by the Company under the provisions of the Securities Act of 1933, as amended (the "Act"), and the rules and regulations (collectively referred to as the "Rules and Regulations") of the Securities and Exchange Commission (the "Commission") promulgated thereunder and has been filed with the Commission. The Commission has not issued any order preventing or suspending the use of the Prospectus (as defined below) or any Preliminary Prospectus (as defined below) or instituted or, to the knowledge of the Company, threatened any proceeding for that purpose. The term "Preliminary Prospectus" as used herein means a preliminary prospectus relating to the Shares that is included as part of the foregoing registration statement or any amendment thereto before the Effective Date (as defined below) and any prospectus filed with the Commission by the Company pursuant to Rule 424(a) of the Rules and Regulations. Copies of such registration statement and amendments and of each related Preliminary Prospectus have been delivered to the Underwriter. If such registration statement has not become effective, a further amendment to such registration statement, including a form of final Preliminary Prospectus, necessary to permit such registration statement to become effective will be filed promptly by the Company with the Commission. If such registration statement has become effective, a final prospectus relating to the Shares containing information permitted to be omitted at the time of effectiveness by Rule 430A of the Rules and Regulations will be filed by the Company with the Commission in accordance with Rule 424(b) of the Rules and Regulations promptly after execution and delivery of this Agreement. The term "Registration Statement" means the registration statement at the time such registration statement becomes or became effective (the "Effective Date"), together with any

registration statement filed by the Company pursuant to Rule 462(b) of the Rules and Regulations, including all financial statements and schedules and all exhibits, documents incorporated therein by reference and all information contained in any final prospectus filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations or in a term sheet described in Rule 434 of the Rules and Regulations in accordance with Section 5 hereof and deemed to be included therein as of the Effective Date by Rule 430A of the Rules and Regulations. The term "Prospectus" means the prospectus relating to the Shares as first filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations or, if no such filing is required, the form of final prospectus relating to the Shares included in the Registration Statement at the Effective Date. References herein to any document or other information incorporated by reference in the Registration Statement shall include documents or other information incorporated by reference in the Prospectus (or if the Prospectus is not in existence, in the most recent Preliminary Prospectus). References herein to any Preliminary Prospectus or the Prospectus shall be deemed to include all documents and information incorporated by reference therein and shall be deemed to refer to and include any documents and information filed after the date of such Preliminary Prospectus or Prospectus, as the case may be, and so incorporated by reference, under the Securities Exchange Act of 1934, as amended (the "Exchange Act").



(b) On the date that any Preliminary Prospectus was filed with the Commission, the date the Prospectus is first filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations (if required), at all times subsequent thereto up to and including the Closing Date and, if later, the Option Closing Date and when any post-effective amendment to the Registration Statement becomes effective or any amendment or supplement to the Prospectus is filed with the Commission, the Registration Statement, each Preliminary Prospectus and the Prospectus (as amended or as supplemented if the Company shall have filed with the Commission any amendment or supplement thereto), including the financial statements included in the Prospectus, did or will comply in all material respects with all applicable provisions of the Act and the Rules and Regulations and did or will contain all material statements required to be stated therein in accordance with the Act and the Rules and Regulations. On the Effective Date and when any post-effective amendment to the Registration Statement becomes effective, neither the Registration Statement nor

any such amendment did or will contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading. At the Effective Date, the date the Prospectus or any amendment or supplement to the Prospectus is filed with the Commission and at the Closing Date and, if later, the Option Closing Date, the Prospectus did not or will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The foregoing representations and warranties in this Section 3(b) do not apply to any statements or omissions made in reliance on and in conformity with information furnished in writing to the Company by the Underwriter specifically for inclusion in the Registration Statement or Prospectus or any amendment or supplement thereto. There are no contracts or other documents required by the Act or the Rules and Regulations to be filed as exhibits to the Registration Statement that have not been so filed.

(c) The Company has no subsidiaries. Except as disclosed in the Registration Statement and the Prospectus, the Company does not own and, at the Closing Date and the Option Closing Date, if any, will not own, an interest in any corporation, joint venture, trust, partnership or other business entity. The Company has been and, at the Closing Date and Option Closing Date, if any, will be, duly incorporated and validly existing as a corporation under the laws of the State of Delaware and is, and at the Closing Date and the Option Closing Date, if any, will be, in good standing under the laws of the State of Delaware. The Company has all corporate power and authority necessary to own its properties and conduct its business as currently being carried on and as described in the Registration Statement and Prospectus. The Company is, and at the Closing Date and the Option Closing Date, if any, will be, duly licensed or qualified and in good standing as a foreign corporation in each jurisdiction in which the character or location of its properties (owned, leased or licensed) or the nature or conduct of its business or use of its property and assets makes such licensing or qualification necessary. Complete and correct copies of the Company's Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), and By-laws have been delivered to the Underwriter or its counsel, and no changes therein will be made subsequent to the date hereof and prior to the Closing Date or, if later, the Option Closing Date.

(d) The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and nonassessable and are not subject to any preemptive or similar rights, and the holders thereof are not subject to personal liability by reason of being such holders. The Firm Shares, the Option Shares in the event the Option is exercised, the warrants (the "Warrants") issued to the Underwriter or certain permitted designees to purchase up to 360,000 shares of Common Stock on the terms and conditions set forth in a Warrant Agreement (the "Warrant Agreement") between the Company and the Underwriter, and the shares of Common Stock issuable upon exercise of the Warrants (the "Warrant Shares"), will be duly authorized and, when issued and delivered (i) to the Underwriter against payment therefor as provided by this Agreement (in the case of the Shares) or (ii) to the Underwriter or such designees against payment therefor as provided by the Warrants and the Warrant Agreement (in the case of the Warrant Shares), will be validly issued, fully paid and nonassessable and will not be subject to any preemptive or similar rights, and the holders thereof will not be subject to personal liability by reason of being such holders. The Company has, and, upon the closing date, will have, an authorized, issued and outstanding capitalization as set forth in the Registration Statement and the Prospectus under the captions "Description of Capital Stock" and "Capitalization" (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus). The description of the securities of the Company in the Registration Statement and the Prospectus under the caption "Description of Capital Stock" (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus) is, and at the Closing Date and, if later, the Option Closing Date, will be, complete and accurate in all material respects. Except as set forth or contemplated in the Registration Statement and the Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), the Company does not have outstanding and, at the Closing Date and, if later, the Option Closing Date, will not have outstanding, any options to purchase, or any rights or warrants to subscribe for, or any securities or obligations exchangeable or convertible into, or any contracts or commitments to issue or sell, any shares of its capital stock or any such options, rights, warrants, obligations, contracts or commitments. Neither the filing of the Registration Statement nor the offering or sale of the Shares as contemplated by this Agreement gives rise to any rights for or relating to the registration of any shares of Common Stock or other securities of the Company, except such rights as have been disclosed in the Registration Statement or as have been satisfied, waived or terminated.

(e) The financial statements and the related notes of the Company included in the Registration Statement and in the Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus) comply in all material respects with the requirements of the Act and the Rules and Regulations, present fairly the financial condition, results of operations, stockholders' equity and cash flows of the Company at the dates and for the periods covered thereby and have been prepared in accordance with United States generally accepted accounting principles ("GAAP") applied on a consistent basis throughout the entire periods involved (except as otherwise stated therein), subject to year-end adjustments with respect to interim information consistent with past practice. Ernst & Young L.L.P. (the "Accountants"), who have reported on those of such financial statements and related notes which are audited, are

independent accountants with respect to the Company as required by the Act and the Rules and Regulations.



The selected financial information and statistical data set forth under the captions "Prospectus Summary -- Summary Financial Data" and "Selected Financial Data" in the Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus) have been prepared on a basis consistent with the financial statements of the Company.

(f) The Company maintains a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorization, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets, (iii) access to assets is permitted only in accordance with management's general or specific authorization and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(g) Except as set forth or contemplated in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus and prior to the Closing Date and, if later, the Option Closing Date, (i) there has not been, and will not have been, any material adverse change in the business, properties, key personnel, condition (financial or otherwise), net worth or results of operations of the Company, (ii) the Company has not, and will not have, incurred any material liabilities or obligations, direct or contingent, or, entered into any material transactions not in the ordinary course of business other than pursuant to this Agreement, (iii) the Company has not, and will not have, paid or declared any dividends or other distributions of any kind on any class of its capital stock, except the Series A Preferred Stock as required thereby and described in the Registration Statement and the Prospectus, and (iv) there has not been, and will not have been, any change in the capital stock, or a material change in the short-term or long-term debt, or any issuance of options, warrants, convertible securities or other rights to purchase capital stock of the Company, other than changes in capital stock and issuances of rights, options and shares pursuant to the Company's 1993 Amended and Restated

Stock Option Plan and the Senior Executive Stock Option Plan ( the "Option Plans") or this Agreement.

(h) The Company has good and marketable title to all properties and assets described in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), as owned by it, free and clear of all liens, security interests, restrictions, pledges, encumbrances, charges, equities, claims, easements, leases and tenancies (collectively, "Encumbrances") other than those described or referred to in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus). The Company has valid, subsisting and enforceable leases for the properties and assets described in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus) as leased by it, free and clear of all Encumbrances, other than those described or referred to in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus). The Company has no notice of any claim which has been asserted by anyone



adverse to the Company's rights as lessee or sublessee under the respective lease or sublease, or affecting or questioning the Company's right to the continued possession of the leased or subleased premises.

(i) Except as described or referred to in the Registration Statement or Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), the Company owns or possesses all patents, patent applications, trademarks, service marks, tradenames, trademark registrations, service mark registrations, copyrights, licenses, inventions, trade secrets and other intellectual property rights necessary for the conduct of the business of the Company as currently carried on and as described in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), and except as stated or referred to in the Registration Statement or Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), no name that the Company uses and no other aspect of the business of the Company involves or gives rise to any infringement of or license or similar fees for, any patents, trademarks, service marks, tradenames, trademark registrations, service mark registrations, U.S.

registered copyrights, licenses, trade secrets or other similar rights of others material to the business of the Company, and the Company has not received any notice alleging any such infringement or fee.

(j) Except as set forth or referred to in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), there are no actions, suits, arbitrations, claims, governmental or other proceedings (formal or informal), or investigations pending or, to the knowledge of the Company, threatened against or, to the knowledge of the Company, affecting the Company, any of the Company's officers or directors, in its capacity as such, or any of the properties or assets owned or leased by the Company, before or by any federal, state, municipal or foreign court, commission, regulatory body, administrative agency or other governmental body, domestic or foreign (collectively, a "Governmental Body"), including, without limitation, the United States Food and Drug Administration (the "FDA"), that might result in any material adverse change in the business, properties, condition (financial or otherwise), net worth or results of operations of the Company. Except as set forth in the Registration and the Prospectus, there are no actions, proceedings or investigations pending or, to the knowledge of the Company, threatened by the FDA or any other Governmental Body relating to the safety, efficacy or recall of any product developed or sold by the Company. The Company is not in violation of, or in default with respect to, any law, rule or regulation, or any order, judgment or decree, except as described or referred to in the Prospectus (or if the Prospectus is not in existence, in the most recent Preliminary Prospectus) or such as in the aggregate do not now have and can reasonably be expected in the future not to have a material adverse effect upon the business, properties, condition (financial or otherwise), net worth or results of operations of the Company; nor is the Company presently required to take any action under any such order, judgment or decree in order to avoid any such violation or default.

(k) The Company has, and at the Closing Date and, if later, the Option Closing Date will have, all governmental licenses, permits, consents, orders, approvals, franchises, certificates and other authorizations (collectively, "Licenses") and has made all



requisite declarations, notifications and filings with all Government Bodies, in

each case as are necessary to carry on its business as then currently conducted and own or lease its properties as contemplated in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus), and all such Licenses are, and at the Closing Date and, if later, the Option Closing Date will be, in full force and effect. The Company has, and at the Closing Date and, if later, the Option Closing Date will have, complied in all material respects with all laws, regulations and orders applicable to it or its business, assets and properties. The Company is not, nor at the Closing Date and, if later, the Option Closing Date will it be, in violation of its Certificate of Incorporation or By-laws, or in default (nor has any event occurred which, with notice or lapse of time or both, would constitute a default) in the due performance and observation of any term, covenant or condition of any indenture, mortgage, deed of trust, voting trust agreement, loan agreement, bond, debenture, note agreement or other evidence of indebtedness, lease, contract or other agreement or instrument (collectively, a "contract or other agreement") to which it is a party or by which its properties are bound, the violation of which would individually or in the aggregate have a material adverse effect on the business, properties, prospects, condition (financial or otherwise), net worth or results of operations of the Company. There are no governmental proceedings or actions pending or, to the Company's knowledge, threatened for the purpose of suspending, modifying or revoking any License held by the Company and, to the knowledge of the Company, no event has occurred that allows, or with notice or lapse of time or both would allow, any such suspension, modification or revocation or any material impairment of the Company's rights thereunder. There has been, however, and may continue to be, an informal Nasdaq inquiry with respect to the Company's going concern opinion.

