

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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

SIGA PHARMACEUTICALS, INC.
(NAME OF SMALL BUSINESS ISSUER IN ITS CHARTER)

| | | |
|---|---|---|
| DELAWARE (STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION) | 2834 (PRIMARY STANDARD INDUSTRIAL CLASSIFICATION CODE NUMBER) | 13-3864870 (I.R.S. EMPLOYER IDENTIFICATION NO.) |
|---|---|---|

666 THIRD AVENUE
NEW YORK, NY 10017
(212) 681-4970
(ADDRESS AND TELEPHONE NUMBER OF PRINCIPAL
EXECUTIVE OFFICES AND PRINCIPAL PLACE OF BUSINESS)

DAVID H. DE WEESE, PRESIDENT AND CHIEF EXECUTIVE OFFICER
SIGA PHARMACEUTICALS, INC.
666 THIRD AVENUE
NEW YORK, NY 10017
(212) 681-4970
(NAME, ADDRESS AND TELEPHONE NUMBER OF AGENT FOR SERVICE)

COPIES TO:

| | |
|--|---|
| ADAM EILENBERG, ESQ. EILENBERG & ZIVIAN 666 THIRD AVENUE NEW YORK, NY 10017 (212) 986-2468 FACSIMILE (212) 986-2399 | KENNETH KOCH, ESQ. SQUADRON, ELLENOFF, PLESENT & SHEINFELD, LLP 551 FIFTH AVENUE NEW YORK, NY 10176 (212) 476-8362 FACSIMILE (212) 697-6686 |
|--|---|

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective. 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 of 1933, 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 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 delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box.

CALCULATION OF REGISTRATION FEE

| TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED | AMOUNT TO BE REGISTERED | PROPOSED MAXIMUM OFFERING PRICE PER SHARE (1) | PROPOSED MAXIMUM AGGREGATE OFFERING PRICE (1) | AMOUNT OF REGISTRATION FEE |
|--|-------------------------------|--|---|-------------------------------|
| Common Stock, par value \$.0001 (2) | 4,025,000 | \$ 5.00 | \$20,125,000 | \$6,098 |
| Representatives' Warrants, each to purchase one share of Common Stock (3) | 350,000 | \$0.001 | \$350 | -- (4) |
| Common Stock, par value \$.0001 (5) (7) | 350,000 | \$8.25 | \$2,887,500 | \$875 |
| Common Stock, par value \$.0001 (6) (7) | 100,000 | \$5.00 | \$500,000 | \$152 |
| Total: | | | \$23,512,850 | \$7,125 (8) |

(1) Estimated solely for the purpose of calculating the registration fee.

(2) Includes an aggregate 525,000 shares of Common Stock to cover over-allotments, if any, pursuant to an over-allotment option granted to the Underwriters.

(3) To be issued to the Representatives at the time of delivery and acceptance of the securities to be sold to the public hereunder.

(4) No fee due pursuant to Rule 457(g) under the Securities Act of 1933.

(5) Issuable upon exercise of the Representatives' Warrants.

(6) Issuable upon exercise of warrants (the "Bridge Warrants") issued to certain persons in connection with a bridge financing completed on February 28, 1997.

(7) Also registered hereunder pursuant to Rule 416 are an indeterminate number of shares of Common Stock which may be issued pursuant to the anti-dilution provisions applicable to the Representatives' Warrants and the Bridge Warrants.

(8) \$6,879 of this amount has been previously paid.

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.

SIGA PHARMACEUTICALS, INC.

CROSS-REFERENCE SHEET SHOWING LOCATION IN PROSPECTUS OF INFORMATION REQUIRED BY ITEMS REQUIRED BY PART 1 OF FORM SB-2

| ITEM | TITLE OF ITEM | CAPTION IN PROSPECTUS |
|------|---------------|-----------------------|
|------|---------------|-----------------------|

| | |
|---|--|
| 1. Front of Registration Statement and Outside Front Cover of Prospectus... | Front Cover Page |
| 2. Inside Front and Outside Back Cover Pages of Prospectus..... | Inside Front Cover Page |
| 3. Summary Information and Risk Factors..... | Prospectus Summary; Risk Factors |
| 4. Use of Proceeds..... | Use of Proceeds |
| 5. Determination of Offering Price..... | Underwriting |
| 6. Dilution..... | Dilution |
| 7. Selling Security Holders..... | Not Applicable |
| 8. Plan of Distribution..... | Front Cover Page; Underwriting |
| 9. Legal Proceedings..... | Business |
| 10. Directors, Executive Officers, Promoters and Control Persons..... | Management |
| 11. Security Ownership of Certain Beneficial Owners and Management.... | Principal Stockholders |
| 12. Description of Securities..... | Description of Securities; Dividend Policy |
| 13. Interest of Named Experts and Counsel..... | Legal Matters; Experts |
| 14. Disclosure of Commission Position on Indemnification for Securities Act Liabilities..... | Description of Securities |
| 15. Organization Within Last Five Years.. | Certain Transactions |
| 16. Description of Business..... | Business |
| 17. Management's Discussion and Analysis or Plan of Operation..... | Plan of Operation |
| 18. Description of Property..... | Business |
| 19. Certain Relationships and Related Transactions..... | Certain Transactions |
| 20. Market for Common Equity and Related Stockholder Matters..... | Description of Securities; Shares Eligible for Future Sale |
| 21. Executive Compensation..... | Management |
| 22. Financial Statements..... | Financial Statements |
| 23. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure..... | Not Applicable |

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 +A REGISTRATION STATEMENT RELATING TO THESE SECURITIES HAS BEEN FILED WITH THE +
 +SECURITIES AND EXCHANGE COMMISSION. INFORMATION CONTAINED HEREIN IS SUBJECT +
 +TO COMPLETION OR AMENDMENT PRIOR TO THE DATE SUCH REGISTRATION STATEMENT +
 +BECOMES EFFECTIVE. THESE SECURITIES MAY NOT BE SOLD NOR MAY OFFERS TO BUY BE +
 +ACCEPTED PRIOR TO THE TIME THE REGISTRATION STATEMENT BECOMES EFFECTIVE. THIS +
 +PROSPECTUS SHALL NOT CONSTITUTE AN OFFER TO SELL OR THE SOLICITATION OF AN +
 +OFFER TO BUY NOR SHALL THERE BE ANY SALE OF THESE SECURITIES IN ANY STATE IN +
 +WHICH SUCH OFFER, SOLICITATION OR SALE WOULD BE UNLAWFUL PRIOR TO +
 +REGISTRATION OR QUALIFICATION UNDER THE SECURITIES LAWS OF ANY SUCH STATE. +
 ++++++

PRELIMINARY PROSPECTUS, SUBJECT TO COMPLETION, DATED AUGUST 5, 1997

[LOGO] SIGA

SIGA PHARMACEUTICALS, INC.

3,500,000 SHARES OF COMMON STOCK

This Prospectus relates to an offering (the "Offering") by SIGA Pharmaceuticals, Inc. (the "Company") of a 3,500,000 shares of common stock, par value \$.0001 per share (the "Common Stock") (sometimes hereinafter referred to as the "Securities"). Prior to the Offering, there has been no public market for the Common Stock. It is currently anticipated that the initial public offering price will be \$5.00 per share. See "Underwriting" for information relating to the factors considered in determining the initial public offering price.

The Company has applied for quotation of the Common Stock on The NASDAQ SmallCap Market ("Nasdaq") under the trading symbol "SGPH".

The Company is a development stage, biopharmaceutical company which has suffered operating losses since its inception and which has received a going concern opinion from its independent accountants. As of June 30, 1997, the

Company had an accumulated deficit of \$3,582,187. The Company expects to incur substantial additional operating losses in the development and commercialization of its technologies.

THE SECURITIES OFFERED HEREBY ARE SPECULATIVE AND INVOLVE A HIGH DEGREE OF RISK. ONLY INVESTORS WHO CAN BEAR THE RISK OF LOSS OF THEIR ENTIRE INVESTMENT SHOULD INVEST. FOR A DESCRIPTION OF CERTAIN RISKS REGARDING AN INVESTMENT IN THE COMPANY AND IMMEDIATE SUBSTANTIAL DILUTION, SEE "RISK FACTORS" (PAGE 10) AND "DILUTION" (PAGE 22).

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

| | PRICE TO PUBLIC | UNDERWRITING DISCOUNTS AND COMMISSIONS (1) | PROCEEDS TO COMPANY (2) |
|----------------|-----------------|--|-------------------------|
| Per Share..... | \$5.00 | \$.40 | \$4.60 |
| Total (3)..... | \$17,500,000 | \$1,400,000 | \$16,100,000 |

(footnotes appear on page 3)

SUNRISE SECURITIES CORP.

M.H. MEYERSON & CO.

The date of this Prospectus is , 1997.

MECHANISMS TO PREVENT INFECTION

[Photo]

For a pathogen to infect a host, an interaction is required between its surface proteins and the host's mucosal tissue. SIGA uses two different methods to prevent serious infection. One is to develop mucosal vaccines, inducing antibodies at mucosal surfaces, blocking the ability of the pathogen to adhere. The second is to develop novel anti-infectives that will prevent surface proteins from being expressed. SIGA has major mucosal vaccine development programs targeting strep throat and periodontal diseases; gram positive vectors for STD vaccines--HIV, HSV and HPV; and new targets for the development of antibiotics.

CERTAIN PERSONS PARTICIPATING IN THE OFFERING MAY ENGAGE IN TRANSACTIONS THAT STABILIZE, MAINTAIN OR OTHERWISE AFFECT THE PRICE OF THE COMMON STOCK, INCLUDING COVERING TRANSACTIONS, PENALTY BIDS AND SHORT SALES. FOR A DESCRIPTION OF THESE ACTIVITIES SEE "UNDERWRITING."

(1) Does not include additional compensation consisting of (i) a non-accountable expense allowance to Sunrise Securities Corp. ("Sunrise") equal to 3% of the gross proceeds of the Offering, of which \$45,000 has been paid by the Company to date and (ii) warrants entitling Sunrise and M.H. Meyerson & Co., Inc. ("Meyerson") (collectively, the "Representatives") to purchase up to 350,000 shares of Common Stock (the

"Representatives' Warrants"). The Company has also agreed to indemnify the Underwriters (as defined herein) against certain civil liabilities, including those arising under the Securities Act of 1933, as amended (the "Securities Act"). See "Underwriting."

- (2) After deducting discounts and commissions payable to the Underwriters, but before payment of the non-accountable expense allowance in the amount of \$525,000 (or \$603,750 if the Underwriters' Over-allotment Option (as defined below) is exercised in full) and the other expenses of the Offering payable by the Company (estimated at \$350,000). See "Underwriting."
- (3) The Company has granted to the Underwriters an option, exercisable for a period of 30 days after the closing of the Offering, to purchase up to an additional 525,000 shares of Common Stock, upon the same terms and conditions solely for the purpose of covering over-allotments, if any (the "Underwriters' Over-allotment Option"). If the Underwriters' Over-allotment Option is exercised in full, the total Price to Public, Underwriting Discounts and Commissions and Proceeds to Company will be \$20,125,000, \$1,610,000, and \$18,515,000, respectively. See "Underwriting."

Prior to the Offering, there has been no public market for the Common Stock, and there can be no assurance that any such market for the Common Stock will develop after the closing of the Offering or that, if developed, it will be sustained. Pursuant to Rule 2720 of the National Association of Securities Dealers, Inc. ("NASD") Rules of Conduct, the Common Stock is being offered at a price no greater than the maximum price recommended by Loeb Partners Corporation, a qualified independent underwriter. The offering price of the shares of Common Stock was established by negotiation between the Company and the Underwriters and does not necessarily bear any direct relationship to the Company's assets, earnings, book value per share or other generally accepted criteria of value. See "Underwriting."

Upon the consummation of the Offering, the Company's management and its existing stockholders will, in the aggregate, own beneficially shares having approximately 49% of the total voting power of the Company's outstanding stock.