(l) No consent, approval, authorization or order of, or any filing or declaration with, any Governmental Body is required for the execution, delivery or performance of this Agreement, the Warrants or the Warrant Agreement (collectively, the "Transaction Documents") or for the consummation of the transactions contemplated hereby and thereby or in connection with the sale of the Shares, the Warrants and the Warrant Shares by the Company, except such as have been obtained and are in full force and effect and such as may be required under the Act, the Rules and Regulations, any state securities or Blue Sky laws or the bylaws and rules of the National Association of Securities Dealers, Inc. (the "NASD") in connection with the purchase and distribution by the Underwriter of the Shares to be sold hereby, the purchase of the Warrants by the Underwriter or its permitted designees and the purchase by the Underwriter or such permitted designees of the Warrant Shares upon exercise of the Warrants.

(m) The Company has full power (corporate and other) and authority to enter into each of the Transaction Documents and to carry out all the terms and provisions hereof to be carried out by it. Each of the Transaction Documents has been duly authorized, executed and delivered by the Company and constitutes a valid and binding agreement of the Company, and is enforceable against the Company in accordance with its terms, except as rights to indemnity and contribution may be limited by federal or state securities laws or the public policy underlying such laws. Except as disclosed in the Registration Statement and the Prospectus (or, if the

Prospectus is not in existence, in the most recent Preliminary Prospectus), the execution and delivery of the Transaction Documents and the performance and consummation of the transactions contemplated thereby will not result in the creation or imposition of any Encumbrance upon any of the properties or assets of the Company pursuant to the terms or provisions of, or result in a breach or violation of or conflict with any of the terms or provisions of, or constitute a default under, or give any other party a right to terminate any of its obligations under, or result in the acceleration of any obligation under, (i) the Certificate of Incorporation or By-laws of the Company, or (ii) any contract or other agreement to which the Company is a party or by which it or any of its assets or properties are bound, or (iii) any judgment, ruling, decree, order, law, statute, rule or regulation of any Governmental Body applicable to the Company or its business or properties, assuming compliance with applicable state securities and Blue Sky laws.

(n) Each certificate signed by an officer of the Company and delivered to the Underwriter or counsel for the Underwriter shall be deemed to be a representation and warranty by the Company to the Underwriter as to the matters covered thereby.

(o) Neither the Company nor any of its directors, officers or affiliates (within the meaning of the Rules and Regulations) has taken, nor will he, she or it take, directly or indirectly, any action designed, or which might reasonably be expected in the future, to cause or result in, under the Act or otherwise, or which has constituted, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares or otherwise.

(p) The Company is not involved in any material labor dispute with its employees nor is any such dispute threatened or imminent.

(q) Neither the Company nor, to the Company's knowledge, any employee or agent of the Company has made any payment of funds of the Company or received or retained any funds of the Company in violation of any law, rule or regulation or of a character required to be disclosed in the Registration Statement and Prospectus (or, if the Prospectus is not in existence, in the most recent Preliminary Prospectus).

(r) The business, operations and facilities of the Company have been and are being conducted in compliance in all material respects with all applicable laws, ordinances, rules, regulations, licenses, permits, approvals, plans, authorizations or requirements relating to occupational safety and health, or pollution, or protection of health or the environment (including, without limitation, those relating to emissions, discharges, releases or threatened releases of pollutants, contaminants or hazardous or toxic substances, materials or wastes into ambient air, surface water, groundwater or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of chemical substances, pollutants, contaminants or hazardous or toxic substances, materials or wastes, whether solid, gaseous or liquid in nature) of any governmental department, commission, board, bureau, agency or instrumentality of the United States or any state or political subdivision thereof, or any foreign jurisdiction, and all applicable judicial or administrative agency or regulatory decrees, awards, judgments and orders relating thereto; and the Company has not received any notice from any



Governmental Body or any third party alleging any violation thereof or material liability thereunder (including, without limitation, liability for costs of investigating or remediating sites containing hazardous substances and/or damages to natural resources). The intended use and occupancy of each of the facilities owned or operated by the Company complies in all material respects with all applicable codes and zoning laws and regulations, and there is no pending or, to the Company's knowledge, threatened condemnation, zoning change, environmental or other proceeding or action that will in any material respect adversely affect the size of, use of, improvements on, construction on or access to such facilities.

(s) The Company has filed all foreign, federal, state and local tax returns that are required to be filed or has requested extensions thereof and is not in default in any taxes which were payable pursuant to said returns.

(t) Neither the Company nor any of its directors, officers or employees in such capacity is subject to any order or directive of, or party to any agreement with, any regulatory agency having jurisdiction with respect to its business or operations except as disclosed in the Prospectus (or if the Prospectus is not in existence, in the most recent Preliminary Prospectus).

(u) The Company and each officer and director of the Company, Elliott Associates L.P./Westgate International L.P. and John Spear have delivered to the Underwriter agreements (the "Lockup Agreements") to the effect that he or it will not, for a period of 180 days after the date hereof, without the prior written consent of the Underwriter, directly or indirectly, offer, sell or otherwise dispose (or announce any offer, sale, grant of any option to purchase or other disposition) of any shares of Common Stock or securities convertible into, or exercisable or exchangeable for, shares of Common Stock, except pursuant to this Agreement and except for (i) exercises of options and warrants to acquire shares of Common Stock, (ii) transfers to the holder's spouse or lineal descendants or ancestors, natural or adopted (collectively, "Relatives"), or to an inter vivos trust for the benefit of such holder's Relatives, (iii) transfers upon the death of such holder pursuant to the laws of descent and distribution or pursuant to wills, or (iv) gifts, provided that, in the case of the foregoing clauses (i) through (iv), the transferee agrees in writing to be bound by the terms of these restrictions.

(v) The Company has not distributed and will not distribute any prospectus or other offering material in connection with the offering and sale of the Shares other than any Preliminary Prospectus or the Prospectus or other materials permitted by the Act or the Rules and Regulations to be distributed by the Company.

(w) The Common Stock of the Company is quoted on The Nasdaq [SmallCap] [National] Market.

(x) The Company is not required to be registered under the Investment Company Act of 1940, as amended (the "Investment Company Act").



(y) The Company has furnished the Underwriter with true and complete copies of its Current Reports on Form 8-K filed on July 15, 1999 and April 28, 1998, its report on Form 10-KSB for the fiscal year ended December 31, 1998 and all amendments thereto, its Quarterly Report on Form 10-QSB for the fiscal quarter ended March 31, 1999, its Proxy Statement for use in connection with its 1999 Annual Meeting of Stockholders and its 1998 Annual Report to Stockholders and (the "Current Reports"). In addition, the Company has furnished the Underwriter

with true and complete copies of its Amended Quarterly reports filed on May 17, 1999, February 5, 1999 and January 8, 1999, which relate to quarterly periods prior to December 31, 1998 (the "Amended Reports"). The Current Reports and the Amended Reports constitute the only documents that the Company was required to file with the Commission since December 31, 1998. The Company has also filed all other reports required to be filed with the Commission prior to March 31, 1999 (such reports, together with the Current Reports are collectively referred to as the "Commission Reports"). As of their respective filing dates, the Commission Reports and all other filings made by the Company under the Act or Exchange Act complied in all material respects with the requirements of the Act or the Exchange Act, as the case may be, and none of such filings contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(z) Since its inception, the Company has not incurred any material liability resulting from a violation of the provisions of the Act or any state securities or Blue Sky laws.

(aa) The Company has made available to the Underwriter a copy of all filings submitted to and letters received from the FDA and all related documents and information.

(bb) The Company carries, or is covered by, insurance in such amounts and covering such risks as is adequate in accordance with customary industry standards for the conduct of its business and the value of its properties.

(cc) The Company is in compliance in all material respects with all presently applicable provisions of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("ERISA"); no "reportable event" (as defined in ERISA) has occurred with respect to any "pension plan" (as defined in ERISA) for which the Company would have any material liability; the Company has not incurred and does not expect to incur liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "pension plan" or (ii) Sections 412 or 4971 of the Internal Revenue Code of 1986, as amended, including the regulations and published interpretations thereunder (the "Code"); and each "pension plan" for which the Company would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified in all material respects and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification.

4. Representations and Warranties of the Underwriter. Upon your authorization of the release of the Firm Shares, the Underwriter proposes to offer the Firm Shares for sale to the

public upon the terms set forth in the Prospectus. The Underwriter represents and warrants to the Company that, assuming compliance by the Company with all relevant provisions of the Act in connection with the Registration Statement, the Underwriter will conduct all offers and sales of the Shares in compliance with the relevant provisions of the Act and the Rules and Regulations, all applicable state securities laws and regulations and the bylaws and rules of the NASD. The Underwriter represents and warrants to the Company that the Underwriter is authorized to enter into this Agreement and to act in the manner provided in this Agreement.

5. Agreements of the Company. The Company covenants and agrees with the Underwriter as follows:

(a) The Company will not, either prior to the Effective Date or thereafter during such period as the Prospectus is required by law to be delivered in connection with sales of the Shares by the Underwriter or a dealer, file any amendment or supplement to the Registration Statement or the Prospectus, unless a copy thereof shall first have been submitted to the Underwriter and the Underwriter shall have consented thereto, which consent shall not be unreasonably withheld.

(b) If the Registration Statement is not yet effective, the Company will use its best efforts to cause the Registration Statement to become effective not later than the time indicated in Section 7(a) hereof. The Company will notify the Underwriter promptly, and will confirm such advice in writing, (i) when the Registration Statement has become effective (if later than the date hereof) and when any post-effective amendment thereto becomes effective, (ii) of any request by the Commission for amendments or supplements to the Registration Statement or the Prospectus or for additional information, (iii) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any order suspending the use of any Preliminary Prospectus or the Prospectus or any amendment or supplement thereto or the initiation of any proceedings for any such purpose or the threat thereof, (iv) of the happening of any event during the period mentioned in the first sentence of Section 5(f) that in the reasonable judgment of the Company makes any statement of a material fact made in the Registration Statement or the Prospectus untrue or that requires the making of any changes in the Registration Statement or the Prospectus in order to make the statements of material fact therein, in light of the circumstances in which they are made, not misleading and (v) of receipt by the Company or the Underwriter or attorney of the Company during the period mentioned in the first sentence of Section 5(f) of any other communication from the Commission relating to the Company, the

Registration Statement, any Preliminary Prospectus or the Prospectus. The Company will use its best efforts to prevent the issuance of any order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any order suspending the use of any Preliminary Prospectus or the Prospectus or any amendment or supplement thereto, and, if any such order is issued, the Company will use its best efforts to obtain the withdrawal of such order at the earliest possible moment. The Company will prepare the Prospectus in a form approved by the Underwriter and will file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the Commission's close of business on the second business day following the execution and delivery



of this Agreement or, if applicable, such earlier time as may be required by Rule 430A(a)(3) of the Rules and Regulations. If the Company has omitted any information from the Registration Statement pursuant to Rule 430A of the Rules and Regulations, the Company will use its best efforts to comply with the provisions of and make all requisite filings with the Commission pursuant to Rule 430A of the Rules and Regulations and to notify the Underwriter promptly of all such filings.

(c) If, at any time when a Prospectus relating to the Shares is required to be delivered under the Act, any event has occurred as a result of which the Prospectus, as then amended or supplemented, would include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, or the Registration Statement, as then amended or supplemented, would include any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein not misleading, or if for any other reason it is necessary at any such time to amend or supplement the Prospectus or the Registration Statement to comply with the Act or the Rules and Regulations, the Company will promptly notify the Underwriter thereof and, in accordance with Section 5(a) hereof, will prepare and file with the Commission, at the Company's expense, an amendment to the Registration Statement or an amendment or supplement to the Prospectus that corrects such statement or omission or effects such compliance.

(d) The Company will furnish to the Underwriter, without charge, three

signed copies of the Registration Statement and of any post-effective amendment thereto, including financial statements and schedules, and all exhibits thereto, other than exhibits incorporated by reference, and will furnish to the Underwriter, without charge, copies of the Registration Statement and any post-effective amendment thereto, including financial statements and schedules but without exhibits.

(e) The Company will comply with all the provisions of all undertakings contained in the Registration Statement.

(f) On the Effective Date, and thereafter from time to time for such period as the Prospectus is required by the Act to be delivered, the Company will deliver to the Underwriter, without charge, as many copies of the Prospectus or any amendment or supplement thereto as the Underwriter may reasonably request. The Company consents to the use of the Prospectus or any amendment or supplement thereto by the Underwriter and by all dealers to whom the Shares may be sold, both in connection with the offering or sale of the Shares and for any period of time thereafter during which the Prospectus is required by law to be delivered in connection therewith. If during such period of time any event shall occur which in the judgment of the Company or counsel to the Underwriter should be set forth in the Prospectus in order to make any statement of a material fact therein, in the light of the circumstances under which it was made, not misleading, or in the Registration Statement in order to make any statement of a material fact therein not misleading, or if it is necessary to supplement or amend the Prospectus or the Registration Statement to comply with law, the Company will, in accordance with Section



5(a) hereof, forthwith prepare and duly file with the Commission an appropriate supplement or amendment thereto and will deliver to the Underwriter, without charge, such number of copies thereof as the Underwriter may reasonably request.

(g) The Company will (i) take or cause to be taken all such actions and furnish all such information as the Underwriter may reasonably request in order to qualify the Shares for offer and sale under the state securities or Blue Sky laws of such jurisdictions as the Underwriter may designate, (ii) continue such qualifications in effect for as long as may be necessary to complete the distribution of the Shares but not to exceed one year from the date of this

Agreement and (iii) make such applications, file such documents and furnish such information as may be required for the purposes set forth in the foregoing clauses (i) and (ii); provided, that in no event shall the Company be obligated to qualify to do business in any jurisdiction where it is not now so qualified or to take any action which would subject it to general service of process or to taxation in any jurisdiction where it is not now so subject.

(h) For a period of five years commencing on the Effective Date, the Company will furnish to the Underwriter upon request copies of such financial statements and other periodic and special reports as the Company may, from time to time, distribute generally to the holders of any class of its capital stock and will furnish to the Underwriter upon request a copy of each annual or other report it shall be required to file with the Commission.

(i) The Company will make generally available to holders of its securities, as soon as may be practicable, but in no event later than the last day of the fifteenth full calendar month following the calendar quarter in which the Effective Date falls, an earnings statement (which need not be audited but shall be in reasonable detail) for a period of 12 months commencing after the Effective Date, and satisfying the provisions of Section 11(a) of the Act (including Rule 158 of the Rules and Regulations).

(j) The Company will not for a period of 180 days after the date hereof, without the prior written consent of the Underwriter, directly or indirectly, offer, sell or otherwise dispose (or announce any offer, sale, grant of any option to purchase or other disposition) of any shares of Common Stock or any securities convertible into, or exercisable or exchangeable for, shares of Common Stock, except pursuant to Section 1 hereof and except that the Company may grant options, and issue shares pursuant to the options granted, under the Option Plans and the Company may issue shares pursuant to warrants, options and shares of convertible preferred stock outstanding as of the date of this Agreement and warrants issued to the Underwriter or permitted designees.

(k) The Company will not at any time, directly or indirectly, take any action intended, or that might reasonably be expected, to cause or result in, or that will constitute, stabilization of the price of the Common Stock to facilitate the sale or resale of any of the Shares.

(l) The Company shall apply the net proceeds of the sale of the Shares as set forth in the Prospectus.

(m) The Company shall not invest, or otherwise use, the proceeds received by the Company from the sale of the Shares to the Underwriter in such a manner as would require the Company to register as an investment company under the Investment Company Act.

(n) The Company will maintain a transfer agent and, if necessary under the jurisdiction of incorporation of the Company or if required by The Nasdaq Stock Market, Inc., a registrar for its Common Stock.

(o) The Company will timely file all such reports, forms or other documents as may be required from time to time under the Act, the Rules and Regulations, the Exchange Act, and the rules and regulations promulgated thereunder, and all such reports, forms and documents filed will comply in all material respects as to form and substance with the applicable requirements of the Act, the Rules and Regulations, the Exchange Act, and the rules and regulations promulgated thereunder.

6. Expenses. Whether or not the transactions contemplated by this Agreement are consummated or this Agreement is terminated, the Company will pay, or reimburse if paid by the Underwriter, all costs and expenses incident to the performance of its obligations under this Agreement and the transactions contemplated by this Agreement, including, but not limited to, costs and expenses of or relating to (i) the preparation, printing and filing of the Registration Statement and exhibits thereto, each Preliminary Prospectus, the Prospectus, any amendment or supplement to the Registration Statement or the Prospectus, (ii) the preparation and delivery of certificates representing the Shares, (iii) the printing of this Agreement, the Warrant Agreement, any Dealer Agreements and any Underwriter's Questionnaire, (iv) furnishing (including costs of shipping and mailing) such copies of the Registration Statement, the Prospectus and any Preliminary Prospectus, and all amendments and supplements thereto, as may be requested for use in connection with the offering and sale of the Shares by the Underwriter or by dealers to whom Shares may be sold, (v) the quotation of the Shares on The Nasdaq Stock Market, (vi) any filings required to be made by the Underwriter with the NASD, (vii) the registration or qualification of the Shares for offer and sale under the securities or Blue Sky laws of such jurisdictions designated pursuant to Section 5(g) hereof, including the reasonable fees, disbursements and other charges of counsel to the Underwriter in connection therewith, and the preparation and printing of preliminary, supplemental and final Blue Sky memoranda, (viii) counsel and accountants to the Company and (ix) the transfer agent, and any registrar, for the Shares. Whether or not the transactions contemplated by this Agreement are consummated or this Agreement is terminated, the Company will reimburse the Underwriter for all of its accountable out-of-pocket fees and expenses, including legal fees, incurred by it in connection herewith, up to an aggregate amount of $125,000.

7. Conditions to the Obligations of the Underwriter. The obligations of the Underwriter hereunder are subject to the following conditions:

(a) Notification that the Registration Statement has become effective shall be received by the Underwriter not later than 4:00 p.m., New York time, on the date immediately



preceding the date of this Agreement or at such later date and time as shall be consented to in writing by the Underwriter and all filings required prior to such effectiveness by Rule 424 and Rule 430A of the Rules and Regulations shall have been made.

(b) (i) No stop order suspending the effectiveness of the Registration Statement shall have been issued and no proceedings for that purpose shall be pending or threatened by the Commission, (ii) no order suspending the effectiveness of the Registration Statement or the qualification or registration of the Shares under the securities or Blue Sky laws of any jurisdiction shall be in effect, and no proceeding for such purpose shall be pending before or threatened or contemplated by the authorities of any such jurisdiction, (iii) any request for additional information on the part of the staff of the Commission or any such authorities shall have been complied with to the satisfaction of the staff of the Commission or such authorities and (iv) after the date hereof no amendment or supplement to the Registration Statement or the Prospectus shall have been filed unless a copy thereof was first submitted to the Underwriter and the Underwriter consented thereto, such consent not to be unreasonably withheld, and the Underwriter shall have received certificates, dated the Closing Date and the Option Closing Date, if any, and signed on behalf of the Company by the Chief Executive Officer of the Company and the Chief Financial Officer of the Company (who may, as to proceedings threatened, rely upon the best of their information and belief), to the effect of the foregoing clauses (i), (ii) and (iii).

(c) Since the respective dates as of which information is given in the Registration Statement and the Prospectus, (i) there shall not have been a material adverse change in the general affairs, business, business prospects, properties, management, condition (financial or otherwise), or results of operations of the Company, whether or not arising from transactions in the

ordinary course of business, and (ii) the Company shall not have sustained any material loss or interference with its business, assets or properties from fire, explosion, flood or other casualty, whether or not covered by insurance, or from any labor dispute or any court or legislative or other governmental action, order or decree, which is not set forth in the Registration Statement and the Prospectus.

(d) Since the respective dates as of which information is given in the Registration Statement and the Prospectus, there shall have been no litigation or other proceeding instituted against the Company or any of its officers, directors or stockholders in their capacities as such, or any of its assets or properties, before or by any Governmental Body in which litigation or proceeding an unfavorable ruling, decision or finding would materially and adversely affect the general affairs, business, properties, prospects, condition (financial or otherwise), net worth or results of operations of the Company.

(e) Each of the representations and warranties of the Company contained herein shall be true and correct in all material respects at the date hereof, at the Closing Date and, with respect to the Option Shares, if any, at the Option Closing Date, as if made on such date, and all covenants and agreements contained herein to be performed on the part of the Company and all conditions contained herein to be fulfilled or complied with by the Company at or prior to



the Closing Date and, with respect to the Option Shares, if any, at or prior to the Option Closing Date, shall have been fully performed, fulfilled or complied with in all material respects.

(f) The Underwriter shall have received an opinion, dated the Closing Date and the Option Closing Date, as applicable, from Fulbright & Jaworski, L.L.P., New York, New York, counsel for the Company, to the following effect:

(i) The Company has been duly incorporated and is validly existing and in good standing under the laws of the State of Delaware;

(ii) The Company is duly licensed or qualified and in good standing as a foreign corporation in each state in which it owns or leases property.

(iii) The authorized capital stock of the Company conforms in all

material respects as to legal matters to the description contained in the Prospectus. The authorized capital stock of the Company is as set forth in the Prospectus under the caption "Capitalization". All of the issued and outstanding shares of Common Stock have been, and the Shares, the Warrants and the Warrant Shares, when issued, delivered and paid for (A) by the Underwriter in accordance with the terms of this Agreement (in the case of the Shares) or (B) by the Underwriter or its permitted designees in accordance with the terms of the Warrants and the Warrant Agreement (in the case of the Warrants and the Warrant Shares), will be, duly authorized, validly issued, fully paid and nonassessable and will not be subject to any preemptive or similar right arising under the Delaware General Corporation Law, as amended, the Company's Certificate of Incorporation or By-laws, or any agreement listed as an Exhibit to the Registration Statement (the "Exhibits"). To such counsel's actual knowledge, neither the filing of the Registration Statement nor the offering or sale of the Shares pursuant to this Agreement gives rise to any rights for the registration of any shares of Common Stock or other securities of the Company pursuant to any of the Exhibits, except as disclosed in the Registration Statement, or such rights as have been satisfied, waived or terminated;

(iv) Based on such counsel's review of the minutes of the meetings of the Company's stockholders and board of directors and committees of the board of directors and a certificate of officers of the Company (the "Certificate"), except as described in the Registration Statement and the Prospectus, there are no options, warrants, agreements, contracts or other rights in existence to purchase or acquire from the Company any shares of capital stock of the Company;

(v) The Registration Statement has become effective under the Act, and, to such counsel's actual knowledge, (A) no stop order suspending the effectiveness of the Registration Statement or any amendment thereto has been issued under the Act, and (B) no proceedings for that purpose have been instituted, are pending or are threatened by the Commission under the Act;



(vi) The Registration Statement and, if any, each amendment thereto and the Prospectus and, if any, each amendment and supplement thereto (except the financial statements, schedules and other financial data contained therein, as to which such counsel need not express any opinion), complies as to form in all material respects with the requirements of the Act and Rules and Regulations;

(vii) The descriptions of statutes, litigation, contracts and other documents, insofar as such descriptions relate to matters of law, contained in the Registration Statement and in the Prospectus under the captions "Risk Factors -- Effect of anti-takeover provisions could inhibit the acquisition of Vion," "Business -- Research and Development," "Management Our Executive Officers and Directors," "-- Executive Compensation," and "-- Indemnification of Directors and Officers," "Related Party Transactions," and "Description of Capital Stock" fairly present in all material respects summaries of the information required to be shown;

(viii) To such counsel's actual knowledge, there are no contracts or documents which are required by the Act to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement which are not so described or filed;

(ix) Based solely on the Certificate and the results of an inquiry of the partners of such counsel's firm (the "Inquiry"), to such counsel's actual knowledge, there is not pending or threatened against the Company any action, suit, arbitration, claim, governmental or other proceeding (informal or formal) or investigation before or by any Governmental Body which is required to be disclosed in the Registration Statement or the Prospectus which is not so disclosed therein;

(x) The Company has the corporate power and authority to execute, deliver and comply with its obligations under each of the Transaction Documents and to consummate the transactions provided for therein; and the execution and delivery by the Company of, and the performance by the Company under, each of the Transaction Documents have been duly authorized by all requisite corporate action on behalf of the Company, and such counsel shall confirm to you that each of the Transaction Documents has been executed and delivered on behalf of the Company by a duly authorized officer of the Company.

(xi) The execution and delivery of the Transaction Documents by the Company, and the Company's compliance with the terms of the Transaction Documents (A) do not result in the creation or imposition of any Encumbrance upon any property or assets of the Company pursuant to the terms or provisions of, or constitute a breach of, or default under, any material contract or other material agreement included as an Exhibit to the Registration Statement, and (B) do not violate (x) the Certificate of Incorporation or By-laws of the Company, (y) any laws which are known to such counsel to be applicable to the Company where such violation would reasonably be expected to have a material adverse effect on the validity, performance or enforceability of any of the terms of this Agreement applicable to the Company

or relating to the rights and remedies of the Underwriter under the Transaction Documents or (z) based solely on the Certificate and the Inquiry, any of the Company's existing obligations under any judgment, decree or order of any arbitrator or Governmental Body naming the Company; no consent, approval, authorization or order of, or filing with, any Governmental Body is legally required for the execution, delivery and performance of any Transaction Document by the Company, other than for the registration of shares issuable upon the Warrants the terms of which are set forth in the Warrant Agreement, except such as may be required under the Act and the Rules and Regulations, such as may be required by the bylaws and rules of the NASD in connection with the purchase and distribution by the Underwriter of the Shares, the purchase by the Underwriter or its permitted designees of the Warrants or the purchase of the Warrant Shares upon exercise of the Warrants and such as may be required under state securities or Blue Sky laws in connection with the purchase and distribution by the Underwriters of the Shares, the purchase by the Underwriter or such designees of the Warrants or the purchase of the Warrant Shares upon exercise of the Warrants;

(xii) To such counsel's actual knowledge, the Company is not in any breach or violation of any of the terms or provisions of, or in default under (nor has an event occurred which with notice or lapse of time or both would constitute a default or acceleration under), the terms of its Certificate of Incorporation [or By-laws];

(xiii) To such counsel's actual knowledge, the Company is not an "investment company" as such term is defined in the Investment Company Act.