The registration statement of which this Prospectus constitutes a part also covers the offer and proposed sale by the Company of an estimated 100,000 shares of Common Stock issuable upon the exercise by the holders thereof of warrants (the "Bridge Warrants") to purchase an estimated 100,000 shares (the actual number of shares will be determined by dividing \$500,000 by the actual initial offering price per share) at an exercise price per share equal to the actual initial offering price per share issued to certain investors in connection with a private placement transaction completed on February 28, 1997 (the "Bridge Financing"). The Bridge Warrants are not exercisable until the first anniversary of the date of the consummation of the Offering (or February 28, 1998 if the Offering is not consummated). See "Plan of Operation--Bridge Financing."

The shares of Common Stock are being offered by the Underwriters on a firm commitment basis, subject to prior sale, when, as and if delivered to and accepted by the Underwriters, and subject to certain conditions. The Underwriters reserve the right to withdraw, cancel or modify the Offering and to reject any order in whole or in part. It is expected that delivery of certificates will be made against payment therefor at the offices of Sunrise Securities Corp., 135 East 57th Street, New York, New York 10022, on or about , 1997.

TO INVEST IN THESE SECURITIES, A CALIFORNIA RESIDENT MUST HAVE, AS A MINIMUM, EITHER (i) A NET WORTH OF \$100,000, EXCLUSIVE OF HOME, HOME FURNISHINGS AND AUTOMOBILES, AND \$65,000 OF GROSS INCOME DURING THE LAST TAX YEAR AND ESTIMATED GROSS INCOME OF \$65,000 FOR THE CURRENT TAX YEAR OR (ii) A NET WORTH OF \$250,000, EXCLUSIVE OF HOME, HOME FURNISHINGS AND AUTOMOBILES.

As of the date of this Prospectus, the Company will become subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and, in accordance therewith, will file reports, proxy and information statements and other information with the Securities and Exchange Commission (the "Commission"). Such reports, proxy and information statements

and other information can be inspected and copied at the Public Reference Section of the Commission at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549 and at the following regional offices: New York Regional Office, Suite 1300, 7 World Trade Center, New York, New York 10048, and Chicago Regional Office, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661-2511, and copies of such material may also be obtained from the Public Reference Section of the Commission at prescribed rates. The Commission maintains a World Wide Web site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding registrants that file such information electronically. The Company's Common Stock is expected to be quoted on Nasdaq and such reports and other information can also be inspected at the offices of Nasdaq Operations, 1735 K Street N.W., Washington, D.C., 20006. The Company intends to furnish its stockholders with annual reports containing audited financial statements and such other reports as the Company deems appropriate or as may be required by law.

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PROSPECTUS SUMMARY

The following summary is qualified in its entirety by the more detailed information and financial statements, including the notes thereto, appearing elsewhere in this Prospectus. Each prospective investor is urged to read this Prospectus in its entirety. Unless otherwise indicated, the information in this Prospectus does not give effect to the exercise of (a) the Underwriters' Over-allotment Option, (b) the Representatives' Warrants and (c) other outstanding options and warrants to purchase an aggregate of 806,017 shares of Common Stock (includes 100,000 shares of Common Stock issuable upon exercise of the Bridge Warrants based on the assumed initial public offering price). The initial public offering price per share of Common Stock is assumed to be \$5.00.

THE COMPANY

The Company is a development stage, biopharmaceutical company focused on the discovery, development and commercialization of vaccines, antibiotics and novel anti-infectives for serious infectious diseases. The Company's lead vaccine candidate is for the prevention of "strep throat." The Company is developing a technology for the mucosal delivery of its vaccines which may allow those vaccines to activate the immune system at the mucus-lined surfaces of the body--the mouth, the nose, the lungs and the gastrointestinal and urogenital tracts--the sites of entry for most infectious agents. The Company's anti-infectives programs, aimed at the increasingly serious problem of drug resistance, are designed to block the ability of bacteria to attach to human tissue, the first step in the infection process. The Company does not expect to market any products for at least four years.

VACCINE CANDIDATES

The Company's lead vaccine candidate is for the prevention of group A streptococcal pharyngitis or "strep throat," a recurrent infection affecting between seven and 20 million children in the United States each year. Strep throat remains the most common childhood disease for which there is no vaccine available, and, if ineffectively treated, can progress to rheumatic fever. No vaccine has been developed because more than 100 different serotypes of group A streptococcus are known to cause the disease. In order to be effective, a vaccine would have to be based upon an antigen (a molecule that triggers an immune response) common to most of the important serotypes. The high incidence of the disease, the potentially serious consequences of inadequate treatment and the recent emergence of drug-tolerant types of group A streptococcus create an important medical need for an effective vaccine.

The Company's proprietary antigen addresses the challenge of multiple serotypes in that this antigen is common to most types of the bacteria that cause strep throat, including types that have been associated with rheumatic fever. When a vaccine incorporating this antigen was orally administered to animals, it was shown to provide protection against multiple types of group A streptococcal infection. The Company's vaccine candidate for strep throat utilizes this antigen.

The Company is collaborating with the National Institutes of Health and the University of Maryland Center for Vaccine Development on the clinical development of this vaccine candidate and expects to file an Investigational New Drug Application ("IND") with the United States Food and Drug

Administration (the "FDA") in the fall of 1997.

In addition to its strep throat vaccine, the Company is collaborating with Chiron Corporation ("Chiron") on research toward the development of vaccines against two sexually transmitted diseases and is testing a vaccine to prevent periodontal disease in a collaboration with The Research Foundation of State University of New York at Buffalo ("SUNY Buffalo").

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MUCOSAL VACCINE DELIVERY SYSTEM

The Company is also developing a proprietary mucosal vaccine delivery system which is a component of the Company's vaccine candidates and which the Company intends to license to other vaccine developers. Mucosally-delivered vaccines are considered attractive because such vaccines may mobilize an immune response concentrated at the site of infection and because they may activate both a mucosal IgA antibody response as well as a systemic (IgG and T cell) response. The Company's mucosal vaccine delivery system utilizes commensal bacteria (harmless bacteria that live in and on the body) that have been genetically engineered to continually present disease-associated antigens that stimulate an immune response at the body's mucosal surfaces. In this manner, the bacteria may be able to prevent infection at the earliest possible stage. The Company believes that mucosal vaccines developed using its proprietary commensal delivery technology could provide a number of potential advantages over conventional vaccines, including: more complete protection; fewer side effects; the potential for single dose administration; non-injectable administration; the potential for combination vaccine delivery; and lower cost production. The Company's mucosal vaccine delivery technology is potentially applicable to any infectious disease that begins at a mucosal surface.

ANTI-INFECTIVES AND ANTIBIOTICS THERAPY CANDIDATES

The Company's anti-infectives program is targeted principally toward drug-resistant bacteria and hospital-acquired infections. According to estimates from the Centers for Disease Control, approximately two million hospital-acquired infections occur each year in the United States. According to the Pharmaceutical Manufacturers Association, the United States and worldwide antibiotic markets are \$7 billion and \$22 billion, respectively.

The Company's anti-infective approaches aim to block the ability of bacteria to attach to and colonize human tissue, thereby blocking infection at the first stage in the infection process. By comparison, antibiotics available today act by interfering with either the structure or the metabolism of a bacterial cell, affecting its ability to survive and to reproduce. No currently available antibiotics target preventing the attachment of a bacterium to its target tissue. By preventing attachment, the bacteria should be readily cleared by the body's immune system.

The Company's lead anti-infectives program is based on a novel target for antibiotic therapy. The Company's founding scientists have identified an enzyme, a selective protease, utilized by most gram-positive bacteria to anchor certain proteins to the bacterial cell wall. These surface proteins are the means by which certain bacteria recognize, adhere to and colonize specific tissue. The Company's strategy is to develop protease inhibitors. The Company believes protease inhibitors will have wide applicability to gram-positive bacteria in general, including antibiotic resistant staphylococcus and a broad range of serious infectious diseases including meningitis and respiratory tract infections.

The Company has entered into a collaborative research and license agreement with the Wyeth-Ayerst Laboratories Division of American Home Products Corporation ("Wyeth-Ayerst") to identify and develop protease inhibitors as novel antibiotics. Pursuant to the agreement, Wyeth-Ayerst is providing funding for a joint research and development program and is responsible for additional milestone payments. Under the terms of the agreement, the Company could receive up to \$25 million in research and milestone payments for products developed from the licensed technologies. Wyeth-Ayerst has exclusive license rights in the field (as defined in the agreement) to any product resulting from this research and is required to make royalty payments based on sales of any product developed from the licensed technologies. See "Business--Collaborative Research and Licenses."

The Company has entered into a letter of intent with MedImmune, Inc. ("MedImmune") regarding a technology transfer agreement pursuant to which the Company will acquire all of MedImmune's rights in gram-negative antibiotic targets, products, screens and services. The Company and MedImmune plan to collaborate in

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the development of antibiotics against gram-negative pathogens. These bacteria utilize structures called pili to adhere to target tissue, and the Company plans to exploit the assembly and export of these essential infective structures as novel anti-infective targets. The Company and MedImmune contemplate that upon the execution of the technology transfer agreement, MedImmune will receive 335,530 shares of Common Stock (the "MedImmune Shares"). There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described above or at all. See "Risk Factors--Dependence on Others; Collaborations."

SURFACE PROTEIN EXPRESSION SYSTEM

The Company is developing proprietary protein production systems based on its understanding of the mechanisms used by gram-positive bacteria to export and anchor surface proteins. Methods have been developed to engineer gram-positive bacteria to produce and secrete commercially useful proteins such as antigens or enzymes into the culture medium in a form requiring minimal purification. The Company believes that this technology provides a cost-effective alternative to E. coli, yeast and mammalian cell culture systems.

COMPANY BACKGROUND

The Company's technologies are licensed from The Rockefeller University ("Rockefeller"), Oregon State University ("Oregon State") and Emory University ("Emory"). The Company sponsors research and development activities in laboratories at Rockefeller, Emory, Oregon State and SUNY Buffalo, and does not maintain its own research and development facilities. See "Risk Factors--Technologies Subject to Licenses" and "--Lack of Research and Development Facilities."

The Company was incorporated in Delaware in December 1995. The Company's executive offices are located at 666 Third Avenue, New York, NY, 10017, and its telephone number is (212) 681-4970.

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THE OFFERING

| | |
|---|--|
| Securities offered..... | 3,500,000 shares of Common Stock. |
| Offering price..... | \$5.00 per share of Common Stock. |
| Common Stock outstanding after the Offering(1)(2).. | 6,867,182 shares. |
| Use of Proceeds..... | The net proceeds to the Company, aggregating approximately \$15,225,000, will be used (i) to repay short-term indebtedness of \$1,000,000 (plus accrued interest) incurred in the Bridge Financing (and held by non-affiliates of the Company), (ii) to fund research and development activities, and (iii) for working capital and general corporate purposes. See "Use of Proceeds." |
| Risk Factors..... | The securities offered hereby involve a high degree of risk and substantial immediate |

| | | | | | | |
|-----------------------------------|------------|----------------|----------------|----------------|----------------|----------------|
| Total operating expenses..... | 1,000 | 2,270,482 | 2,271,482 | 1,030,162 | 1,191,284 | 3,462,766 |
| Interest income/(expense)..... | -- | 2,306 | 2,306 | -- | (121,727) | (119,421) |
| Net loss..... | \$ (1,000) | \$ (2,268,176) | \$ (2,269,176) | \$ (1,030,162) | \$ (1,313,011) | \$ (3,582,187) |
| Net loss per common share(1)..... | -- | \$ (0.66) | | \$ (0.32) | \$ (0.36) | |

JUNE 30, 1997

(UNAUDITED)

ACTUAL AS ADJUSTED (2) (3)

BALANCE SHEET DATA:

| | | |
|-------------------------------------|--------------|--------------|
| Working capital..... | \$ (964,461) | \$14,412,194 |
| Total assets..... | 558,364 | 14,750,031 |
| Total liabilities..... | 1,309,582 | 320,582 |
| Stockholders' (deficit) equity..... | (751,218) | 14,429,449 |

(1) For information concerning the computation of net loss per share, see Note 2 of Notes to Financial Statements.

(2) As adjusted to (i) give effect to the sale of 3,500,000 shares of Common Stock offered hereby, net of \$2,275,000 of underwriting discounts and commissions and Offering expenses (\$195,988 of such Offering expenses have been incurred by the Company as of June 30, 1997), at an assumed initial offering price of \$5.00 per share of Common Stock, (ii) repayment of the Bridge Notes in the principal amount of \$1,000,000 and accrued but unpaid interest thereon and (iii) the recognition of the unamortized portion of the debt discount associated with the Bridge Notes as an expense.

(3) Does not include the MedImmune Shares. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations."

RISK FACTORS

The purchase of Common Stock is speculative and involves a high degree of risk including, but not necessarily limited to, the Risk Factors described below. Common Stock should not be purchased by investors who cannot afford the loss of their entire investment. Prospective investors should carefully review and consider the following risks as well as the other information contained in this Prospectus.

BUSINESS RISKS

Limited Operating History; Accumulated Deficit; Operating Losses; Potential for Future Losses; Going Concern Explanatory Paragraph in Accountant's Report

The Company, a development stage, biopharmaceutical company, was incorporated in December 1995 and accordingly has a limited operating history. As of June 30, 1997, the Company had an accumulated deficit of \$3,582,187. The Company expects to incur substantial operating losses over the next several years and expects cumulative losses to increase as the Company's research and development and clinical efforts expand. In addition to increased research and development expenses, the Company also expects general and administrative expenses to increase due to increased staffing levels and increased costs, including patent and regulatory costs, necessary to support clinical trials, research and development and manufacturing. Revenues, if any, that the Company may receive in the next few years will be limited to payments under research

or product development relationships that the Company may establish and payments under license agreements that the Company may enter into. There can be no assurance that the Company will be able to establish any such relationships, enter into any such license agreements or generate revenues. To achieve profitable operations, the Company, alone or with others, must successfully identify and develop pharmaceutical products, conduct clinical trials, obtain regulatory approvals and manufacture and market its pharmaceutical products or enter into license agreements with third parties on acceptable terms. The Company may never achieve significant revenues or profitable operations.

The report of independent accountants on the Company's financial statements included herein contains an explanatory paragraph stating that the Company's financial statements have been prepared assuming that the Company will continue as a going concern while expressing substantial doubt as to the Company's ability to do so. The Company's ability to continue as a going concern is dependent on its ability to generate sufficient cash flow to meet its obligations as they become due. The Company has suffered operating losses since inception and expects to incur substantial additional operating losses in the development and commercialization of its technologies. These and other factors discussed in Note 1 to the financial statements raise substantial doubt about the Company's ability to continue as a going concern. See "Plan of Operation" and Financial Statements and Notes thereto.

Early Stage of Development; Absence of Products; No Commercialization of Products Expected in Near Future

The Company's product candidates are in an early stage of development. The Company has not completed the development of any products and, accordingly, has not received any regulatory approvals, commenced marketing activities or generated revenues from the sale of products. The Company's product candidates will require significant additional development, pre-clinical and clinical trials, regulatory approval and additional investment prior to commercialization. The Company does not expect to market any products for at least four years. In addition, the Company's product candidates are subject to the risks of failure inherent in the development of products based on innovative technologies. Accordingly, there can be no assurance that the Company's research and development efforts will be successful, that any of the Company's product candidates will prove to be safe, effective and non-toxic in clinical trials, that any commercially successful products will be developed, that the proprietary or patent rights of others will not preclude the Company from marketing its product candidates or that others will not develop competitive or superior products. As a result of the early stage of development of product candidates and the extensive testing and regulatory review process that such product candidates must undergo, the Company cannot predict with certainty when it will be able to market any of its products, if at all. The failure to develop safe, commercially viable products would have a material adverse effect on the Company's business, operating results and financial condition.

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Uncertainty Due to Unproven Technology

The Company's drug discovery approach faces technical issues which have not been resolved and requires the development of multiple novel technologies to create successful product candidates. While the Company has demonstrated that it has several novel bacterial targets, the Company has not proven that drugs which inhibit these targets will be safe and effective in human trials. Furthermore, there can be no assurance that the drug inhibition activity already demonstrated in primary screening will continue to be encouraging in further screening or drug discovery studies. The Company has not tested any product candidates in humans, and there can be no assurance that there will be clinical benefits associated with any such product candidates. Furthermore, there can be no assurance that the Company will successfully address these technological challenges or others that may arise in the course of product development. Any failure of the Company to anticipate or respond adequately to technological developments will have a material adverse effect on the Company's business, operating results and financial condition. There can be no assurance that the Company's technology will lead to the discovery and development of any viable product candidates in the future or that the Company will be able to utilize its drug discovery approach successfully.

Future Capital Needs; Uncertainty Of Availability Of Additional Funding

The Company will require substantial additional funds to conduct and sponsor research and development activities, to conduct pre-clinical and clinical testing, and to market its products. The Company's future capital requirements will depend on many factors, including continued scientific progress, progress with pre-clinical testing and clinical trials, the time and costs involved in obtaining regulatory approvals, the costs involved in filing, prosecuting and enforcing patent claims, competing technological and market developments, the ability of the Company to establish collaborative arrangements, effective commercialization activities and arrangements and the purchase or development of additional equipment and facilities. The Company expects the net proceeds of the Offering and the interest earned thereon will be sufficient to fund the Company's activities for at least 24 months. There can be no assurance, however, that changes in the Company's research and development plans or other events affecting the Company's operating expenses will not result in the utilization of such proceeds prior to that time.

The Company has no other current sources of funding, apart from research payments and potential milestone payments from Wyeth-Ayerst. As a result, the Company will need to raise substantial additional funds before any of the Company's product candidates achieves regulatory approvals, if at all. The Company intends to seek such additional funding through collaborative arrangements and through public or private financings. There can be no assurance that additional financing will be available, or, if available, that such additional financing will be available on terms acceptable to the Company.

In addition, for a period of 12 months (6 months in the case of any public offering under the Securities Act) after the date of this Prospectus, Sunrise's prior written consent is required if the Company seeks to raise additional funds through the issuance of equity. This may result in the Company being required to raise needed funding through the issuance of debt. If additional funds are raised by issuing debt, the Company will incur fixed payment obligations, which could delay the time, if any, when the Company may achieve positive cash flow. If adequate funds are not available, the Company may be required to delay, scale back or eliminate one or more of its principal product candidates or obtain funds through arrangements with collaborative partners or others that may require the Company to relinquish rights to certain of its technologies, product candidates or products that the Company would not otherwise relinquish. See "Use of Proceeds" and "Underwriting."

Management's Broad Discretion in Application of Proceeds

The Company intends to use approximately \$1,000,000 (excluding accrued interest), or 6.6%, of the net proceeds of the Offering to repay outstanding indebtedness and the balance for the other purposes described under "Use of Proceeds." Although the Company's current estimate as to the amount of such net proceeds that will be used for each such other purpose is set forth under "Use of Proceeds," the Company reserves the right to change the amount of such net proceeds that will be used for any purpose to the extent that management

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determines that such change is advisable. Accordingly, management of the Company will have broad discretion as to the application of the net proceeds of the Offering. See "Use of Proceeds" and "Plan of Operation."

Technologies Subject to Licenses

The Company and Rockefeller have entered into an exclusive worldwide license and research agreement whereby the Company has obtained the right and license to make, use and sell mucosal vaccines based on gram-positive organisms and products for the therapy, prevention and diagnosis of diseases caused by streptococcus, staphylococcus and other organisms. The technologies licensed by the Company pursuant to the agreement were developed in Dr. Fischetti's laboratory at Rockefeller, in Dr. Hruby's laboratory at Oregon State and at Emory. Researchers at Rockefeller and Oregon State collaborated, and are continuing to collaborate, on the development of the Company's strep throat vaccine candidate. Researchers at Rockefeller and Emory collaborated on the genetic identification of the antigen used in such vaccine candidate. Therefore, Oregon State and Emory joined in Rockefeller's license grant to the Company. The agreement generally requires the Company to pay royalties on sales of products developed from the licensed technologies and fees on revenues from sublicensees, where applicable, and the Company is responsible

for certain milestone payments, of up to \$225,000 per product, for each product developed from the licensed technologies. Pursuant to each of their contracts with their respective universities, Dr. Fischetti and Dr. Hruby will receive a percentage of royalties paid by the Company to Rockefeller and Oregon State pursuant to the license agreement. The Company is also responsible for certain costs incurred by Rockefeller for filing and prosecuting patent applications. At June 30, 1997, amounts payable to Rockefeller for patent application costs were \$66,437. Should the Company default on its obligations to Rockefeller under the license agreement, its license would terminate, which would have a material adverse effect on the Company's operations and prospects. See "Business--Collaborative Research and Licenses."

No Assurance of Successful Development of Product Candidates

There can be no assurance that the Company's product candidates will be successfully developed into drugs that can be administered to humans or that any such drugs or therapies will prove to be safe and effective in clinical trials or cost-effective to manufacture. Further, any product candidates developed by the Company may prove to have adverse side effects.

Dependence on Others; Collaborations

The Company's strategy for the research, development and commercialization of its product candidates will require the Company to enter into various arrangements with corporate and academic collaborators, licensors, licensees and others, and may therefore be dependent upon the subsequent success of these outside parties in performing their responsibilities. The Company currently has a license and research agreement with Rockefeller, Emory and Oregon State; research support agreements with Emory, Oregon State and SUNY Buffalo; a consulting agreement with Dr. Vincent Fischetti; a clinical trials agreement with the National Institutes of Health; a collaborative research and license agreement with Wyeth-Ayerst; and a collaborative research agreement with Chiron. In addition, the Company has entered into a letter of intent with MedImmune regarding a technology transfer agreement pursuant to which the Company will acquire all of MedImmune's rights in gram-negative antibiotic targets, products, screens and services. There can be no assurance, however, that the Company will execute a final agreement with MedImmune on the terms described herein or at all. In addition, there can be no assurance that the Company will be able to establish other collaborative arrangements or license agreements that the Company deems necessary or acceptable to develop and commercialize its product candidates or that such collaborative arrangements or license agreements will be successful. Moreover, certain of the collaborative arrangements that the Company may enter into in the future may place responsibility for pre-clinical testing and clinical trials and for preparing and submitting applications for regulatory approval for product candidates on the collaborative partner. Should a collaborative partner fail to develop or commercialize successfully any product candidate to which the Company has rights, the Company's business may be adversely affected. See "Business--Collaborative Research and Licenses" and "Certain Transactions."

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Lack of Manufacturing, Marketing or Sales Capabilities

The Company has not invested in the development of commercial manufacturing, marketing, distribution or sales capabilities for any of its product candidates. The Company currently lacks the facilities to manufacture its product candidates in accordance with current Good Manufacturing Practices as prescribed by the FDA or to produce an adequate supply of compounds to meet future requirements for clinical trials. If the Company is unable to develop or contract for manufacturing capabilities on acceptable terms, the Company's ability to conduct pre-clinical and human clinical testing will be adversely affected, resulting in delays in the submission of products for regulatory approval and in the initiation of new development programs, which in turn could materially impair the Company's competitive position and the possibility of achieving profitability.

The Company will need to hire additional personnel skilled in clinical testing, regulatory compliance, marketing and sales as it develops products with commercial potential. There can be no assurance that the Company will be able to hire such personnel, or establish third-party relationships to provide any or all of these resources.

Dependence on Qualified Personnel and Consultants; Need for Additional Personnel

David de Weese is the President and Chief Executive Officer of the Company. Dr. Vincent Fischetti is the principal founding scientist and Chief Scientific Advisor of the Company. Dr. Dennis Hruby is also a scientific founder and the Company's Vice President of Research. Drs. Hruby and Fischetti, along with Mr. de Weese, have primary responsibility for directing the Company's research efforts. Mr. de Weese, along with Dr. Joshua Schein and Judson Cooper, Executive Vice Presidents of the Company, have primary responsibility for directing the Company's strategic efforts. The Company's success is highly dependent on these individuals. The loss of the services of either Dr. Hruby or Dr. Fischetti or other personnel or consultants could have a material adverse effect on the Company's operations.