In addition, such counsel shall state that in the course of the preparation of the Registration Statement and the Prospectus, such counsel has participated in conferences with officers and other representatives of the Company, representatives of the independent accountants of the Company, representatives of the Underwriter and representatives of counsel for the Underwriter, at which the contents of the Registration Statement and the Prospectus and related matters were discussed and at which such counsel inquired of the representatives of the Company as to the materiality of the facts disclosed to such counsel and, although such counsel does not pass upon, and does not assume any responsibility for, the accuracy, completeness or fairness of any statement contained in the Registration Statement or the Prospectus and such counsel has made no independent check or verification thereof, based, in part, upon the foregoing (relying as to materiality to a large extent upon the officers and representatives of the Company), no facts have come to such counsel's attention that have led such counsel to believe that the Registration Statement (except as to the financial statements and notes thereto and other financial data included therein or excluded therefrom as to which such counsel need not express any

opinion or belief), as of the date of effectiveness contained an untrue statement of material fact or omitted to state any material fact required to be stated therein or necessary in order to make the statements therein not misleading or that the Prospectus (except as to the financial statements and the notes thereto and other financial data included therein or excluded therefrom as to which such counsel need not express any opinion or belief), as of its date or as of the date of such opinion, contained or contains an untrue statement of material fact or omitted or omits to state a material



fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

In rendering any such opinion, such counsel may (i) state that such counsel expresses no opinion as to the laws of any jurisdiction other than the laws of the State of New York, the Delaware General Corporation Law and the federal laws of the United States and expresses no opinion concerning the FD&C Act (as defined below) or related rules and regulations or any intellectual property law and (ii) may rely, as to matters of fact on certificates of responsible officers of the Company and public officials.

References to the Registration Statement and the Prospectus in this paragraph (f) shall include any amendment or supplement thereto at the date of such opinion.

(g) The Underwriter shall have received an opinion, dated the Closing Date and the Option Closing Date, as applicable, from Pennie & Edmonds LLP, New York, New York, patent counsel for the Company, to the following effect:

(i) The statements set forth in the Registration Statement and the Prospectus, under the captions "Risk Factors -- We depend heavily on patents and trade secrets which may not adequately protect our technologies from use by others" and "Business -- Patents, Licenses and Trade Secrets" (the "Intellectual Property Portion") are accurate summaries in all material respects of the provisions purported to be summarized under such captions in the Registration Statement and the Prospectus, and of any legal matters, documents and proceedings referred to therein;

(ii) As of the date of such opinion, the Company is recorded in the records of the United States Patent and Trademark Office as the sole owner or assignee of record of each of the issued patents noted on an appendix to such opinion (the "Patents"), and each of the patent applications noted on such appendix was so assigned and recorded at the time of filing (the "Patent Applications"). To the actual knowledge of such counsel, there have not been any subsequent recorded assignments and there are no asserted or unasserted claims by any person relating to the scope or ownership of the Patents or Patent Applications, there is no material defect of form in the preparation or filing of the Patent Applications and the applications that led to the Patents and, unless otherwise specifically noted in such opinion or on an appendix thereto, none of the Patent Applications are on this date under final rejection;

(iii) To such counsel's actual knowledge, there is no litigation pending or threatened (whether orally or in writing) against the Company alleging that any of the Company's products or proposed products infringe or will infringe any patent, copyright, trademark, trade secret or other intellectual property rights of any third party and no litigation pending or stated to be threatened (whether orally or in writing) against the Company at this time relating to the Patents, the Patent Applications, or to any copyright, trademark, trade secret or other intellectual property right owned by the Company; and



(iv) To such counsel's actual knowledge, there is no fact or circumstance that would form a basis for the belief that any of the Patents are either invalid or unenforceable.

In rendering any such opinion, such counsel may (i) state that such counsel expresses no opinion as to the laws of any jurisdiction other than the federal laws of the United States and (ii) may rely, as to matters of fact on certificates of responsible officers of the Company and public officials.

References to the Registration Statement and the Prospectus in this paragraph (g) shall include any amendment or supplement thereto at the date of such opinion.

(h) The Underwriter shall have received an opinion, dated the Closing Date and the Option Closing Date, as applicable, from Piper & Marbury L.L.P., counsel to the Underwriter, which opinion shall be satisfactory in all respects to the

Underwriter.

(i) Concurrently with the execution and delivery of this Agreement, or, if the Company elects to rely on Rule 430A of the Rules and Regulations, on the date of the Prospectus, the Accountants shall have furnished to the Underwriter a letter, dated the date of its delivery (the "Original Letter"), addressed to the Underwriter and in form and substance satisfactory to the Underwriter, to the effect that:

(i) They are independent certified public accountants with respect to the Company within the meaning of the Act, the Rules and Regulations, the Exchange Act and the rules and regulations thereunder;

(ii) In their opinion, the audited financial statements and schedules examined by them and included in the Registration Statement, or incorporated therein by reference, and in the Prospectus comply as to form in all material respects with the applicable accounting requirements of the Act, the Rules and Regulations, the Exchange Act and the rules and regulations promulgated thereunder;

(iii) On the basis of a reading of the latest available interim unaudited financial statements of the Company, carrying out certain specified procedures (which do not constitute an audit made in accordance with generally accepted auditing standards) that would not necessarily reveal matters of significance with respect to the comments set forth in this paragraph (iii), a reading of the minute books of the stockholders, the board of directors and any committees thereof of the Company and inquiries of certain officials of the Company who have responsibility for financial and accounting matters, nothing came to their attention that caused them to believe that at a specific date not more than five business days prior to the date of such letter, there were any changes in the shares of capital stock or long-term indebtedness of the Company, in each case compared with amounts shown on the March 31, 1999 balance sheet included in the Registration Statement and the Prospectus, or for the period from April 1, 1999 to such specified date there were any decreases, as compared with the corresponding period of the



preceding fiscal year, in net revenues, except in all instances for changes,

decreases or increases set forth in such letter or as set forth in or contemplated in the Prospectus; and

(iv) They have carried out certain specified procedures, not constituting an audit, with respect to certain amounts, percentages and financial information that are derived from the general accounting records of the Company and are included in its Annual Report on Form 10-KSB for the fiscal year ended December 31, 1998 and have compared such amounts, percentages and financial information with such records of the Company and with information derived from such records and have found them to be in agreement, excluding any questions of legal interpretation.

In the event that the letter referred to above sets forth any such changes, decreases or increases, it shall be a further condition to the obligations of the Underwriter that (A) such letters shall, if requested by the Underwriter, be accompanied by a written explanation of the Company as to the significance thereof and (B) such changes, decreases or increases do not, in the sole judgment of the Underwriter, make it impractical or inadvisable to proceed with the purchase and delivery of the Shares as contemplated by the Registration Statement, as amended as of the date hereof.

At the Closing Date and, as to the Option Shares, if any, the Option Closing Date, the Accountants shall have furnished to the Underwriter a letter, dated the date of its delivery, which shall confirm, on the basis of a review in accordance with the procedures set forth in the Original Letter, that nothing has come to their attention during the period from the date of the Original Letter referred to in the prior sentence to a date (specified in such letter) not more than five days prior to the Closing Date or the Option Closing Date, as the case may be, that would require any change in the Original Letter if it were required to be dated and delivered at the Closing Date or the Option Closing Date, as the case may be.

(j) At the Closing Date and, as to the Option Shares, if any, the Option Closing Date, there shall be furnished to the Underwriter an accurate certificate, dated the date of its delivery, signed on behalf of the Company by each of the Chief Executive Officer and the Chief Financial Officer of the Company, in form and substance satisfactory to the Underwriter, to the effect that:

(i) Each signer of such certificate has carefully examined the Registration Statement and the Prospectus and (A) as of the date of such certificate, (x) neither the Registration Statement, nor any amendment or supplement thereto, if any, contains any untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading and (y) neither the Prospectus, nor any amendment or supplement thereto, if any, contains any untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, and (B) since the Effective Date, no event has occurred as a result of which it is necessary to

amend or supplement the Prospectus in order to make the statements therein not untrue or misleading in any material respect;

(ii) Each of the representations and warranties of the Company contained in the Transaction Documents were, when originally made, and are, at the time such certificate is delivered, true and correct in all material respects; each of the covenants required herein to be performed by the Company on or prior to the date of such certificate has been duly, timely and fully performed in all material respects and each condition herein required to be complied with by the Company on or prior to the delivery of such certificate has been duly, timely and fully complied with in all material respects.

(iii) The Registration Statement has become effective and no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto and no order directed at any document incorporated by reference in the Registration Statement or any amendment thereto or the Prospectus has been issued, and no proceedings for that purpose have been instituted or, to the Company's knowledge, are threatened or contemplated by the Commission.

(k) The Shares shall have been qualified for sale in such states as the Underwriter may reasonably designate and each such qualification shall be in full force and effect and not subject to any stop order or other proceeding on the Closing Date and the Option Closing Date, if any.

(l) The Underwriter shall have received at or prior to the Closing Date from Piper & Marbury L.L.P. a memorandum or summary, in form and substance satisfactory to the Underwriter, with respect to the qualification for offering and sale by the Underwriter of the Shares under the state securities or Blue Sky laws of such jurisdictions as the Underwriter may reasonably have designated to the Company.

(m) The Company shall (i) have received approval to list its Common Stock on the Nasdaq National Market, including the Firm Shares and Option Shares, or (ii) have received written consent from the Underwriter agreeing to the delay of such approval by the Nasdaq National Market or (iii) received written consent from the Underwriter that such approval is not required and (iv) not have

received any notice of delisting of any shares of Common Stock.

(n) The Lockup Agreements and the Warrant Agreement shall be in full force and effect, and the Company shall have duly issued, sold and delivered the Warrants to the Underwriter or its permitted designees.

(o) The Company shall have furnished to the Underwriter such certificates, letters and other documents, in addition to those specifically mentioned herein, as the Underwriter may have reasonably requested as to the accuracy and completeness at the Closing Date and the Option Closing Date, if any, of any statement in the Registration Statement or the Prospectus, as to the accuracy at the Closing Date and the Option Closing Date, if any, of the



representations and warranties of the Company, as to the performance by the Company of its obligations under the Transaction Documents or as to the fulfillment of the conditions concurrent and precedent to the obligations hereunder of the Underwriter.

All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof only if they are reasonably satisfactory in form and substance to you. The Company will furnish you with such conformed copies of such opinions, certificates, letters and other documents as you shall reasonably request.

If any of the conditions hereinabove provided for in this Section 7 shall not have been fulfilled when and as required by this Agreement to be fulfilled, the obligations of the Underwriter hereunder may be terminated by the Underwriter by notifying the Company of such termination in writing at or prior to the Closing Date or the Option Closing Date, as the case may be.

8. Indemnification and Contribution.

(a) The Company agrees to indemnify and hold harmless the Underwriter, the directors, officers, employees and agents of the Underwriter and each person, if any, who controls the Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, from and against any and all losses, claims,

damages or liabilities, joint or several (and actions in respect thereof), to which they, or any of them, may become subject under the Act or other federal or state law or regulation, at common law or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any misrepresentation or breach of warranty made by the Company in Section 3 of this Agreement, (ii) any untrue statement or alleged untrue statement of any material fact contained in (A) any Preliminary Prospectus, the Registration Statement or the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus or (B) any application or other document, or any amendment or supplement thereto, executed by the Company or based upon written information furnished by or on behalf of the Company filed in any jurisdiction in order to qualify the Shares under the securities or Blue Sky laws thereof or filed with the Commission, the NASD or any securities association or securities exchange (each, an "Application"), or (iii) the omission or alleged omission to state in any Preliminary Prospectus, the Registration Statement or the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus or any Application a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse, as incurred, the Underwriter and each such other person for any legal or other expenses reasonably incurred by the Underwriter or such other person in connection with investigating, defending or appearing as a third-party witness in connection with any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of an untrue statement or omission or alleged untrue statement or omission in any of such documents made or omitted to be made in reliance upon and in conformity with information furnished by the Underwriter in writing to the Company by the Underwriter expressly for inclusion therein; provided, further, that such indemnity with respect



to any Preliminary Prospectus shall not inure to the benefit of the Underwriter (or any such other person) from whom the person asserting any such loss, claim, damage, liability or action purchased Shares which are the subject thereof to the extent that any such loss, claim, damage or liability (i) results from the fact that the Underwriter failed to send or give a copy of the Prospectus (as amended or supplemented) to such person at or prior to the confirmation of the sale of such Shares to such person in any case where such delivery is required

by the Act and (ii) arises out of or is based upon an untrue statement or omission of a material fact contained in such Preliminary Prospectus that was corrected in the Prospectus (or any amendment or supplement thereto), unless such failure to deliver the Prospectus (as amended or supplemented) was the result of noncompliance by the Company with Section 5(f) hereof. This indemnity agreement will be in addition to any liability that the Company might otherwise have. The Company will not, without the prior written consent of the Underwriter, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action, suit or proceeding in respect of which indemnification may be sought hereunder (whether or not the Underwriter or any person who controls the Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act is a party to each claim, action, suit or proceeding), unless such settlement, compromise or consent includes an unconditional release of the Underwriter and each such other person from all liability arising out of such claim, action, suit or proceeding.