Drs. Hruby and Fischetti, pursuant to each of their contracts with their respective universities, may spend only 20% of their time on non-university projects; however, the majority of the research being conducted by each of them is research sponsored by the Company and the Company has exclusive license rights to all inventions and discoveries resulting from this research. Overall, both Dr. Hruby and Dr. Fischetti spend more than 70% of their time on research sponsored by the Company and other Company business. See "Business--Collaborative Research and Licenses."

Mr. de Weese is the only full-time executive officer of the Company. Dr. Schein and Mr. Cooper, are also officers of Virologix Corporation and Callisto Pharmaceuticals, Inc., privately held, development stage, pharmaceutical companies, and devote substantial amounts of their time to the three companies on a substantially equal basis.

Although the Company has entered into employment agreements with each of its key management and scientific employees and consulting agreements with its key outside scientific advisors, any of such persons may terminate his or her employment or consulting arrangement with the Company at any time on short notice. Accordingly, there can be no assurance that these employees and consultants will remain associated with the Company. The loss of the services of any of the Company's key personnel or consultants may impede the Company's ability to commercialize its product candidates. The Company maintains and is the named insured under a \$1,000,000 life insurance policy on Dr. Fischetti and has an application pending for a \$1,000,000 policy on Mr. de Weese. This policy is conditionally in force pending final underwriting, which is expected to be completed by mid August 1997. There can be no assurance that such insurance can be maintained or will be adequate to meet the Company's future needs.

The Company's planned activities may require additional expertise in areas such as pre-clinical testing, clinical trial management, regulatory affairs, manufacturing and marketing. Such activities may require the addition of new personnel and the development of additional expertise by existing management personnel. The Company faces intense competition for such personnel from other companies, academic institutions, government entities and other organizations, and there can be no assurance that the Company will be successful in hiring or retaining qualified personnel. The inability of the Company to develop additional expertise or to hire and retain such qualified personnel could have a material adverse effect on the Company's operations.

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Lack of Research and Development Facilities

The Company does not maintain its own research and development facilities. The Company sponsors research and development activities at Dr. Fischetti's laboratory at Rockefeller and Dr. Hruby's laboratory at Oregon State, and at Emory and SUNY Buffalo. The Company's research is conducted by its employees and employees of the aforementioned universities. The Company's research and development efforts, therefore, are dependent upon its continued relationships with Dr. Fischetti, Dr. Hruby, Rockefeller, Oregon State, Emory and SUNY Buffalo. In the absence of such relationships, the Company would need to develop a new research and development arrangement with a third party, the availability of which there can be no assurance. The Company is planning on leasing its own research facility in the next 12 months. Any delay in finding suitable research and development facilities would postpone commercialization of the Company's products. See "Business--Human Resources and Facilities."

Control by Management and Existing Stockholders

Upon consummation of the Offering, the Company's management and existing holders of the Company's stock will, in the aggregate, own beneficially shares having approximately 49% of the total voting power of the Company's outstanding stock (without giving effect to the exercise of the Representatives' Warrants, options granted under the Plan, the de Weese Warrants, the Fischetti Warrants, the Directors/Advisors Warrants or the Bridge Warrants). As a result, these stockholders, acting together, would be able to effectively control most matters requiring approval by the stockholders of the Company, including the election of all of the directors. See "Principal Stockholders."

Potential Conflicts of Interest

Certain persons who are principal stockholders and executive officers of the Company are involved in various relationships that could result in conflicts between their interests and those of other stockholders of the Company. Dr. Schein and Mr. Cooper have employment arrangements with two other operating companies, which could force one or both of them to compromise or divert their business attention from the concerns of the Company from time to time. Additionally, Dr. Schein and Mr. Cooper are principals of CSO Ventures LLC ("CSO"), a privately held limited liability company which has a consulting agreement with the Company. Under the terms of Dr. Schein and Mr. Cooper's employment agreements with the Company, they are each entitled to the payment of certain fees in connection with any sale of the Company. This provision, together with lower prices paid by them for their shares of Common Stock relative to the prices paid by investors in this Offering, could result in a situation in which the purchase price paid in connection with any sale of the Company represents a gain on their investment in the Company while simultaneously representing a loss to investors in this Offering. See "Certain Transactions" and "Management."

Possible Conflicts of Interest with Participants in Offering

Persons associated with members of the NASD participating in the distribution of the Securities in this Offering own an aggregate of approximately 1,055,367 shares of Common Stock, representing approximately 31.3% of the outstanding Common Stock prior to this Offering. In accordance with Rule 2720 of the Conduct Rules of the NASD, the Securities are being offered at an offering price no greater than that recommended by a qualified independent underwriter. As a result of such ownership, such participants may be deemed to have conflicts of interest with respect to the Offering and the public offering price of the Securities. See "Underwriting."

INDUSTRY RISKS

No Assurance of Regulatory Approval; Need for Extensive Clinical Trials

The production and marketing of the Company's principal product candidates, as well as certain of its research and development activities, are subject to regulation by governmental agencies in the United States and other countries. Any drug developed by the Company will be subject to a rigorous approval process pursuant to

regulations administered by the FDA, comparable agencies in other countries and, to a lesser extent, state regulatory authorities. The approval process for any one of the Company's product candidates is likely to take several years or more depending upon the type, complexity and novelty of the pharmaceutical product and will involve significant expenditures by the Company for which additional financing will be required.

The cost to the Company of conducting clinical trials for any potential product can vary dramatically based on a number of factors, including the order and timing of clinical indications pursued and the extent of development and financial support, if any, from collaborators. Because of the intense competition in the biopharmaceutical market and concern over the safety of participating in clinical trials, the Company may have difficulty obtaining sufficient patient populations or the support of clinicians to conduct its clinical trials as planned and may have to expend substantial additional funds to obtain access to such resources, or delay or modify its plans significantly. There can be no assurance that the Company will be able to

obtain necessary clearances for clinical trials or approvals for the manufacturing or marketing of any of its product candidates, that the Company will have sufficient resources to complete the required regulatory review process or that the Company can survive the inability to obtain, or delays in obtaining, such approvals.

Even if regulatory approvals are obtained, they may provide for significant limitations on the indicated uses for which a product may be marketed. As with all investigational products, additional government regulations may be promulgated requiring that additional research data be submitted that could delay marketing approval of any of the Company's product candidates. The subsequent discovery of previously unknown complications or the failure to comply with applicable regulatory requirements may result in restrictions on the marketing, or the withdrawal, of products or possible civil or criminal liabilities. In addition, the Company cannot predict whether any adverse government regulation might arise from future administrative actions. See "Business--Government Regulation."

As part of the regulatory review process, the Company must sponsor and file, or obtain through others, an IND for each of its product candidates before the Company will be able to initiate the clinical trials necessary to generate safety and efficacy data for inclusion in an application for FDA marketing approval. The Company has not filed any INDs to date. Although the Company anticipates filing its first IND in 1997, the Company cannot predict with certainty when it might first submit any application for any product candidates for FDA or other regulatory review. There can be no assurance that clinical data from studies performed by the Company or others will be acceptable to the FDA or other regulatory agencies in support of any applications that may be submitted for regulatory approval and the FDA may, among other things, require the Company to collect additional data and conduct additional clinical studies prior to acceptance of any such applications.

Uncertainty Regarding Patents and Proprietary Information

The Company's ability to compete effectively will depend, in part, on its success in protecting its proprietary technology in the United States and abroad. The patent positions of biopharmaceutical firms generally are highly uncertain and involve complex legal and factual questions. No consistent policy has emerged regarding the breadth of claims covered in biopharmaceutical patents. As its research projects develop, the Company intends to file additional patent applications with the United States Patent and Trademark Office (the "PTO") and with corresponding foreign patent authorities. There can be no assurance that the PTO or any foreign jurisdictions will grant the Company's patent applications or that the Company will obtain any patents or other protection for which application for patent protection has been made. No assurance can be given that patents issued to or licensed by the Company will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide any competitive advantage. The Company will also rely on trade secrets, know-how and continuing technological advancement in seeking to achieve a competitive position. No assurance can be given that the Company will be able to protect its rights to its unpatented trade secrets or that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to the Company's trade secrets.

In addition to protecting its proprietary technology and trade secrets, the Company may be required to obtain additional licenses to patents or other proprietary rights from third parties. No assurance can be given that any additional licenses required under any patents or proprietary rights would be made available on acceptable terms,

if at all. If the Company does not obtain required licenses, it could encounter delays in product development while it attempts to design around blocking patents, or it could find that the development, manufacture or sale of products requiring such licenses could be foreclosed.

The Company could also incur substantial costs in defending any patent infringement suits or in asserting any patent rights, including those granted by third parties. The PTO could institute interference proceedings against the Company in connection with one or more of the Company's patents or patent applications, and such proceedings could result in an adverse decision as to priority of invention. The PTO or others could also institute reexamination

proceedings with the PTO against the Company in connection with one or more of the Company's patents or patent applications and such proceedings could result in an adverse decision as to the validity or scope of any patents that the Company may obtain or have the right to use. See "Business--Patents and Proprietary Rights."

Technological Change; Competition and Market Risk

The biopharmaceutical industry is characterized by rapid and significant technological change. The Company's success will depend on its ability to develop and apply its technologies in the design and development of its product candidates and to establish and maintain a market for its product candidates. There also are many companies, both public and private, including major pharmaceutical and chemical companies, specialized biotechnology firms, universities and other research institutions engaged in developing pharmaceutical and biotechnology products. Many of these companies have substantially greater financial, technical, research and development, and human resources than the Company. Competitors may develop products or other technologies that are more effective than any that are being developed by the Company or may obtain FDA approval for products more rapidly than the Company. If the Company commences commercial sales of products, it still must compete in the manufacturing and marketing of such products, areas in which the Company has no experience. Many of these companies also have manufacturing facilities and established marketing capabilities that would enable such companies to market competing products through existing channels of distribution. See "Business--Competition."

Uncertainty of Pharmaceutical Pricing; Healthcare and Related Matters

The levels of revenues and profitability of pharmaceutical companies may be affected by the continuing efforts of governmental and third party payors to contain or reduce the costs of healthcare through various means. For example, in certain foreign markets, pricing of prescription pharmaceuticals is subject to governmental control. In the United States, there have been, and the Company expects that there will continue to be, a number of federal and state proposals to implement similar government control. It is uncertain what legislative proposals will be adopted or what actions federal, state or private payors for healthcare goods and services may take in response to any healthcare reform or legislation.

The Company cannot predict the effect that healthcare reforms may have on its business, and there can be no assurance that any such reforms will not have a material adverse effect on the Company. Further, to the extent that such proposals or reforms have a material adverse effect on the business, financial condition and profitability of other pharmaceutical companies that are prospective collaborators for certain of the Company's potential products, the Company's ability to commercialize its product candidates may be adversely affected. In addition, in both the United States and elsewhere, sales of prescription medical products are dependent in part on the availability of reimbursement to the consumer from third party payors, such as government and private insurance plans. Third party payors can indirectly affect the pricing or the relative attractiveness of the Company's product candidates by regulating the maximum amount of reimbursement that they will provide for the Company's product candidates or by denying reimbursement. There can be no assurance that, if and when marketed, the Company's product candidates will be considered cost-effective by third party payors, that reimbursement will be available or, if available, that such third party payors' reimbursement policies will not adversely affect the Company's ability to sell its product candidates on a profitable basis. Limitations on, or failure to obtain, reimbursement for use of the Company's product candidates and changes in government and private third party payors' policies toward reimbursement could have a material adverse effect on the Company's ability to market its product candidates.

Potential Product Liability and Availability of Insurance

The Company's business exposes it to potential liability risks that are inherent in the testing, manufacturing and marketing of pharmaceutical products. The use of the Company's product candidates in clinical trials may expose the Company to product liability claims and possible adverse publicity. These risks will expand with respect to the Company's product candidates, if any, that receive regulatory approval for commercial sale. Product liability

insurance for the biotechnology industry is generally expensive, if available at all. The Company does not have product liability insurance but intends to obtain such coverage if and when its product candidates are tested in clinical trials. There can be no assurance, however, that the Company will be able to obtain insurance coverage at acceptable costs or in a sufficient amount, if at all, or that a product liability claim would not adversely affect the Company's business, operating results or financial condition.

OFFERING/INVESTMENT RISKS

No Prior Public Market; Possible Volatility of Stock Price

Prior to this Offering, there has been no public market for the Company's Common Stock. Accordingly, there can be no assurance that an active trading market will develop or be sustained subsequent to this Offering. The initial public offering price of the Common Stock will be determined by negotiations between the Company and the Underwriters and may not be indicative of the prices that may prevail in the public market. The Company has applied to have the Common Stock quoted on the Nasdaq SmallCap Market ("Nasdaq"), but there is no assurance that the Company's future operating results will enable it to remain eligible for quotation on Nasdaq. If the Company is unable to satisfy such listing criteria in the future, the Common Stock may be delisted from trading on Nasdaq and consequently an investor could find it more difficult to dispose of, or to obtain accurate quotations as to the price of, the Common Stock. The stock market generally, and the biotechnology sector in particular, have experienced and are likely in the future to experience significant price and volume fluctuations which could adversely affect the market price of the Common Stock without regard to the significant fluctuations in response to variations in quarterly operating results, shortfalls in sales or earnings below analyst estimates, stock market conditions and other factors. There can be no assurance that the market price of the Common Stock will not experience significant fluctuations or decline below the initial public offering price.

Sunrise's First Initial Public Offering

Sunrise has not previously acted as an underwriter in connection with an initial public offering, though it has acted as a syndicate member, sole placement agent, co-placement agent, selected dealer or sole participating broker in more than 18 public and private offerings. Meyerson, however, has acted as an underwriter in connection with a number of initial public offerings. Due to its inexperience, Sunrise may make mistakes a more experienced underwriter would not. Sunrise's limited experience may adversely affect the price and liquidity of the Common Stock. Prospective purchasers of shares of Common Stock offered hereby should consider Sunrise's limited experience in evaluating an investment in the Common Stock. See "Underwriting."

No Market Making Activity by Sunrise

Sunrise has indicated that it does not intend to act as a market maker in the Common Stock, which may adversely affect the price and liquidity of the Common Stock.

Shares Eligible for Future Sale

Upon completion of this Offering, the Company will have outstanding 6,867,182 shares of Common Stock, without giving effect to (a) shares of Common Stock issuable upon exercise of (i) the Underwriters' Over-allotment Option, (ii) the Representatives' Warrants, (iii) options granted under the Plan, (iv) the de Weese Warrants, (v) the Fischetti Warrants, (vi) the Directors/Advisors Warrants or (vii) the Bridge Warrants or (b) the MedImmune Shares. (There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations.") Of such outstanding shares of Common Stock, all the shares to be sold by the Company in

this Offering will be freely tradeable without restriction or further registration under the Securities Act, except for any shares held by "affiliates" of the Company within the meaning of the Securities Act which shares will be subject to the resale limitations of Rule 144 promulgated under the Securities Act. In addition, the estimated 100,000 shares of Common Stock

issuable upon the exercise of the Bridge Warrants, all of which also are being registered under the Securities Act pursuant to the registration statement of which this Prospectus constitutes a part, will be freely transferable under the Securities Act, other than those shares held by affiliates of the Company. See "Plan of Operations--Bridge Financing."

The remaining 3,367,182 shares (the "Restricted Shares") were issued by the Company in private transactions in reliance upon one or more exemptions contained in the Securities Act. 1,288,012 of the Restricted Shares were issued in connection with two private placement transactions completed in March and September 1996, respectively (the "Private Shares") and 2,079,170 of the Restricted Shares were issued to the founders of the Company in December 1995 (the "Founders' Shares"). The Restricted Shares are deemed to be "restricted securities" within the meaning of Rule 144 promulgated pursuant to the Securities Act and may be publicly sold only if registered under the Securities Act or sold pursuant to exemptions therefrom.

Because the Founders' Shares and 1,038,008 of the Private Shares acquired in the March 1996 private placement will have been held for more than one year as of the date of this Prospectus, such shares will be eligible for public sale in accordance with the requirements of Rule 144, as amended. In addition, the remaining 250,004 of the Private Shares will be eligible for public sale in September 1997. However, certain holders of the Private Shares and the holders of the Founders' Shares have agreed with Sunrise not to sell or otherwise dispose of such shares for a period of six months and 24 months, respectively, after the date of the consummation of the Offering. See "Shares Eligible for Future Sale" and "Underwriting."

Dilution; Equity Securities Sold Previously at Below Offering Price

This Offering involves immediate dilution of \$2.90 per share between the adjusted net tangible book value per share after the Offering and the per share public offering price of \$5.00 attributable to the Common Stock. Investors in the Offering will contribute 88% of the aggregate consideration received for the aggregate number of shares of Common Stock outstanding after the Offering, but will only own 51% of the aggregate number of shares of Common Stock outstanding after the Offering. See "Dilution."

Lack of Dividends

The Company has not paid any dividends and does not contemplate paying dividends in the foreseeable future. It is currently anticipated that earnings, if any, will be retained by the Company to finance the development and expansion of the Company's business. See "Dividend Policy."

Antitakeover Effect of Certificate of Incorporation

The Company's Certificate of Incorporation authorizes the Board of Directors to determine the rights, preferences, privileges and restrictions of unissued series of preferred stock, \$.0001 par value per share (the "Preferred Stock"), and to fix the number of shares of any series of Preferred Stock and the designation of any such series, without any vote or action by the Company's stockholders. Thus, the Board of Directors can authorize and issue up to 10,000,000 shares of Preferred Stock with voting or conversion rights that could adversely affect the voting or other rights of holders of the Company's Common Stock. In addition, the issuance of Preferred Stock may have the effect of delaying, deferring or preventing a change of control of the Company, since the terms of the Preferred Stock that might be issued could potentially prohibit the Company's consummation of any merger, reorganization, sale of substantially all of its assets, liquidation or other extraordinary corporate transaction without the approval of the holders of the outstanding shares of the Common Stock. The Company, however, has no intention of adopting a stockholder rights plan ("poison pill") in the foreseeable future. See "Description of Securities--Preferred Stock."

Possible Delisting of Securities from Nasdaq SmallCap Market

Following the Offering, the Company's Common Stock will meet the current Nasdaq listing requirements and is expected to be initially included on Nasdaq. There can be no assurance, however, that the Company will

generally requires that (i) the Company maintain at least \$2,000,000 in total assets and \$1,000,000 in capital and surplus, (ii) the minimum bid price of the Common Stock be \$1.00 per share, (iii) there be at least 100,000 shares in the public float valued at \$200,000 or more, (iv) the Common Stock have at least two active market makers and (v) the Common Stock be held by at least 300 holders. The Nasdaq Stock Market has recently announced proposals which would increase the listing standards for inclusion on Nasdaq. If the listing standards are increased, the Company may be unable to satisfy the listing requirements for inclusion on Nasdaq.

If the Company is unable to satisfy Nasdaq's listing standards, its securities may be delisted from Nasdaq. In such event, trading, if any, in the Common Stock would thereafter be conducted in the over-the-counter market on the so-called "pink sheets" or the NASD's "Electronic Bulletin Board." Consequently, the liquidity of the Company's securities could be impaired, not only in the number of securities which could be bought and sold, but also through delays in the timing of transactions, reduction in security analysts' and the news media's coverage of the Company and lower prices for the Company's securities than might otherwise be attained.

Risks of Low-Priced Stock; "Penny Stock" Restrictions

If the Company's securities were delisted from Nasdaq (See "--Possible Delisting of Securities from Nasdaq SmallCap Market"), they could become subject to Rule 15c-2 under the Exchange Act, which imposes additional sales practice requirements on broker-dealers which sell such securities to persons other than established customers and "accredited investors" (generally, individuals with net worths in excess of \$1,000,000 or annual incomes exceeding \$200,000, or \$300,000 together with their spouses). For transactions covered by this rule, a broker-dealer must make a special suitability determination for the purchaser and have received the purchaser's written consent to the transaction prior to sale. Consequently, such rule may adversely affect the ability of broker-dealers to sell the Company's securities and may adversely affect the ability of purchasers in the Offering to sell in the secondary market any of the securities acquired hereby.

Commission regulations define a "penny stock" to be any non-Nasdaq equity security that has a market price (as therein defined) of less than \$5.00 per share or with an exercise price of less than \$5.00 per share, subject to certain exceptions. For any transaction involving a penny stock, unless exempt, the rules require delivery, prior to any transaction in a penny stock, of a disclosure schedule prepared by the Commission relating to the penny stock market. Disclosure is also required to be made about commissions payable to both the broker-dealer and the registered representative and current quotations for the securities. Finally, monthly statements are required to be sent disclosing recent price information for the penny stock held in the account and information on the limited market in penny stocks.

The foregoing required penny stock restrictions will not apply to the Company's securities if such securities are listed on Nasdaq and have certain price and volume information provided on a current and continuing basis or meet certain minimum net tangible assets or average revenue criteria. There can be no assurance that the Company's securities will qualify for exemption from these restrictions. In any event, even if the Company's securities were exempt from such restrictions, it would remain subject to Section 15(b)(6) of the Exchange Act, which gives the Commission the authority to prohibit any person that is engaged in unlawful conduct while participating in a distribution of a penny stock from associating with a broker-dealer or participating in a distribution of a penny stock, if the Commission finds that such a restriction would be in the public interest. If the Company's securities were subject to the rules on penny stocks, the market liquidity for the Company's securities could be severely adversely affected.

USE OF PROCEEDS

The net proceeds to the Company from the sale of the shares of Common Stock offered hereby are estimated to be \$15,225,000 (\$17,561,250 if the Underwriters' Over-allotment Option is exercised in full) after deducting the underwriting discount and estimated offering expenses payable by the Company and assuming an initial public offering price of \$5.00 per share.

The Company expects to use the net proceeds as follows:

| APPLICATION OF PROCEEDS | APPROXIMATE DOLLAR AMOUNT | APPROXIMATE PERCENTAGE OF NET PROCEEDS |
|---|------------------------------|--|
| Research and development..... | \$ 4,500,000 | 29.6% |
| General and administrative..... | 4,350,000 | 28.6 |
| Repayment of Bridge Notes and accrued interest thereon(1)..... | 1,033,333 | 6.8 |
| Working capital..... | 5,341,667 | 35.0 |
| | ----- | ----- |
| TOTAL..... | \$15,225,000 | 100.0% |
| | ===== | ===== |

(1) Represents the repayment of the outstanding principal amount of \$1,000,000 plus estimated accrued interest thereon at the rate of 10% per annum as of June 30, 1997, on indebtedness incurred in the Bridge Financing. The proceeds of the Bridge Financing, in the amount of \$1,000,000, were used for research and development, working capital and other general corporate purposes.

If the Underwriters' Over-allotment Option is exercised in full, the Company will realize additional net proceeds of approximately \$2,336,250, which amount will be added to the Company's working capital.

The Company anticipates, based on currently proposed plans and assumptions relating to its operations, that the proceeds of this Offering will be sufficient to satisfy the Company's contemplated cash requirements for at least 24 months following the consummation of the Offering. In the event the Company's plans change or its assumptions change or prove to be inaccurate or the proceeds of the Offering prove to be insufficient to fund operations (due to unanticipated expenses, delays, problems or otherwise), the Company could be required to seek additional financing sooner than currently anticipated. The Company has no current arrangements with respect to, or sources of, additional financing, apart from research payments and potential milestone payments from Wyeth-Ayerst and there can be no assurance that additional financing will be available to the Company when needed on commercially reasonable terms or at all. Any inability to obtain additional financing when needed would have a material adverse effect on the Company, including possibly requiring the Company to significantly curtail or cease its operations.