(b) The Underwriter will indemnify and hold harmless the Company, the directors, officers, employees and agents of the Company and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, against any and all losses, claims, damages or liabilities, joint or several (and actions in respect thereof), to which they, or any of them, may become subject under the Act or other Federal or state law or regulation, at common law or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, the Registration Statement or the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus or any Application, or (ii) the omission or the alleged omission to state in the Registration Statement, any Preliminary Prospectus or the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus, or any Application, a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made or omitted to be made in reliance upon and in conformity with written information furnished to the Company by the Underwriter expressly for use therein; and, subject to the limitation set forth immediately preceding this clause, will reimburse, as incurred, the Company and each such other person for any legal or other expenses reasonably incurred by the Company and each such other person in connection with investigating, defending or appearing as a third-party witness in connection with any such loss, claim, damage, liability or any action in respect thereof. The Company acknowledges that, for all purposes under this Agreement, the statements set forth under the heading "Underwriting" and the information set forth in the last paragraph on the front cover page (insofar as such information relates to the Underwriter) and the last two paragraphs on the

inside front cover of any Preliminary Prospectus and the Prospectus constitute the only information furnished in writing to the Company by the Underwriter expressly for inclusion in the Registration Statement, any Preliminary Prospectus or the Prospectus. This indemnity agreement will be in addition to any liability that the Underwriter might otherwise have. The Underwriter will not, without the prior written consent of the Company, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action, suit or proceeding in respect of which indemnification is sought hereunder (whether or not the Company or any person who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act is a party to each claim, action, suit or proceeding), unless such settlement, compromise or consent includes an unconditional release of the Company and each such other person from all liability arising out of such claim, action, suit or proceeding.

(c) Promptly after receipt by an indemnified party under this Section 8 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party or parties under this Section 8, notify such indemnifying party or parties of the commencement thereof; but the omission so to notify the indemnifying party or parties will not relieve it or them from any liability which it or they may have to any indemnified party under the foregoing provisions of this Section 8 or otherwise unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against an indemnified party, the indemnifying party or parties against which a claim is made will be entitled to participate therein and, to the extent that it or they may wish, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; provided, however, that if the defendants in any such action include both the indemnified party and the indemnifying party or parties and the indemnified party shall have reasonably concluded that there may be one or more legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party or parties, the indemnifying party or parties shall not have the right to direct the defense of such action on behalf of such indemnified party or parties and such indemnified party or parties shall have the right to select separate counsel to defend such action on behalf of such indemnified party or parties. After notice from the indemnifying party or parties to such indemnified party of its or their election so to assume the defense thereof and approval by such indemnified party of counsel appointed to defend such action, the indemnifying party or parties will not be liable to such indemnified party under this Section 8 for any legal or other expenses other than reasonable costs of investigation subsequently incurred by such indemnified party in connection with the defense thereof, unless (i) the indemnified party

shall have employed separate counsel in accordance with the proviso to the next preceding sentence (it being understood, however, that in connection with such action the indemnifying party or parties shall not be liable for the expenses of more than one separate counsel (in addition to local counsel) in any one action or separate but substantially similar actions in the same jurisdiction arising out of the same general allegations or circumstances, designated by the Underwriter in the case of paragraph (a) of this Section 8, representing the indemnified parties under such paragraph (a) who are parties to such action or actions), or (ii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying



party or parties. After such notice from the indemnifying party or parties to such indemnified party, the indemnifying party or parties will not be liable for the costs and expenses of any settlement of such action effected by such indemnified party without the consent of the indemnifying party or parties.

(d) If the indemnification provided for in the foregoing paragraphs of this Section 8 is unavailable or insufficient to hold harmless an indemnified party under paragraph (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) (i) in such proportion as is appropriate to reflect the relative benefits received by the indemnifying party or parties, on the one hand, and the indemnified party, on the other, from the offering of the Shares or (ii) if, but only if, the allocation provided by the foregoing clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the indemnifying party or parties on the one hand, and the indemnified party, on the other, in connection with the statements or omissions or alleged statements or omissions that resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriter, on the other, shall be deemed to be in the same proportion as the total proceeds from the offering of the Shares (before deducting expenses) received by the Company bear to the total underwriting

discounts and commissions received by the Underwriter, in each case as set forth in the table on the cover page of the Prospectus. Relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriter, the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriter agree that it would not be just and equitable if contributions pursuant to this Section 8(d) were to be determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the losses, claims, damages, liabilities (or actions in respect thereof) referred to above in this Section 8(d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8(d), the aggregate amount that the Underwriter shall be required to contribute for all claims in respect of this Section 8 shall be limited to the amount of the underwriting discounts and commissions applicable to the Shares purchased by the Underwriter. Notwithstanding the provisions of this Section 8(d), the Company shall not be required to contribute any amount in excess of the amount by which the total proceeds received by it from the sale of the Shares under this Agreement, before deducting expenses, exceeds the aggregate amount of any damages that the Company has otherwise been required to pay in respect of the same or any substantially similar claim. No person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) will be entitled to contribution from any person who was not guilty of such



fraudulent misrepresentation. The Underwriter's obligations to contribute as provided in this Section 8(d) are several in proportion to their respective underwriting obligations and not joint. For purposes of this Section 8(d), each person, if any, who controls the Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act will have the same rights to contribution as the Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, will have the same rights to contribution as the

Company, subject in each case to the provisions of this Section 8(d). Any party entitled to contribution will, promptly after receipt of notice of commencement of any action, suit or proceeding against such party in respect of which a claim for contribution may be made under this Section 8(d), notify any such party or parties from whom contribution may be sought, but the omission so to notify will not relieve the party or parties from whom contribution may be sought from any other obligation(s) it or they may have hereunder or otherwise than under this Section 8(d), or to the extent that such party or parties were not adversely affected by such omission. The contribution agreement set forth above shall be in addition to any liabilities which any indemnifying party may otherwise have. No party will be liable for contribution with respect to any action or claim settled without its written consent (which consent will not be unreasonably withheld).

9. Termination. The obligations of the Underwriter under this Agreement may be terminated at any time prior to the Closing Date (or, with respect to the Option Shares, if any, on or prior to the Option Closing Date), by notice to the Company from the Underwriter, without liability on the part of the Underwriter to the Company, if, prior to delivery and payment for the Firm Shares (or the Option Shares, if any, as the case may be), (i) the Company shall have failed, refused or been unable, at or prior to such Closing Date, to perform all obligations on its part to be performed under the Transaction Documents, (ii) any of the representations or warranties of the Company are not accurate in any respect, (iii) since the respective dates as of which information is given in the Registration Statement and the Prospectus, there shall have occurred any material adverse change in the general affairs, business, properties, management, condition (financial or otherwise), net worth or results of operation, whether or not arising in the ordinary course of business, (iv) trading in the shares of Common Stock or securities generally shall have been suspended by the Commission or by The Nasdaq Stock Market, (v) minimum or maximum prices shall have been established for the shares of Common Stock or securities generally on either The Nasdaq Stock Market or the New York Stock Exchange, or additional material governmental restrictions, not in force on the date of this Agreement, shall have been imposed upon trading in securities generally by any such market or exchange or by order of the Commission or any court or other governmental authority, (vi) a general banking moratorium shall have been declared by the United States or New York State authorities, (vii) there shall have been enacted, published, decreed or otherwise promulgated any statute, regulation, rule or order of any court or other Governmental Body which in the opinion of the Underwriter materially and adversely affects or may materially and adversely affect the business or operations of the Company or (viii) any material adverse change in the financial or securities markets in the United States or any outbreak or material escalation of hostilities or declaration by the United

States of a national emergency or war or other calamity or crisis shall have occurred, the effect of any of which is such as to make it, in the sole judgment of the Underwriter, impracticable or inadvisable to market the Shares on the terms and in the manner contemplated by the Prospectus. This Agreement may also be terminated as provided in Section 7 of this Agreement. Any termination pursuant to this Section 9 shall be without liability of any party to any other party except as provided in Sections 6 and 8 hereof.

10. [Intentionally Omitted]

11. Survival. The respective representations, warranties, agreements, covenants, indemnities and other statements of the Company and the Underwriter pursuant to this Agreement shall remain in full force and effect, regardless of (i) any investigation made by or on behalf of the Company, any of its officers or directors, the Underwriter or any controlling person referred to in Section 8 hereof and (ii) delivery of and payment for the Shares. The respective agreements, covenants, indemnities and other statements set forth in Sections 6 and 8 hereof shall remain in full force and effect, regardless of any termination or cancellation of this Agreement.

12. Notices. Notice given pursuant to any of the provisions of this Agreement shall be in writing and, unless otherwise specified, shall be mailed or delivered (a) if to the Company, at the office of the Company, 4 Science Park, New Haven, Connecticut 06511, Attention: Chief Executive Officer, Telephone: (203) 498-4210 and Facsimile: (203) 498-4211, with a copy to Fulbright & Jaworski L.L.P., 666 Fifth Avenue, New York, New York 10103, Attention: Paul Jacobs, Esq. and Lawrence A. Spector, Esq., Telephone: (212) 318-3000 and Facsimile: (212) 752-5958 or (b) if to the Underwriter, at the offices of Brean Murray & Co., Inc., 570 Lexington Avenue, New York, New York 10022-6822 Attention: Mr. A. Brean Murray and Mr. Harrison Bubrosky, Telephone: (212) 702-6500 and Facsimile: (212) 702-6649, with a copy to Piper & Marbury L.L.P., 1251 Avenue of the Americas, New York, New York 10020-1104, Attention: Michael Hirschberg, Esq., Telephone: (212) 835-6270 and Facsimile: (212) 835-6001. Any such notice shall be effective only upon receipt. Any notice under Section 8 or 9 hereof may be made by telephone or facsimile but if so made shall be subsequently confirmed in writing.

13. Successors. This Agreement shall inure to the benefit of and shall be binding upon the Underwriter, the Company and their respective successors and legal representatives, and nothing expressed or mentioned in this Agreement is intended or shall be construed to give any other person any legal or equitable right, remedy or claim under or in respect of this Agreement, or any provisions herein contained, this Agreement and all conditions and provisions hereof being

intended to be and being for the sole and exclusive benefit of such persons and for the benefit of no other person except that (i) the indemnities of the Company contained in Section 8 of this Agreement shall also be for the benefit of any person or persons who control the Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act and (ii) the indemnities of the Underwriter contained in Section 8 of this Agreement shall also be for the benefit of the directors of the Company, the officers of the Company who have signed the Registration Statement and any person or persons who control the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act. No purchaser of Shares from the



Underwriter shall be deemed a successor because of such purchase. This Agreement shall not be assignable by any party hereto without the prior written consent of the other parties.

14. APPLICABLE LAW. THE VALIDITY AND INTERPRETATION OF THIS AGREEMENT, AND THE TERMS AND CONDITIONS SET FORTH HEREIN, SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT GIVING EFFECT TO ANY PROVISIONS RELATING TO CONFLICTS OF LAWS.

15. Submission to Jurisdiction. The Company hereby submits to the nonexclusive jurisdiction of the United States District Court for the Southern District of New York and of the Supreme Court of the State of New York sitting in New York County (including its Appellate Division), and of any other appellate court in the State of New York, for the purposes of all legal proceedings arising out of or relating to this Agreement or the transactions contemplated hereby. The Company irrevocably waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any such proceeding brought in such a court and any claim that any such proceeding brought in such a court has been brought in an inconvenient forum.

16. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Please confirm that the foregoing correctly sets forth the agreement among the Company and the Underwriter.

Very truly yours,

VION PHARMACEUTICALS, INC.

By: _____
Alan Kessman
President and Chief Executive Officer

Confirmed as of the date first above mentioned:

BREAN MURRAY & CO., INC.

By:_____
Harrison Bubrosky
Executive Vice President and Senior Managing Director

Acting on its behalf

Exhibit 4.4

WARRANT AGREEMENT

By and Between

VION PHARMACEUTICALS, INC.

and

BREAN MURRAY & CO., INC.

Dated as of ____ __, 1999

WARRANT AGREEMENT

WARRANT AGREEMENT dated as of ____ __, 1999 by and between VION PHARMACEUTICALS, INC., a Delaware corporation (the "Company"), and BREAN MURRAY & CO., INC. (the "Underwriter") (the Company and the Underwriter are referred to collectively herein as the "Parties").

The Company proposes to issue to the Underwriter warrants as hereinafter described (the "Warrants") to purchase up to an aggregate of 360,000 shares of the Company's Common Stock, $0.01 par value per share (the "Common Stock"), subject to adjustment as provided in Section 8 hereof (such 360,000 shares, as adjusted, being hereinafter referred to as the "Shares"). Each warrant entitles the holder ("Holder") thereof to purchase one share of Common Stock. All capitalized terms used herein and not otherwise defined herein shall have the same meanings as in that certain underwriting agreement, of even date herewith, by and between the Company and the Underwriter (the "Underwriting Agreement").

NOW, THEREFORE, in consideration of the following promises and mutual agreements and for other good and valuable consideration, the Parties agree as follows:

1. Issuance of Warrants; Form of Warrant. On the Closing Date the Company will issue, sell and deliver the Warrants to the Underwriter or its bona fide officers for an aggregate price of $100. The Warrants shall be issued to the Underwriter or such designees in the amounts set forth on Schedule I attached hereto. The form of the Warrant and the Form of Election to Purchase attached thereto shall be substantially as set forth on Exhibit A attached hereto. The Warrants shall be executed on behalf of the Company by the manual or facsimile signature of the present or any future President or any Vice President of the Company, under its corporate seal, affixed or in facsimile, and attested by the manual or facsimile signature of the present or any future Secretary or Assistant Secretary of the Company. The Underwriter and each other Holder, severally and not jointly, represents and warrants to the Company that (i) such Holder is acquiring the Warrants, and any Shares acquired upon exercise of any Warrants, for such Holder's own account and not with a view to, or for sale in connection with, any distribution of the Warrants or any shares of Common Stock, unless such distribution is registered or exempt from registration under the Securities Act of 1933, as amended (the "Act"), and any applicable state and foreign securities or blue sky laws and (ii) such Holder is aware that the Warrants and the Shares have not been registered under the Act or the securities or blue sky laws of any state or other jurisdiction, and that the Warrants may not be exercised and the Warrants and the Shares may not be resold (and the Holder covenants not to resell them) unless they are registered under applicable federal and state securities laws or unless exemptions from all such applicable registration requirements are available, and that the Warrants and the Shares will be legended to indicate the foregoing restrictions.