Until required for operations, the Company's policy is to invest its cash reserves in bank deposits, certificates of deposit, commercial paper, corporate notes, U.S. government instruments and other investment-grade quality instruments.

CAPITALIZATION

The following table sets forth as of June 30, 1997 (i) the actual capitalization of the Company; and (ii) the pro forma capitalization of the Company as adjusted to give effect to the receipt and anticipated use of the estimated net proceeds of this Offering. This table should be read in conjunction with the Company's Financial Statements and Notes thereto, "Selected Financial Data" and "Plan of Operation" included elsewhere in this Prospectus.

| | HISTORICAL ----- (UNAUDITED) | AS ADJUSTED(1) ----- |
|-----------------------|------------------------------------|-------------------------|
| Bridge Notes(2)..... | \$ 955,667 | -- |
| Stockholders' equity: | ----- | ----- |

| | | |
|---|-------------|--------------|
| Preferred Stock (\$0.0001 par value, 10,000,000 shares authorized, none issued and outstanding.. | -- | -- |
| Common Stock (\$0.0001 par value, 25,000,000 shares authorized, 3,367,182 shares issued and outstanding; 6,867,182 shares issued and outstanding, as adjusted(3) (4)..... | \$ 337 | \$ 687 |
| Additional paid-in capital..... | 2,830,632 | 18,055,282 |
| Accumulated deficit(5)..... | (3,582,187) | (3,626,520) |
| | ----- | ----- |
| Total stockholders' equity (deficit)..... | (751,218) | 14,429,449 |
| | ----- | ----- |
| Total capitalization..... | \$ 204,449 | \$14,429,449 |
| | ===== | ===== |

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- (1) As adjusted to reflect the sale of 3,500,000 shares of Common Stock offered hereby. See "Use of Proceeds."
- (2) Represents principal amount of \$1,000,000, net of unamortized debt discount of \$44,333 as of June 30, 1997.
- (3) Assumes (i) no exercise of the Underwriters' Over-allotment Option; (ii) no exercise of the Representatives' Warrants; (iii) no exercise of options granted under the Plan; (iv) no exercise of the de Weese Warrants; (v) no exercise of the Fischetti Warrants; (vi) no exercise of the Directors/Advisors Warrants; and (vii) no exercise of the Bridge Warrants. See "Plan of Operation--Bridge Financing," "Management--1996 Incentive and Non-Qualified Stock Option Plan," "--Employment and Consulting Agreements," "Description of Securities," "Underwriting" and "Certain Transactions."
- (4) Does not include the MedImmune Shares. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations."
- (5) As adjusted to give effect to the recognition of the unamortized portion of debt discount associated with the Bridge Financing as an expense.

DILUTION

As of June 30, 1997, the Company had a negative net tangible book value equal to (\$947,206). See "Selected Financial Data." After giving effect to the sale of 3,500,000 shares of Common Stock offered by the Company pursuant to this Prospectus at an assumed initial offering price per share of \$5.00 per share, net of underwriting discounts and commissions and estimated expenses of the Offering payable by the Company, and application of a portion of the estimated net proceeds to repay the Bridge Notes as set forth under "Use of Proceeds," the pro forma net tangible book value at such date would have been \$14,429,449 or \$2.10 per share. This represents an immediate increase in net tangible book value of \$2.38 to the existing stockholders and an immediate dilution of \$2.90 per share or 58% to purchasers of Common Stock offered hereby ("New Investors"). If the initial public offering price is higher or lower, the dilution to New Investors will be, respectively, greater or less. The following tables illustrate the dilution per share:

| | |
|--|----------|
| Assumed public offering price(1)..... | \$5.00 |
| Net tangible book value per share at June 30, 1997(2)..... | \$(0.28) |
| Increase per share attributable to New Investors..... | 2.38 |
| | ----- |
| Pro forma net tangible book value per share after the Offering(3)..... | \$2.10 |
| | ----- |
| Dilution per share to New Investors(4)..... | \$2.90 |
| | ===== |

- - - - -

- (1) Before deduction of underwriting discounts and commissions and estimated

offering expenses payable by the Company.

- (2) Net tangible book value per share represents the Company's total tangible assets less its total liabilities divided by the number of shares of Common Stock outstanding.
- (3) Does not include the MedImmune Shares. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations."
- (4) The dilution of net tangible book value per share to New Investors assuming the Underwriters' Over-allotment Option is exercised in full would be \$2.73 (or 55%).

The following tables set forth, with respect to existing stockholders and New Investors, a comparison of the number of shares of Common Stock acquired from the Company, the percentage ownership of such shares, the total consideration paid and the average price per share.

| | SHARES PURCHASED | | TOTAL CONSIDERATION PAID | | |
|--|------------------|---------|--------------------------|---------|-------------------------|
| | NUMBER | PERCENT | AMOUNT | PERCENT | AVERAGE PRICE PER SHARE |
| Officers, Directors, Promoters and Affiliates..... | 2,212,504 | 32.2% | \$ 201,248 | 1.0% | \$0.09 |
| Unaffiliated Existing Stockholders..... | 1,154,678 | 16.8% | 2,107,000 | 10.6% | 1.82 |
| New Investors..... | 3,500,000 | 51.0% | 17,500,000 | 88.4% | 5.00 |
| Total..... | 6,867,182 | 100.0% | \$19,808,248 | 100.0% | \$2.88 |

The information contained in the above table does not give effect to the exercise of (i) the Underwriters' Over-allotment Option, (ii) the Representatives' Warrants, (iii) options granted and outstanding under the Plan to purchase 60,001 shares of Common Stock at exercise prices ranging from \$1.50 to \$5.00 per share, (iv) the de Weese Warrants (461,016 shares of Common Stock at \$3.00 per share), (v) the Fischetti Warrants (150,000 shares of Common Stock at \$1.50 per share), (vi) the Directors/Advisors Warrants (35,000 shares of Common Stock at the initial offering price) or (vii) the Bridge Warrants (an estimated 100,000 shares of Common Stock at the initial offering price). Exercise of such options and/or warrants would result in further dilution to New Investors. If all warrants and options eligible for exercise at June 30, 1997 (50,001 options and 265,254 warrants) were exercised, per share dilution to the New Investors would be \$2.90. The information in the above table also

does not include the MedImmune Shares. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaboration."

DIVIDEND POLICY

The Company currently anticipates that it will retain any future earnings for use in its business and does not anticipate paying any cash dividends in the foreseeable future. The payment of any future dividends will be at the discretion of the Board of Directors and will depend, among other things, upon the Company's future earnings, operations, capital requirements and financial condition, general business conditions and contractual restrictions on payment of dividends, if any.

The following selected financial data as of December 31, 1996 and 1995 and for each of the periods then ended shown below have been derived from the Company's audited financial statements. The balance sheet data as of June 30, 1997 and the statement of operations data for the three month periods ended June 30, 1997 and 1996 have been derived from unaudited financial statements. In the opinion of management, the unaudited financial statements include all material adjustments (consisting only of normal recurring adjustments) necessary for a fair presentation of the financial position and results of operations for the periods presented. This data should be read in conjunction with the "Plan of Operation" and with the Company's Financial Statements and the Notes thereto included elsewhere in this Prospectus.

| | DECEMBER 28, 1995 (DATE OF INCEPTION) TO DECEMBER 31, 1995 | | DECEMBER 28, 1995 (DATE OF INCEPTION) TO DECEMBER 31, 1996 | | SIX MONTHS ENDED JUNE 30, 1996 | SIX MONTHS ENDED JUNE 30, 1997 | DECEMBER 28, 1995 (DATE OF INCEPTION) TO JUNE 30, 1997 |
|--|--|---------------|--|---------------|---|---|---|
| | YEAR ENDED DECEMBER 31, 1996 | | YEAR ENDED DECEMBER 31, 1996 | | (UNAUDITED) | (UNAUDITED) | (UNAUDITED) |
| STATEMENT OF OPERATIONS DATA: | | | | | | | |
| Operating expenses: | | | | | | | |
| General and administrative..... | \$ 1,000 | \$ 787,817 | \$ 788,817 | \$ 394,229 | \$ 680,122 | \$ 1,468,939 | |
| Research and development..... | -- | 662,205 | 662,205 | 311,419 | 432,668 | 1,094,873 | |
| Patent preparation fees..... | -- | 452,999 | 452,999 | 324,514 | 49,681 | 502,680 | |
| Stock option and warrant compensation..... | -- | 367,461 | 367,461 | -- | 28,813 | 396,274 | |
| Total operating expenses..... | 1,000 | 2,270,482 | 2,271,482 | 1,030,162 | 1,191,284 | 3,462,766 | |
| Interest income/(expense)..... | -- | 2,306 | 2,306 | -- | (121,727) | (119,421) | |
| Net loss | \$(1,000) | \$(2,268,176) | \$(2,269,176) | \$(1,030,162) | \$(1,313,011) | \$(3,582,187) | |
| Net loss per common share(1)..... | -- | \$ (0.66) | | \$ (0.32) | \$ (0.36) | | |

DECEMBER 31, 1995 DECEMBER 31, 1996 JUNE 30, 1997

| BALANCE SHEET DATA: | DECEMBER 31, 1995 | DECEMBER 31, 1996 | JUNE 30, 1997 |
|-------------------------------|-------------------|-------------------|-----------------------------|
| Working capital(deficit)..... | \$ (7,937) | \$232,050 | (UNAUDITED) \$ (964,461) |
| Total assets..... | 6,937 | 580,918 | 558,364 |
| Total liabilities..... | 7,937 | 180,938 | 1,309,582 |
| Stockholders' equity..... | (1,000) | 399,980 | (751,218) |

(1) For information concerning the computation of net loss per share, see Note 2 of Notes to Financial Statements.

PLAN OF OPERATION

The following discussion and analysis should be read in conjunction with the financial statements and notes thereto appearing elsewhere in this Prospectus.

RESULTS OF OPERATIONS

The Company is a development stage, biopharmaceutical company. Since its inception in December 1995, the Company's efforts have been principally devoted to research and development, securing patent protection and raising capital. From inception through June 30, 1997, the Company has sustained cumulative losses of \$3,582,187, including non-cash charges in the amount of \$396,274 for stock option and warrant compensation expense. These losses have resulted primarily from expenditures incurred in connection with research and development, patent preparation and prosecution and general and administrative activities. From inception through June 30, 1997, research and development expenses amounted to \$1,094,873, patent preparation and prosecution expenses amounted to \$502,680 and general and administrative expenses amounted to \$1,468,939.

The Company expects to continue to incur substantial research and development costs in the future resulting from ongoing research and development programs, manufacturing of products for use in clinical trials and pre-clinical and clinical testing of the Company's products. The Company also expects that general and administrative costs, including patent and regulatory costs, necessary to support clinical trials, research and development, manufacturing and the creation of a marketing and sales organization, if warranted, will increase in the future. Accordingly, the Company expects to incur increasing operating losses for the foreseeable future. There can be no assurance that the Company will ever achieve profitable operations.

To date, the Company has not marketed, or generated revenues from the commercialization of, any products. The Company's current product candidates are not expected to be commercially available for several years.

General and administrative expenses from inception through June 30, 1997, were \$1,468,939, primarily due to personnel costs and associated operating costs. The Company anticipates that general and administrative expenses will increase substantially during the next 12 months as the Company increases its staffing levels.

Research and development expenditures consist primarily of payments for sponsored research, payments to its scientific consultants and the salaries of its research staff. Research and development expenses from inception through June 30, 1997 were \$1,094,873. As of June 30, 1997, the Company had made advance payments of \$211,458 for research support to Rockefeller for the period ending January 31, 1998. The Company has research support agreements with both Emory and Oregon State pursuant to which the Company is obligated to fund research through January 31, 1998 in the aggregate annual amount of \$183,320. The Company anticipates that its research and development expenses will increase during the next 12 months as the Company continues to fund research programs and pre-clinical and clinical testing for its product candidates and technologies under development. See "--Product Research and Development Plan."