2. Registration. The Warrants shall be numbered and shall be registered in a Warrant register (the "Warrant Register"). The Company shall be entitled to treat the registered holder of any Warrant on the Warrant Register as the owner in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim to or interest in such

Warrant on the part of any other person, and shall not be liable for any registration or transfer of Warrants that are registered or are to be registered in the name of a fiduciary or the nominee of a fiduciary. The Warrants shall be registered initially in the name of the Underwriter in such denominations as the Underwriter may request in writing from the Company; provided, however, that the Underwriter may designate that all or a portion of the Warrants be issued in varying amounts directly to its bona fide officers and not to the Underwriter. Such designation will only be made by the Underwriter if it determines that such

issuances would not violate the interpretation of the Board of Governors of the National Association of Securities Dealers, Inc. (the "NASD") relating to the review of corporate financing arrangements.

3. Transfer of Warrants. The Warrants will not be sold, transferred, assigned or hypothecated, in whole or in part, prior to the first anniversary of the effective date of the Registration Statement (the "Effective Date"), and thereafter only to bona fide officers, directors, stockholders, employees or registered representatives of the Underwriter upon written request to the Company (including a certificate of the Holder that the transferee is a permitted transferee under this Section 3) delivered in accordance with Section 12 hereof and upon delivery of the Warrant Certificate to the Company with the form of assignment at the end thereof duly endorsed by the Holder or by its duly authorized attorney or representative. In all cases of transfer by an attorney, the original power of attorney, duly approved, or an official copy thereof, duly certified, shall be deposited with the Company. In case of transfer by executors, administrators, guardians or other legal representatives, duly authenticated evidence of their authority shall be produced and may be required to be deposited with the Company in its discretion. Upon any registration of transfer, the Company shall deliver a new Warrant or Warrants to the persons entitled thereto. Upon surrender of the Warrants to the Company or its duly authorized agent, any of the Warrants may be exchanged at the option of its Holder for other Warrants of different denominations, of like tenor and representing in the aggregate the right to purchase a like number of shares of Common Stock. The Company may require payment of a sum sufficient to cover all taxes and other governmental charges that may be imposed in connection with any transfer, exchange or other disposition of the Warrants or Shares. However, the Company shall have no obligation to cause Warrants or Shares to be transferred on its books to any person, if such transfer would violate the Act, the rules and regulations promulgated thereunder (the "Rules and Regulations") or applicable state securities laws, rules and regulations.

4. Term of Warrants; Exercise of Warrants.

(a) Term of Warrants. Each Warrant entitles the registered owner thereof to purchase one fully paid and nonassessable Share at a purchase price of $____ per Share (as adjusted from time to time pursuant to the provisions hereof, the "Exercise Price") at any time from the first anniversary of the Effective Date until 5:00 p.m., New York City time, on ____ __, 2004 (the "Warrant Expiration Date").

(b) Exercise of Warrants. The Exercise Price and the Shares issuable upon exercise of Warrants are subject to adjustment upon the occurrence of certain events, pursuant

to the provisions of Section 8 of this Agreement. Subject to the provisions of this Agreement, and in addition to the right to surrender Warrants without any cash payment as set forth in subsection (c) below, each Holder shall have the right to purchase from the Company the number of fully-paid and nonassessable Shares specified in such Warrants, upon (i) surrender to the Company, or its duly authorized agent, of such Warrants, with the Form of Election to Purchase attached thereto duly completed and signed, with signatures guaranteed by a member firm of a national securities exchange, a commercial bank (not a savings bank or savings and loan association) or trust company located in the United States or a member of the NASD, (ii) payment to the Company of the Exercise Price, as adjusted in accordance with the provisions of Section 8 of this Agreement, for the number of Shares in respect of which such Warrants are then exercised and (iii) compliance with the requirements of the Act, the Rules and Regulations and applicable state securities laws, rules and regulations (clauses (i), (ii) and (iii) above are hereinafter collectively referred to as the "Exercise Requirements"). No adjustment shall be made for any cash dividends paid to stockholders of record before the date on which the Warrants are exercised. Upon completion of the Exercise Requirements, the Company shall issue and cause to be delivered, no later than three (3) trading days following such surrender, to the Holders or (subject to Section 3) to such person or persons and in such name or names as such Holder may designate, a certificate or certificates for the number of full Shares so purchased upon the exercise of such Warrants, together with cash, in respect of any fractional Shares otherwise issuable upon such surrender, as provided in Section 9 of this Agreement. Such certificate or certificates shall be deemed to have been issued and any person so named therein shall be deemed to have become a holder of record of such Shares as of the date of the completion of the Exercise Requirements; provided, however, that if, at the date of surrender of such Warrants, the transfer books for the shares of Common Stock or other class of securities issuable upon the exercise of such Warrants shall be closed, the certificates for the Shares shall be issuable as of the date such books shall next be opened (whether before, on or after the Warrant Expiration Date) and until such date the Company shall be under no duty to deliver any certificate for such Shares; provided further, however, that the transfer books of record, unless otherwise required by law, shall not be closed at any one time for a period longer than twenty (20) days. The rights of purchase represented by the Warrants shall be exercisable, at the election of the Holder(s) thereof, either in full or, from time to time, in part and, if any Warrant is exercised in respect of less than all of the Shares issuable upon such exercise at any time prior to the Warrant Expiration Date, a new Warrant or Warrants will be issued for the remaining number of Shares specified in the Warrant so surrendered.

(c) Payment of Exercise Price. Payment of the Exercise Price may be

made in cash, by wire transfer of immediately available funds or by certified or official bank check payable to the order of the Company. In addition and in lieu of any cash payment, the Holder of the Warrants shall have the right at any time, and from time to time, to exercise the Warrants in full or in part by surrendering the Warrants in exchange for the number of Shares equal to the product of (x) the number of shares as to which the Warrants are being exercised multiplied by (y) a fraction, the numerator of which is the Market Price (as defined in Section 8(d) below) of the Shares less the Exercise Price and the denominator of which is such Market Price.



5. Payment of Taxes. The Company will pay all documentary stamp taxes, if any, attributable to the issuance of Shares upon the exercise of Warrants; provided, however, that the Company shall not be required to pay any taxes payable in connection with the transfer of any certificates for Shares in a name other than that of the Holder of Warrants in respect of which such Shares are issued, which taxes shall be paid by the Holder.

6. Mutilated or Missing Warrants. In the event any of the Warrants are mutilated, lost, stolen or destroyed, the Company shall issue and deliver (i) in exchange for and upon cancellation of the mutilated Warrant, or (ii) in lieu of and substitution for the lost, stolen or destroyed Warrant, a new Warrant of like tenor representing an equivalent right or interest; provided, however, that the Company shall not be required to issue such substitute Warrant unless it receives evidence reasonably satisfactory to the Company of ownership of such Warrant and of such mutilation, loss, theft or destruction of such Warrant and indemnity and affidavit of loss, if requested, reasonably satisfactory to the Company. An applicant for such substitute Warrant shall also comply with such other reasonable regulations and pay such other reasonable charges and expenses as the Company may prescribe.

7. Reservation of Shares, etc. The Company has reserved, and shall at all times keep reserved, out of the authorized and unissued shares of Common Stock, a number of shares of Common Stock sufficient to provide for the exercise of the Warrants. [Name of Transfer Agent], transfer agent for the Common Stock, and any subsequent transfer agent for the Company's securities issuable upon the exercise of the Warrants (the "Transfer Agent") will be irrevocably authorized and directed at all times until the Warrant Expiration Date to reserve such

number of authorized and unissued shares as shall be required for such purpose. The Company will keep a copy of this Agreement on file with the Transfer Agent. The Company will supply the Transfer Agent with duly executed certificates for such purpose and will itself provide or make available any cash distributable as provided in Section 9 of this Agreement. All Warrants surrendered upon exercise in compliance with this Agreement shall be canceled, and such canceled Warrants shall constitute sufficient evidence of the number of Shares that are issuable upon the exercise of such Warrants. No shares of Common Stock shall be subject to reservation in respect of unexercised Warrants after the Warrant Expiration Date.

8. Adjustments of Exercise Price and Number of Shares. The Exercise Price and the number and kind of securities issuable upon exercise of each Warrant shall be subject to adjustment from time to time upon the happening of certain events, as follows:

(a) If the Company (i) declares a dividend on its Common Stock in shares of Common Stock or makes a distribution to all holders of its Common Stock in shares of Common Stock without charge to such holders, (ii) subdivides its outstanding shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of its Common Stock other securities of the Company (including any such reclassification in connection with a consolidation or merger in which the Company is the surviving entity, but excluding those referred to in paragraph (b) below), the number and kind of Common Stock purchasable upon exercise of each Warrant immediately prior thereto shall be adjusted so that the Holder of each



Warrant shall be entitled to receive the kind and number of shares of Common Stock or other securities of the Company which such Holder would have owned or have been entitled to receive after the happening of any of the events described above, had such Warrant been exercised immediately prior to such event or any record date with respect thereto. Any adjustment made pursuant to this paragraph (a) shall become effective immediately after the effective date of such event retroactive to immediately after the record date, if any, for such event.

(b) If the Company issues rights, options or warrants to all holders

of its Common Stock, without any charge to such holders, entitling them to subscribe for or to purchase shares of Common Stock at a price per share lower than the then current Market Price per share of Common Stock (as defined in paragraph (d) below) at the record date mentioned below, the Holders of unexercised Warrants as of such record date, upon exercise of such Warrants, shall receive the same rights, options or warrants that such Holder would have received or have been entitled to receive after such issuance, had such Warrants been exercised immediately prior to such issuance or any record date with respect thereto. Such adjustment shall be made whenever rights, options or warrants are issued as described above and shall become effective retroactively to immediately after the record date for the determination of stockholders entitled to receive such rights, options or warrants.

(c) If the Company distributes to all holders of its Common Stock, without any charge to such holders, shares of its stock other than shares of Common Stock or evidences of its indebtedness or assets (excluding cash dividends and dividends or distributions referred to in paragraph (a) or (b) above) or rights, options or warrants or other securities convertible into or exchangeable for shares of Common Stock (excluding those referred to in paragraph (a) or (b) above), then in each case the Holders of unexercised Warrants as of the record date mentioned below, upon exercise of such Warrants, shall receive the same distribution that such Holder would have received or have been entitled to receive after the distribution, had such Warrants been exercised immediately prior to the distribution or any record date with respect thereto. Such adjustment shall be made whenever any such distribution is made as described above and shall become effective on the date of distribution retroactive to immediately after the record date for the determination of stockholders entitled to receive such distribution.

(d) For the purpose of any computation under paragraph (b) of this Section 8, the current "Market Price" per share of Common Stock at any date shall be the average of the daily closing prices for fifteen (15) consecutive trading days commencing twenty (20) trading days before the date of such computation. The closing price for each day shall be the last reported sale price regular way or, if no such reported sale takes place on such day, the average of the closing bid and asked prices regular way for such day, in either case on the principal national securities exchange on which the shares are listed or admitted to trading, or if they are not listed or admitted to trading on any national securities exchange, but are traded in the over-the-counter market, the closing sale price of the Common Stock or, if no sale is publicly reported, the average of the representative closing bid and asked quotations for the Common Stock on The Nasdaq National or SmallCap Market or any comparable system, or if

the Common Stock is not listed on The Nasdaq Stock Market or a comparable system, the closing sale price of the Common Stock or, if no sale is publicly reported, the average of the closing bid and asked prices as furnished by two members of the NASD selected from time to time by the Company for that purpose.

(e) No adjustment in the number of Shares purchasable hereunder shall be required unless such adjustment would result in an increase or decrease of at least one percent (1%) in the number of Shares purchasable upon the exercise of each Warrant; provided, however, that any adjustments which by reason of this paragraph (e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment but not later than three (3) years after the happening of the specified event or events. All calculations shall be made to the nearest one thousandth of a share.

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

(g) For the purpose of this Section 8, the term "Common Stock" shall mean (i) the class of stock designated as the Common Stock of the Company at the date of this Agreement or (ii) any other class of stock resulting from successive changes or reclassifications of such shares consisting solely of changes in par value, or from no par value to par value or from par value to no par value. If at any time, as a result of an adjustment made pursuant to paragraph (a) above, the Holders become entitled to purchase any shares of capital stock of the Company other than shares of Common Stock, thereafter the number of such other shares so purchasable upon exercise of each Warrant and the Exercise Price of such shares shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Shares contained in paragraphs (a) through (f), inclusive, and paragraphs (h) through (m), inclusive, of this Section 8, and the provisions of Sections 4, 5, 7 and 10 hereof, with respect to the Shares, shall apply on like terms to any such other shares.

(h) Upon the expiration of any rights, options, warrants or conversion rights or exchange privileges that caused adjustments under this Section 8, such adjustments with respect to any unexercised Warrants shall, upon such expiration, be readjusted and shall thereafter be as they would have been had such rights, options, warrants or conversion rights or exchange privileges never existed.