From inception through June 30, 1997, the Company recorded non-cash compensation expense in the amount of \$396,274 related to the issuance of compensatory stock options and warrants to the President of the Company and the consultant who serves as the Company's Chief Scientific Advisor. The warrants issued to the consultant were to compensate him for his efforts in introducing the Company to potential collaborative partners.

LIQUIDITY AND CAPITAL RESOURCES

1996 Private Placement Transactions

In March 1996, the Company completed a private placement transaction in which it sold 1,038,008 shares of Common Stock for an aggregate gross consideration of \$1,557,000. In September 1996, the Company completed a private placement transaction in which it sold 250,004 shares of Common Stock for an aggregate gross consideration of \$750,000.

Bridge Financing

On February 28, 1997, the Company completed the Bridge Financing pursuant to which the Company issued Bridge Notes in the aggregate principal amount of \$1,000,000 and Bridge Warrants to purchase an estimated 100,000 shares in

aggregate of the Company's Common Stock (the actual number of shares will be determined by dividing one-half the principal of the Bridge Notes (\$500,000) by the actual initial offering price per share) at an exercise price equal to the actual initial offering price per share. In the event an initial public offering of the Common Stock is not completed prior to the maturity date of the Bridge Notes, the holders of the Bridge Notes will receive Bridge Warrants to purchase an aggregate of 100,000 shares of Common Stock at an exercise price of \$5.00 per share. The Bridge Notes bear interest at the rate of 10% per annum and are due on the earlier of six months subsequent to the date of issuance or the consummation of the Offering. As of July 8, 1997, the maturity date of Bridge Notes in the principal amount of \$250,000, which had maturity dates of July 1997 had been extended to the earlier of October 1, 1997 or completion of the Offering. The Company plans to obtain extensions of the remaining Bridge Notes to the earlier of October 1, 1997 or completion of the Offering. The Bridge Warrants, which are exercisable from the first anniversary of the date of the consummation of the Offering (or February 28, 1998 if the Offering is not consummated) until the fifth anniversary of the date of the consummation of the Offering (or February 28, 2002 if the Offering is not consummated), were issued to the Bridge Investors because the interest rate on the Bridge Notes did not provide the Bridge Investors with a sufficient rate of return given the risks associated with their investment in the Bridge Notes. None of the Bridge Investors are affiliates of the Company. The Bridge Investors have also agreed with the Company not to sell or otherwise dispose of the Bridge Warrants for a period of 12 months after the date of the consummation of the Offering. The Company intends to use a portion of the proceeds of the Offering to repay the Bridge Notes and the interest accrued thereon and will recognize an expense upon completion of the Offering relating to the unamortized portion of the debt discount associated with the Bridge Financing which amounted to \$44,333 at June 30, 1997.

Collaborative Research and License Agreement

In July 1997, the Company entered into a collaborative research and license agreement with Wyeth-Ayerst. Under the terms of the agreement, the Company has granted Wyeth-Ayerst an exclusive worldwide license to develop, make, use and sell products derived from specified technologies. The agreement requires Wyeth-Ayerst to sponsor further research by the Company for the development of the licensed technologies for a period of two years from the effective date of the agreement, in return for payments to the Company totaling \$1,200,000. An initial sponsored research payment in the amount of \$300,000 is due to the Company within 30 days of the execution of the agreement. The remaining sponsored research payments are payable in equal quarterly installments over the two years. In consideration of the license grant, the Company is entitled to receive royalties equal to specified percentages of net sales of products incorporating the licensed technologies. The royalty percentages increase as certain cumulative and annual net sales amounts are attained. The Company could receive milestone payments, up to \$13,750,000 for the initial product and up to \$3,250,000 for the second product developed from a single compound derived from the licensed technologies. The Company could also receive, under certain circumstances, additional milestone payments, for an additional compound, as defined in the agreement, developed from the licensed technologies. Such milestone payments are contingent upon the Company meeting the milestones set forth in the agreement, and, accordingly, if the Company is unable to meet such milestones, the Company will not receive such milestone payments.

Current Resources

The Company anticipates that its current resources, together with the net proceeds of the Offering, will be sufficient to finance the Company's currently anticipated needs for operating and capital expenditures for at least 24 months from the consummation of this Offering. In addition, the Company will attempt to generate additional working capital through a combination of collaborative agreements, strategic alliances and equity and debt financings. However, no assurance can be provided that additional capital will be obtained through these sources. In addition, for a period of 12 months (6 months in the case of any public offering under the Securities Act) after the date of this Prospectus, Sunrise's prior written consent is required if the Company seeks to raise

additional funds through the issuance of equity. If the Company is not able to obtain continued financing the Company may cease operation and purchasers of

the Common Stock will, in all likelihood, lose their entire investment. See "Underwriting."

The Company's working capital and capital requirements will depend upon numerous factors, including progress of the Company's research and development programs; pre-clinical and clinical testing; timing and cost of obtaining regulatory approvals; levels of resources that the Company devotes to the development of manufacturing and marketing capabilities; technological advances; status of competitors; and ability of the Company to establish collaborative arrangements with other organizations.

Until required for operations, the Company's policy is to invest its cash reserves in bank deposits, certificates of deposit, commercial paper, corporate notes, U.S. government instruments and other investment-grade quality instruments.

At June 30, 1997, the Company had \$129,913 in cash and cash equivalents, and a working capital deficit of \$964,461. In accordance with the terms of the Bridge Notes, the Company will utilize proceeds of approximately \$1,000,000 upon completion of the Offering to repay the principal of, and accrued interest through consummation of the Offering on, the Bridge Notes. See "Use of Proceeds" and Note 9 of Notes to Financial Statements.

PRODUCT RESEARCH AND DEVELOPMENT PLAN

The Company's plan of operation for the 12 months following completion of this Offering will consist primarily of research and development and related activities including:

- . formulation and further pre-clinical development of the Company's vaccine candidate for strep throat, and if successful, the initiation of clinical trials. See "Business--The Company's Product Candidates and Research and Discovery Programs--Mucosal Vaccines."
- . further development of the Company's anti-infectives programs aimed at blocking the function or expression of certain bacterial surface proteins. See "Business--The Company's Product Candidates and Research and Discovery Programs--Anti-Infectives."
- . continuing the funding of the research on mucosal vaccine delivery systems, mucosal vaccine candidates and novel anti-infectives currently being conducted at Rockefeller, Oregon State, Emory and SUNY Buffalo. See "Business--Collaborative Research and Licenses."
- . continuing the prosecution and filing of patent applications. See "Business--Patents and Proprietary Rights."
- . hiring additional employees, including filling senior positions in the areas of finance, product development and regulatory and clinical affairs.
- .leasing a research facility.

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

BUSINESS

The Company is a development stage, biopharmaceutical company focused on the discovery, development and commercialization of vaccines, antibiotics and novel anti-infectives for serious infectious diseases. The Company's lead vaccine candidate is for the prevention of "strep throat." The Company is developing a technology for the mucosal delivery of its vaccines which may allow those vaccines to activate the immune system at the mucus-lined surfaces of the body--the mouth, the nose, the lungs and the gastrointestinal and

urogenital tracts--the sites of entry for most infectious agents. The Company's anti-infectives programs, aimed at the increasingly serious problem of drug resistance, are designed to block the ability of bacteria to attach to human tissue, the first step in the infection process.

SUMMARY

Vaccine Candidates

The Company's lead vaccine candidate is for the prevention of group A streptococcal pharyngitis or "strep throat," a recurrent infection affecting between seven and 20 million children in the United States each year. Strep throat remains the most common childhood disease for which there is no vaccine available, and, if ineffectively treated, can progress to rheumatic fever. No vaccine has been developed because more than 100 different serotypes of group A streptococcus are known to cause the disease. In order to be effective, a vaccine would have to be based upon an antigen (a molecule that triggers an immune response) common to most of the important serotypes. The high incidence of the disease, the potentially serious consequences of inadequate treatment and the recent emergence of drug-tolerant types of group A streptococcus create an important medical need for an effective vaccine.

The Company's proprietary antigen addresses the challenge of multiple serotypes in that this antigen is common to most types of the bacteria that cause strep throat, including types that have been associated with rheumatic fever. When a vaccine incorporating this antigen was orally administered to animals, it was shown to provide protection against multiple types of group A streptococcal infection. The Company's vaccine candidate for strep throat utilizes this antigen.

The Company is collaborating with the National Institutes of Health and the University of Maryland Center for Vaccine Development on the clinical development of this vaccine candidate and expects to file an IND with the FDA in the fall of 1997.

In addition to its strep throat vaccine, the Company is also collaborating with Chiron on research toward the development of vaccines against two sexually transmitted diseases and is testing a vaccine to prevent periodontal disease in a collaboration with SUNY Buffalo.

Mucosal Vaccine Delivery System

The Company is also developing a proprietary mucosal vaccine delivery system which is a component of the Company's vaccine candidates and which the Company intends to license to other vaccine developers. Mucosally-delivered vaccines are considered attractive because such vaccines may mobilize an immune response concentrated at the site of infection and because they may activate both a mucosal IgA antibody response as well as a systemic (IgG and T cell) response. The Company's mucosal vaccine delivery system utilizes commensal bacteria (harmless bacteria that live in and on the body) that have been genetically engineered to continually present disease-associated antigens which stimulate an immune response at the body's mucosal surfaces thereby preventing infection at the earliest possible stage. The Company believes that mucosal vaccines developed using its proprietary commensal delivery technology could provide a number of potential advantages over conventional vaccines, including: more complete protection; fewer side effects; the potential for single dose administration; non-injectable administration; the potential for combination vaccine delivery; and lower cost production. The Company's mucosal vaccine delivery technology is potentially applicable to any infectious disease that begins at a mucosal surface.

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Anti-Infectives and Antibiotics Therapy Candidates

The Company's anti-infectives program is targeted principally toward drug-resistant bacteria and hospital-acquired infections. According to estimates from the Centers for Disease Control, approximately two million hospital-acquired infections occur each year in the United States. According to the Pharmaceutical Manufacturer's Association, the United States and worldwide antibiotic markets are \$7 billion and \$22 billion, respectively.

The Company's anti-infectives approaches aim to block the ability of bacteria to attach to and colonize human tissue, thereby blocking infection at

the first stage in the infection process. By comparison, antibiotics available today act by interfering with either the structure or the metabolism of a bacterial cell, affecting its ability to survive and to reproduce. No currently available antibiotics target the attachment of a bacterium to its target tissue. By preventing attachment, the bacteria would be readily cleared by the body's immune system.

The Company's lead anti-infectives program is based on a novel target for antibiotic therapy. The Company's founding scientists have identified an enzyme, a selective protease, utilized by most gram-positive bacteria to anchor certain proteins to the bacterial cell wall. These surface proteins are the means by which certain bacteria recognize, adhere to and colonize specific tissue. The Company's strategy is to develop protease inhibitors. The Company believes protease inhibitors will have wide applicability to gram-positive bacteria in general, including antibiotic resistant staphylococcus and a broad range of serious infectious diseases including meningitis and respiratory tract infections. The Company has entered into a collaborative research and license agreement with Wyeth-Ayerst to identify and develop protease inhibitors as novel antibiotics.

The Company has entered into a letter of intent with MedImmune regarding a technology transfer agreement pursuant to which the Company will acquire all of MedImmune's rights in gram-negative antibiotic targets, products, screens and services. The Company and MedImmune plan to collaborate in the development of antibiotics against gram-negative pathogens. These bacteria utilize structures called pili to adhere to target tissue, and the Company plans to exploit the assembly and export of these essential infective structures as novel anti-infective targets. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations."

SURFACE PROTEIN EXPRESSION SYSTEM

The Company is developing proprietary protein production systems based on its understanding of the mechanisms used by gram-positive bacteria to export and anchor surface proteins. Methods have been developed to engineer gram-positive bacteria to produce and secrete commercially useful proteins such as antigens or enzymes into the culture medium in a form requiring minimal purification. The Company believes that this technology provides a cost-effective alternative to E. coli, yeast and mammalian cell culture systems.