(i) The Company may, at its option at any time during the term of the Warrants, reduce the then current Exercise Price to any amount deemed appropriate by the Board of Directors of the Company.

(j) Whenever the number of Shares issuable upon the exercise of each Warrant or the Exercise Price of such Shares is adjusted, as herein provided, the Company



shall promptly mail by first class-mail, postage prepaid, to each Holder notice of such adjustment or adjustments. No failure to mail such notice nor any defect therein or in the mailing thereof shall affect the validity thereof except as to the Holder to whom the Company failed to mail such notice or whose notice was defective. A certificate of an officer of the Company, on behalf of the Company, that such notice has been mailed shall be prima facie evidence of the facts stated therein. After any such adjustment, the Company shall prepare a certificate setting forth the number of Shares issuable upon the exercise of each Warrant and the Exercise Price of such Warrant after such adjustment, setting forth a brief statement of the facts requiring such adjustment. Such certificate shall, except as provided below, be conclusive as to the correctness of such adjustment, and each Holder shall have the right to inspect such certificate during reasonable business hours. Any determination as to whether an adjustment is required pursuant to this Section 8, or as to the amount of any such adjustment, shall be initially made in good faith by the Board of Directors of the Company. If the Holders of a majority of the then outstanding Warrants shall, in the exercise of their discretion, object to such determination, the amount of such adjustment shall be made by an independent accounting or investment banking firm selected by the Holders of a majority of the then outstanding Warrants and reasonably acceptable to the Company.

(k) Except as provided in this Section 8, no adjustment in respect of any dividends shall be made during the term of a Warrant or upon the exercise of a Warrant.

(l) If the Company consolidates with or merges into another corporation or if the Company sells or conveys all or substantially all its property to another corporation, or if the Company enters into a statutory share

exchange with another Company pursuant to which its Common Stock is exchanged for, or changed into, securities or property of another Company, the Company or such successor or purchasing corporation (or an affiliate of such successor or purchasing corporation), as the case may be, agrees that each Holder shall have the right thereafter upon payment of the Exercise Price in effect immediately prior to such action to purchase upon exercise of each Warrant the kind and amount of shares and other securities and property (including cash) that such Holder would have owned or been entitled to receive after the happening of the consolidation, merger, sale, conveyance or share exchange had such Warrant been exercised immediately prior to such action. The provisions of this paragraph (l) shall apply to successive consolidations, mergers, sales, conveyances or share exchanges.

(m) Notwithstanding any adjustment in the Exercise Price or the number or kind of shares purchasable upon the exercise of the Warrants pursuant to this Agreement, certificates for Warrants issued prior or subsequent to such adjustment may continue to express the same price and number and kind of shares as are initially issuable pursuant to this Agreement.

9. Fractional Interests. The Company shall not be required to issue fractions of Shares on the exercise of Warrants. If more than one Warrant is presented for exercise in full at the same time by the same Holder, the number of Shares issuable upon the exercise thereof shall be computed on the basis of the aggregate number of Shares issuable on exercise of the Warrants so presented. If any fraction of a Share would, except for the provisions of this



Section 9, be issuable on the exercise of any Warrants (or specified portions thereof), the Company shall purchase such fraction for an amount in cash equal to the same fraction of the current Market Price per share of Common Stock (determined as provided in Section 8(d) of this Agreement) on the date of exercise.

10. Registration Rights.

(a) Demand Registration Rights.

(i) The Company covenants and agrees with the Underwriter and any other or subsequent Holders of the Registrable Securities (as defined in paragraph (f) of this Section 10) that, upon the written request of the then Holder(s) of Warrants, Registrable Securities or both, representing at least a majority of the shares of Common Stock underlying the Warrants originally issued to the Underwriter or its designees, made at any time within the period commencing one (1) year and ending five (5) years after the Effective Date, the Company will file as promptly as practicable and, in any event, within sixty (60) days after receipt of such written request, at its expense (other than (x) all underwriters', broker-dealers', placement agents' and similar selling discounts, commissions and fees relating to the sale of the Holder's Registrable Securities, (y) any costs and expenses of counsel, accountants or other advisors retained by the Holder and (z) all transfer, franchise, capital stock and other taxes, if any, applicable to the Holder's Registrable Securities (collectively, "Holders' Expenses"), all of which shall be paid by the Holder), no more than once (except as otherwise provided below), a post-effective amendment (the "Amendment") to the Company's Registration Statement on Form S-1, Registration No. 333-_____ as filed with the Securities and Exchange Commission on _____ __, 1999, or a new registration statement on an appropriate form under the Act, registering or qualifying the Registrable Securities for sale in accordance with the intended method of sale or other disposition described in such request. Within fifteen (15) days after receiving any such notice, the Company shall give notice to the other Holders of the outstanding Warrants or Registrable Securities advising that the Company is proceeding with such Amendment or registration statement and offering to include the Registrable Securities of such Holders. The Company shall not be obligated to any other such Holder unless that other Holder accepts such offer by notice in writing to the Company within twenty (20) days thereafter. The Company will use its best efforts, through its officers, directors, auditors and counsel in all matters necessary or advisable, to file and cause such Amendment or registration statement to become effective as promptly as practicable (but in any event within ninety (90) days of the initial filing of such Amendment or registration statement) and for a period of twelve (12) months thereafter to reflect in the Amendment or registration statement financial statements prepared in accordance with Section 10(a)(3) of the Act and any facts or events arising that, individually, or in the aggregate, represent a fundamental or material change in the information set forth in the Amendment or registration statement to enable Holders of the Registrable Securities registered to sell such Registrable Securities. The Holders may register the Registrable Securities for sale pursuant to the Amendment or registration statement without exercising the Warrants. If any registration pursuant to this paragraph (a) is an underwritten offering, the Holders of a majority of the

Registrable Securities to be included in such registration shall be entitled to select the underwriter or managing underwriter (in the case of a syndicated offering) of such offering.

(ii) Anything in this Section 10(a) to the contrary notwithstanding, if the Company's securities proposed to be registered for sale are to be distributed in an underwritten offering and the managing underwriter shall advise the Company in writing that, in its opinion, the amount of securities to be offered should be limited in order to assure a successful offering, the amount of Registrable Securities to be included in such Amendment or registration statement shall be so limited and shall be allocated among the persons selling such securities in the following order of priority: (x) first, securities subject to any demand or piggyback registration rights granted by the Company before the Effective Date, (y) next, Registrable Securities in proportion, as nearly as practicable, to the number of Registrable Securities desired and eligible to be sold by each Holder of such Registrable Securities and (z) next, any other shares of Common Stock subject to similar demand or piggyback registration rights granted by the Company in proportion, as nearly as practicable, to the number of shares of Common Stock desired and eligible to be sold by each holder of such Common Stock. In the event that, (x) pursuant to the preceding sentence, the managing underwriter limits the number of Registrable Securities that the Holders desire to have registered and (y) the Company does not thereafter effect a registration to include the Registrable Securities that the Holders were not then permitted to sell within one hundred eighty (180) days after the effective date of the Amendment or registration statement from which the Holders have been excluded, then, at any time after such one hundred eighty (180) day period until the period ending five (5) years after the Effective Date, the Holders of a majority of such Registrable Securities not so included may make a request to the Company for registration under the Act of all or part of such Registrable Securities not so included in accordance with Section 10(a)(ii).

(iii) Notwithstanding anything in this Section 10(a) to the contrary, the Company will not be required to file an Amendment or registration statement (i) at a time when the audited financial statements required to be included therein are not available, which time shall be limited to the period commencing one hundred thirty five (135) days after the end of the Company's third quarter and ending ninety (90) days after the end of such fiscal year, (ii) for the period beginning with the filing of a registration statement under the Act with respect to a public offering by the Company of its securities and ending one hundred eighty (180) days after the closing of such public offering or (iii) if in the reasonable opinion of the Company it would adversely impact the Company in its capital raising plans or otherwise (in which latter case filing may be delayed for up to one hundred thirty five (135) days).

(b) Piggyback Registration Rights. The Company covenants and agrees with the Underwriter and any other Holders or subsequent Holders of the Registrable Securities that if, at any time within the period commencing one (1) year and ending five (5) years after the Effective Date, it proposes to file a new registration statement with respect to the public sale of Common Stock for cash (other than in connection with an offering to the Company's employees, an acquisition, merger or similar transaction, an employee benefit plan, an exchange offer or a dividend reinvestment plan) under the Act in a primary



registration on behalf of the Company and/or in a secondary registration on behalf of holders of such securities and the registration form to be used may be used for registration of the Registrable Securities, the Company will give written notice at least thirty (30) days prior to such filing to the Holders of Warrants or Registrable Securities (regardless whether some of the Holders have theretofore availed themselves of the right provided in Section 10(a) of this Agreement) at the addresses appearing on the records of the Company of its intention to file a registration statement and will use its best efforts to include in such registration statement any of the Registrable Securities, subject to clauses (i) and (ii) of this paragraph (b), such number of Registrable Securities with respect to which the Company has received written requests for inclusion therein within twenty (20) days after notice by the Company. All registrations requested pursuant to this paragraph (b) are referred to herein as "Piggyback Registrations." All Piggyback Registrations pursuant to this paragraph (b) will be made solely at the Company's expense, except for the Holders' Expenses, which respective portion shall be paid by each Holder. If the securities or blue sky laws of any jurisdiction in which the securities are proposed to be offered would require the Holder's payment of greater registration expenses than those otherwise required by this Section 10 and if the Company shall determine, in good faith, that the offering of such securities in such jurisdiction is necessary for the successful consummation of the registered offering, then the Holder shall either agree to pay such Holder's portion of the registration expenses required by the securities or blue sky laws of such jurisdiction or withdraw his request for inclusion of his Registrable Securities in such registration.

(i) Priority on Primary Registrations. If a Piggyback

Registration is part of an underwritten primary registration for the Company and the managing underwriter(s) for such offering advise(s) the Company in writing that, in its opinion, the amount of securities to be offered should be limited in order to assure a successful offering, the amount of Registrable Securities to be included in such registration statement shall be so limited and shall be allocated among the persons selling such securities in the following order of priority: (w) first, securities the Company proposes to sell, (x) next, securities subject to any demand or other piggyback registration rights granted by the Company before the Effective Date, (y) next, Registrable Securities in proportion, as nearly as practicable, to the number of Registrable Securities desired and eligible to be sold by each Holder of such Registrable Securities and (z) next, any other shares of Common Stock subject to similar demand or piggyback registration rights granted by the Company in proportion, as nearly as practicable, to the number of shares of Common Stock desired and eligible to be sold by each holder of such Common Stock.

(ii) Priority on Secondary Registrations. If a Piggyback Registration is part of an underwritten secondary registration for holders of securities of the Company (other than pursuant to Section 10(a)) and not a primary registration for the Company and the managing underwriter(s) for such offering advise(s) the Company in writing that, in its opinion, the amount of securities to be offered should be limited in order to assure a successful offering, the amount of Registrable Securities to be included in such registration statement shall be so limited and shall be allocated among the persons selling such securities in the following order of priority: (x) first, securities subject to any demand or other piggyback



registration rights granted by the Company before the Effective Date, (y) next, Registrable Securities in proportion, as nearly as practicable, to the number of Registrable Securities desired and eligible to be sold by each Holder of such Registrable Securities and (z) next, any other shares of Common Stock subject to similar demand or piggyback registration rights granted by the Company in proportion, as nearly as practicable, to the number of shares of Common Stock desired and eligible to be sold by each holder of such Common Stock.

Notwithstanding the provisions of this Section 10(b), the Company shall have the right at any time and for any reason or for no reason after having

given written notice pursuant to this Section 10(b) (irrespective of whether a written request for inclusion of any such securities has been made) to elect not to file any such proposed registration statement, or to withdraw the same after the filing but before the effective date thereof and, thereupon, shall be relieved from its obligation to proceed with such registration. If any registration pursuant to this paragraph (b) is an underwritten offering, the Company shall be entitled to select the underwriter or managing underwriter(s) (in the case of a syndicated offering) of such offering.

(c) Other Registration Rights. In addition to the rights above provided, during the period commencing one (1) year and ending five (5) years after the Effective Date, the Company will cooperate with the then Holders of the Registrable Securities in preparing and signing one (but not more than one) registration statement, in addition to the registration statements discussed above, required in order to sell or transfer the Registrable Securities and will supply all information required therefor, but the then Holders shall pay the costs and expenses of such additional registration (including all of the Company's reasonable out-of-pocket costs and expenses); provided, however, that if the Company elects to register or qualify additional shares of Common Stock, the cost and expense of such registration statement will be pro rated between the Company and the Holders of the Registrable Securities according to the aggregate sales price of the securities being issued. However, the Company will not be required to file a registration statement pursuant to this paragraph (c) (i) at a time when the audited financial statements required to be included therein are not available, which time shall be limited to the period commencing one hundred thirty five (135) days after the end of the Company's third quarter and ending ninety (90) days after the end of such fiscal year, (ii) for the period beginning with the filing of a registration statement under the Act with respect to a public offering by the Company of its securities and ending one hundred eighty (180) days after the closing of such public offering or (iii) if in the reasonable opinion of the Company it would adversely impact the Company in its capital raising plans or otherwise (in which latter case filing may be delayed for up to one hundred thirty five (135) days).

(d) Action to be Taken by the Company. In connection with the registration of Registrable Securities in accordance with paragraphs (a), (b) or (c) of this Section 10, the Company agrees to:

(i) bear the expenses of any registration or qualification under paragraphs (a) or (b) of this Section 10, including, but not limited to, legal, accounting and printing fees; provided, however, that in no event shall the Company be obligated to pay any of the Holders' Expenses, which shall be paid by the Holders; and

(ii) use its reasonable efforts to register or qualify the Registrable Securities included in an Amendment or registration statement for offer or sale under state securities or blue sky laws of such jurisdictions in which the Underwriter or such Holders shall reasonably request and do all other acts or things necessary or advisable to effect the registration or qualification of the Registrable Securities covered by such Amendment or registration statement in the various states; provided, however, that no registration or qualification shall be required in any jurisdiction where, as a result thereof, the Company would be subject to service of general process, taxation as a foreign corporation doing business in such jurisdiction, any requirement that it qualify generally to do business as a foreign corporation in such jurisdiction or any requirement that it agree to restrictions on future actions by the Company to which it is not then subject.

(e) Action to be Taken by the Holders. Any written request to exercise registration rights pursuant to paragraphs (a) or (b) of this Section 10 shall contain, as applicable, (i) a description of the proposed plan of distribution of the Registrable Securities, including the name of any underwriters, the amounts underwritten and any material relationship between any proposed underwriter and the Company, (ii) the full name of the Holder, the number of Warrants, Registrable Securities and other securities of the Company owned by such Holder and the number proposed to be registered and (iii) a description of any position, office or other material relationship which the Holder has had within the past three (3) years with the Company or any of its predecessors or affiliates.

In addition, in connection with the registration of Registrable Securities in accordance with paragraphs (a), (b) or (c) of this Section 10, the Company's obligation shall be conditioned as to each such public offering upon a timely receipt by the Company in writing of:

(i) information as to participating Holders (to the extent required by the Rules and Regulations) and the terms of such public offering furnished by or on behalf of each Holder intending to make a public offering of such Holder's Registrable Securities;

(ii) such other information as the Company may reasonably require from such Holders, or any underwriter for any of them, for inclusion in such Registration Statement; and

(iii) all documents reasonably requested by any underwriter in connection with the offering and any other documents customary in

similar offerings, signed and delivered by such Holder, including, without limitation, underwriting agreements, custody agreements, powers of attorney, indemnification agreements, and agreements restricting other sales of securities.



(f) For purposes of this Section 10, (i) the term "Holder" shall include holders of Registrable Securities received upon exercise of Warrants, and (ii) the term "Registrable Securities" shall mean the Shares, if issued, until five (5) years after the Effective Date.

(g) Each Holder agrees that, upon receipt of any notice from the Company of the happening of any of the following: (i) the issuance by the Securities and Exchange Commission of any stop order denying or suspending the effectiveness of any Amendment or registration statement covering Registrable Securities or the initiation or threatening of any proceeding for that purpose, (ii) the Company's receipt of any stop order denying registration or suspending the qualification of the Registrable Securities for sale or the initiation or threatening of any proceeding for such purpose or (iii) the happening of any event that makes any statement made in such Amendment or registration statement, the related prospectus or any document incorporated by reference therein untrue or that requires any change in such Amendment or registration statement, prospectus or document incorporated by reference therein to make the statements not include an untrue statement of material fact or not omit any material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing, each Holder shall discontinue the disposition of Registrable Securities until such Holder receives a supplemental or amended prospectus from the Company or until the Company advises such Holder in writing that the Holder may resume the use of such prospectus and have received copies of any additional or supplemental filings which are incorporated by reference in the prospectus. If the Company so directs, such Holder will deliver to the Company (at the Company's expense) all copies, other than permanent file copies then in the Holder's possession, of the prospectus covering the Registrable Securities at the time the Holder received the notice. Upon the occurrence of such event, the Company shall immediately take such action as may be necessary to resume sale of the Registrable Securities and the use of such prospectus, by amendment or otherwise.

11. Notices to Holders.

(a) Nothing in this Agreement or in any Warrants shall be construed as conferring upon the Holders the right to vote or to receive dividends or to consent or to receive notice as stockholders in respect of the meetings of stockholders or the election of directors of the Company or any other matter or any rights whatsoever as stockholders of the Company prior to the exercise of Warrants and such Holder becoming a holder of record of Shares; provided, however, that in the event that any meeting of stockholders shall be called, the Company shall cause a notice thereof to be sent by first-class mail, postage prepaid, at least twenty (20) days prior to the date fixed as a record date or the date of closing the transfer books in relation to such meeting, to each registered Holder of Warrants at such Holder's address appearing on the Warrant Register.

(b) If the Company intends to make any distribution on its Common Stock (or other securities that may be issuable in lieu thereof upon the exercise of Warrants), including, without limitation, any such distribution to be made in connection with a consolidation or merger in which the Company is the surviving entity or to issue subscription rights or warrants to holders of its Common Stock, the Company shall cause a notice of its intention to make such distribution to be sent by first-class mail, postage prepaid, at least



twenty (20) days prior to the date fixed as a record date or the date of closing the transfer books in relation to such distribution, to each registered Holder of Warrants at such Holder's address appearing on the Warrant Register, but failure to mail or to receive such notice or any defect therein or in the mailing thereof shall not affect the validity of any action taken in connection with such distribution.

12. Notices. Any notice pursuant to this Agreement to be given by the Holder of any Warrant or the holder of any Share to the Company shall be sufficiently given or made three business days after sent by first-class mail, postage prepaid, addressed as follows or to such other address as the Company may designate by notice given in accordance with this Section 12, to the Holders of Warrants or the holders of Shares:

Vion Pharmaceuticals, Inc.
4 Science Park
New Haven, CT 06511
Attn.: President

Notices or demands authorized by this Agreement to be given or made by the Company to or on the Holder of any Warrant or the holder of any Share shall be sufficiently given or made (except as otherwise provided in this Agreement) if sent by first-class mail, postage prepaid, addressed to such Holder or such holder of Shares at the address of such Holder or such holder of Shares as shown on the Warrant Register or the books of the Company, as the case may be.

13. Governing Law. This Agreement and each Warrant issued hereunder shall be governed by and construed in accordance with the substantive laws of the State of New York, without giving effect to the principles of conflicts of law. The Company hereby agrees to accept service of process by notice given to it pursuant to the provisions of Section 12 hereof.

14. Counterparts. This Agreement may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but such counterparts together shall constitute one and the same instrument.



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

VION PHARMACEUTICALS, INC.

By: Alan Kessman
---
Its: President and Chief Executive Officer
---

BREAN MURRAY & CO., INC.

By: Harrison Bubrosky
---
Its: Executive Vice President and
Senior Managing Director
---



SCHEDULE I

<TABLE>
<CAPTION>

| Name of Initial Holder | Number of Warrants |
|---|---|
| <S> | <C> |
| Brean Murray & Co., Inc. | 360,000 |
| Total | 360,000 |

</TABLE>

Exhibit A

No. _____

Warrant to Purchase
**360,000**
Shares of Common Stock

NEITHER THIS WARRANT NOR THE SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR UNDER THE SECURITIES OR BLUE SKY LAWS OF ANY STATE OR OTHER JURISDICTION. THIS WARRANT MAY NOT BE EXERCISED, AND THIS WARRANT AND THE SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT MAY NOT BE RESOLD OR OTHERWISE TRANSFERRED, UNLESS THEY ARE REGISTERED UNDER APPLICABLE STATE AND FEDERAL SECURITIES LAWS OR UNLESS EXEMPTIONS FROM ALL SUCH REGISTRATION REQUIREMENTS ARE AVAILABLE.

VOID AFTER 5:00 P.M. NEW YORK CITY TIME

ON _____ __, 2004

VION PHARMACEUTICALS, INC.

Warrant Certificate

THIS CERTIFIES THAT, for value received, Brean Murray & Co., Inc., or its registered assigns, is the owner of the number of warrants set forth above (the "Warrants"), each of which entitles the owner thereof to purchase at any time from _____ __, 2000, until 5:00 p.m., New York City time on _____ __, 2004 (the "Warrant Expiration Date"), one fully paid and nonassessable share of Common Stock, $0.01 par value per share (the "Common Stock"), of VION PHARMACEUTICALS, INC., a Delaware corporation (the "Company"), at the purchase price of $_____ per Share (as adjusted from time to pursuant to the Warrant Agreement referenced below, the "Exercise Price") upon presentation and surrender of this Warrant Certificate with the Form of Election to Purchase duly executed. The number of Warrants (and the number of shares of Common Stock that may be purchased upon exercise hereof) set forth above and the Exercise Price per share of Common Stock set forth above are the number and Exercise Price as of the date of original issuance of the Warrants, based on the Common Stock of the Company at such date. As provided in the Warrant Agreement referenced below, the Exercise Price and the number or kind of shares that may be purchased upon the exercise of the Warrants are, upon the happening of certain events, subject to modification and adjustment. The shares of Common Stock, as so modified and adjusted, are herein referred to as the "Shares".

This Warrant Certificate is subject to, and entitled to the benefits of, all of the terms, provisions and conditions of an agreement dated as of _____ __, 1999 (the "Warrant Agreement") between the Company and Brean Murray & Co., Inc., which Warrant Agreement is hereby incorporated herein by reference and made a part hereof. Reference is made to the Warrant Agreement for a full description of the rights, limitations of rights, duties and immunities hereunder of the Company and the holders of the Warrant Certificates. Copies of the Warrant Agreement are on file at the principal office of the Company.

Upon surrender at the principal office of the Company, this Warrant Certificate, with or without other Warrant Certificates, may be exchanged for another Warrant Certificate or Warrant Certificates of like tenor and date evidencing warrants entitling the holder to purchase the aggregate number of shares of Common Stock as the Warrants evidenced by the Warrant Certificate or Warrant Certificates surrendered entitled such holder to purchase. If this Warrant Certificate shall be exercised in part, the holder hereof shall be entitled to receive, upon surrender hereof, another Warrant Certificate or Warrant Certificates for the number of whole Warrants not exercised.

No fractional shares of Common Stock will be issued upon the exercise of any Warrants evidenced hereby, but in lieu thereof a cash payment will be made, as provided in the Warrant Agreement.

No holder of this Warrant Certificate will be entitled to vote, receive dividends or subscription rights or be deemed the holder of the Shares that may at any time be issuable on the exercise hereof for any purpose, nor shall anything contained in the Warrant Agreement or herein be construed to confer upon the holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action (whether upon any recapitalization, issue of stock, reclassification of stock, change of par value or change of stock to no par value, consolidation, merger, conveyance, or otherwise) or, except as provided in the Warrant Agreement, to receive notice of meetings, until the Warrants evidenced by this Warrant Certificate shall have been exercised and such holder shall have become a holder of record of the Shares as provided in the Warrant Agreement.

If this Warrant shall be surrendered for exercise during any period in which the transfer books for the Shares are closed for any purpose, the Company shall not be required to make delivery of certificates for Shares purchasable upon such exercise until the date of the reopening of said transfer books, provided, however, that such books shall not be closed for longer than a twenty (20) day period.

IN WITNESS WHEREOF, VION PHARMACEUTICALS, INC. has caused the signature (or facsimile signature) of its President and its Secretary to be printed hereon.

Dated _____ __, 1999

VION PHARMACEUTICALS, INC.

By:_____
Alan Kessman
President

Attest:

_____
Thomas E. Mizelle
Secretary



FORM OF

ASSIGNMENT

(To be executed by the registered holder if such holder desires to transfer the Warrant Certificate.)

FOR VALUE RECEIVED _____ hereby sells, assigns and transfers unto _____ this Warrant Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint _____ to transfer the Warrant Certificate on the books of Vion Pharmaceuticals, Inc., with full power of substitution.

Dated: _____

_____
Signature

Signature Guaranteed:

NOTICE

The signature on the foregoing Assignment must correspond to the name as written upon the face of the Warrant Certificate in every particular, without alteration or enlargement or any change whatsoever.



FORM OF
ELECTION TO PURCHASE

(To be executed if holder desires to exercise the Warrants)

TO: VION PHARMACEUTICALS, INC.

The undersigned hereby irrevocably elects to exercise Warrants represented by this Warrant Certificate to purchase _____ shares of Common Stock issuable upon the exercise of such Warrants and requests that certificates

for such shares of Common Stock be issued in the name of:

_____

Please insert social security, tax identification or other identifying number

_____

_____

_____

If such number of Warrants is not all the Warrants evidenced by this Warrant Certificate, a new Warrant Certificate for the balance remaining of such Warrants shall be registered in the name of and delivered to:

Please insert social security, tax identification or other identifying number

_____

_____

_____

(Please print name and address)

Dated:_____

_____

Signature

(Signature must conform in all respects to name of holder as specified on the face of the Warrant Certificate)

Signature Guaranteed:

EXHIBIT 23.1

Consent of Independent Auditors

We consent to the reference to our firm under the captions "Experts" and to the use of our report dated February 12, 1999 in the Registration Statement (Form S-1 No. 333-0000) and related Prospectus of Vion Pharmaceuticals, Inc. for the registration of 3,600,000 shares of its common stock.

/s/ Ernst & Young LLP

Stamford, Connecticut
July 26, 1999