BACKGROUND

Infectious Diseases

Infectious diseases are the leading cause of death in the world. For most of the twentieth century, the incidence of infectious disease has decreased dramatically due to the use of antibiotics and the development of effective vaccines to prevent many common diseases. In recent years, however, this trend has reversed with the emergence of many new infectious diseases or the re-emergence or increased incidence of known infectious diseases worldwide, a public health issue which has become "a threat to global health and security." There are many reasons for this emergence, including: (i) the intrusion of humans into formerly unpopulated or isolated populations has provided exposure to organisms previously unknown (e.g. Lyme disease, hantavirus, Ebola virus); (ii) the spread of disease-causing organisms has increased due to the ease of worldwide transportation; (iii) changes in human behavior, such as increased sexual activity and intravenous drug abuse, have contributed to the spread of diseases like human immunodeficiency virus ("HIV"), hepatitis, and chlamydia; (iv) the

widespread use of day care facilities has exposed a larger number of children to infectious diseases and, as a result, their families; (v) the use of immunosuppressive drugs, particularly for cancer treatment, has rendered susceptible an ever growing number of people subject to infectious diseases which in otherwise healthy individuals would be benign; (vi) past complacency of public health officials has resulted in lowered surveillance of and reduced prevention programs for infectious diseases leading to an inability to react quickly to newly arising infectious threats; and (vii) increased antibiotic resistance has resulted in a major threat from organisms which were effectively and easily treated in the past.

As a result of these and other factors, the Centers for Disease Control and Prevention has estimated that between 1980 and 1992, in the United States, the mortality rate due to infectious diseases rose by 58%. Alarmingly, the age group most affected, ages 25 to 44 years, has experienced over a six-fold increase in infectious disease-related deaths during this period. Due to this increase, infectious diseases are now the third leading cause of death in the United States, following only cardiovascular and cancer-related deaths. The financial burden to the public to treat or prevent infectious diseases has been conservatively estimated to exceed \$120 billion annually. The problem of emergent infections, combined with the need to provide quality healthcare at a reasonable cost, have led to a reexamination of the approaches used to combat infectious diseases.

Immune System

The human immune system is a complex system of checks and balances, coupled with an intricate network of cells and effector molecules, which has evolved to stave off the intrusion of foreign elements into the body. To accomplish this the body has developed a means to determine the difference between self and non-self ("foreign"). Foreign substances include elements such as dust particles, pollen grains, infectious agents and antigens (the surface of these other structures generally are covered with antigens, or secrete them). Once the determination has been made that a foreign intruder exists, the body's defenses are triggered, beginning a cascade of events known collectively as the immune response. The end result, in a healthy person, is the successful clearance or elimination of the offending material. The immune response has been divided into two arms based principally on the ultimate effector mechanism which will fight the initial insult; these arms are known as the humoral and cellular immune responses. The humoral immune system employs a family of molecules circulating in the blood stream known as immunoglobulins, or antibodies, which are secreted by immune cells called lymphocytes. In terms of infectious diseases, these antibodies are very effective at combating invasions by bacteria, protozoan parasites, and some viruses, as well as specific proteins produced by these infectious agents. In contrast, a cellular immune response, as the name implies, uses effector cells of the immune system to generally target certain viruses and cancer cells.

A different delineation also exists within the immune system in terms of the site of the induction and the response of the immune system. The systemic immune system is generally regarded as that which is internal to the body, including the antibodies in the blood stream and lymphatic system and the cellular immune response in the tissues where foreign agents have encroached. The other active site, and the focus of the Company's vaccine efforts, is the mucosal immune system. This portion of the immune system is spread over the tissues lining the cavities of the body and those involved in the secretions which ultimately find their way to these cavities. Included in this vast network are the linings of the oral and nasopharyngeal cavity, the respiratory tract, the gastrointestinal tract, and the urogenital tract. There are a number of physical barriers present which can prevent the invasion of infectious agents into the mucosal lining. Among these physical factors are: (i) the mucus which covers the lining of mucosal tissues; (ii) the production of protein degrading enzymes which digest proteins either free in the mucosal environment or attached to infectious organisms, thereby decreasing their ability to invade the mucosal tissues; (iii) the peristaltic motion of the walls beneath the mucosa which function in moving digested food and, consequently, infectious agents which are present, through the digestive tract and out of the body; (iv) the motion of the cilia lining the mucosal cavities which carry infectious organisms through the body; and (v) the specialized cells which line the mucosa coupled with the tight junctions between them also provide a strong barrier to the penetration of infectious organisms into the deeper tissues.

The specific response which occurs in the mucosal immune system begins with the uptake of the infectious agent or antigen generally by a specialized cell lining the mucosa called an M cell. This cell facilitates the movement of the antigen to cells underlying the epithelial layer which can efficiently prepare the antigen and present it to cells of the immune system. Once stimulated, these cells can migrate to various parts of the mucosal system where they can either produce antibodies or induce effector cells specific for the offending (or, in the case of vaccines, immunizing) agent. Due to this migratory nature of the immune cells of the mucosal immune system, the entire system has been

termed the common mucosal immune system. As a result of this trafficking of immune cells, induction of a mucosal immune response at one site results in the expression of that specific response at multiple sites within the mucosal system; i.e. induction of an immune response in the oral cavity would lead to an immune response there, but also in the gut. The weakness of this common mucosal system is that generally the immune response is greater at the site of stimulation than at distant sites within the system, a problem which the Company hopes to circumvent using the site-specific aspects of its commensal vaccine delivery system.

The primary effector molecule of the mucosal immune response is an antibody known as secretory immunoglobulin A (sIgA), which is found in saliva, tears, and other secretions of the respiratory, gastrointestinal ("GI"), and urogenital tracts. Given that the mucosal surface covers such a large area, it is not surprising that the sIgA produced there accounts for greater than 75% of all the antibodies produced in the body. sIgA performs a variety of important functions, including: (i) neutralization of viruses, toxins, and enzymes; (ii) inhibition of adherence of microorganisms to mucosal surfaces; (iii) immune exclusion of macromolecules and bacterial toxins; (iv) suppression of antibody-mediated inflammatory responses at mucosal surfaces; (v) synergism with nonspecific antibacterial factors, such as lactoferrin, peroxidase, and lysozyme; (vi) clearance of adsorbed antigen from the circulation; and (vii) interference with other infectious determinants. These factors, coupled with the non-specific barriers described above, form a formidable obstacle to invading infectious organisms.

Vaccines

Vaccines prevent disease by stimulating the body to produce a protective immune response to particular disease-causing organisms, or pathogens. Conventional vaccines consist of killed microorganisms (e.g. pertussis vaccine), live attenuated microorganisms (e.g. polio or smallpox vaccines) or components of microorganisms, called subunit vaccines (e.g. hepatitis B vaccine). These types of vaccines have been successful in many cases, as evidenced by the global eradication of smallpox through immunization. However, conventional vaccines can have significant limitations. For example, killed vaccines and component vaccines can have variable efficacy and may require boosters to maintain immunity. Attenuated vaccines, while generally more effective, can be associated with certain medical complications, such as neurological damage, allergic reaction, bleeding and infection. There are also a number of diseases for which conventional approaches have not been able to evoke a protective immune response. Aside from the oral polio vaccine, all of these vaccines are administered via the systemic route, i.e. through a needle. The World Health Organization has recently reported that in Eastern Europe 50% of the vaccine centers gave unsafe vaccines or used vaccines of doubtful potency. While clearly there are many factors contributing to this problem, one of the solutions is to alter the manner in which vaccines are delivered.

Most infectious agents enter the host's body through and initiate infection at one of the mucosal surfaces--the mouth, the nose, the lungs or the GI or urogenital tracts. For example, the influenza virus usually enters the body through the mouth or nose, salmonella through the GI tract and chlamydia through the urogenital tract. The body's mucosal surfaces present a physical barrier to pathogens and also possess a specific local immune system, which provides a primary line of defense against invading organisms. While conventional vaccines are designed to produce an effective systemic (internal) immune response, they are relatively ineffective at stimulating the mucosal immune system. It is now well recognized in the scientific and medical communities that the mucosal immune system represents an important target for immunization and that vaccines designed to activate the mucosal immune system may prevent a variety of diseases for which conventional vaccines provide only limited protection or do not exist.

Anti-infectives and Drug Resistance

Since their introduction in the 1940s, antibiotics have been the first line of defense against bacterial infections. Over the past few decades, however, bacterial resistance to existing antibiotics has been increasing, rendering some previously innocuous infections virtually untreatable. All current classes of antibiotics function by interfering with either the structure or the metabolism of a bacterial cell, affecting its ability to survive and to reproduce. For example, penicillin prevents production of new bacterial cell

walls, tetracycline inhibits the synthesis of new bacterial proteins, fluoroquinolones inhibit nucleic acid synthesis, and polymyxin B disrupts the integrity of bacterial membranes. Within any given population of infectious organisms, there are generally some cells which are not susceptible to the antibiotic selected for treatment. Because this population is so small, the host can usually remove the remainder of the resistant cells by its normal clearance mechanisms. If, however, a population of pathogens is given the opportunity to increase the percentage of resistant organisms within its number, then eventually the resistant organisms will predominate. There are several reasons for the recent emergence of antibiotic resistance in microorganisms: (i) indiscriminate prescribing of antibiotics by physicians to patients who do not require antibiotic treatment; (ii) non-compliance of dosing regimens by patients leading to incomplete clearance of the infectious agent; (iii) transfer of resistance genes from one organism to another; and (iv) the widespread use of antibiotics in cattle, which ultimately enters the human food chain.

Antibiotic resistance has become a problem with many medically important bacteria, but has become particularly dangerous with respect to *Mycobacterium tuberculosis* (which causes TB), *Neisseria gonorrhoeae* (gonorrhoea), *Pseudomonas aeruginosa* (infections in immunocompromised patients), *S. aureus* (hospital-acquired and other infections), *Streptococcus pneumoniae* (pneumonia, otitis media, meningitis), and *Enterococcus* spp. (bacteremia and GI tract infections). While new generations of antibiotics have been developed with broad spectrum activity, only one new class of antibiotics has been developed in the last two decades. The need for new classes of antibiotics and new targets for their action has become crucial to the health of the nation and the world.

THE COMPANY'S TECHNOLOGIES

Vaccine Technologies: Mucosal Immunity and Vaccine Delivery

Using proprietary technology licensed from Rockefeller, the Company is developing certain commensal bacteria ("commensals") as a means to deliver mucosal vaccines. Commensals are harmless bacteria that naturally inhabit the body's surfaces--with different commensals inhabiting different surfaces, particularly the mucosal surfaces. The Company's vaccine candidates utilize genetically engineered commensals to deliver antigens from a variety of pathogens to the mucosal immune system. When administered, the genetically engineered ("recombinant") commensals colonize the mucosal surface and replicate. By activating a local mucosal immune response, the Company's vaccine candidates are designed to prevent infection and disease at the earliest possible stage. By comparison, most conventional vaccines are designed to act after infection has already occurred.

The Company's commensal vaccine candidates utilize gram-positive bacteria, one of two major classes of bacteria. Rockefeller scientists have identified a protein region that is used by gram-positive bacteria to anchor proteins to their surfaces. The Company is using the proprietary technology licensed from Rockefeller to fuse antigens from a wide range of infectious organisms, both viral and bacterial, to the surface protein anchor region of a variety of commensal organisms. By combining a specific antigen with a specific commensal, vaccines can be tailored to both the target pathogen and its mucosal point of entry.

To target an immune response to a particular mucosal surface, a vaccine would employ a commensal organism that naturally inhabits that surface. For example, vaccines targeting sexually transmitted diseases could employ *Lactobacillus acidophilus*, a commensal colonizing the female urogenital tract. Vaccines targeting GI diseases could employ *Lactobacillus casei*, a commensal colonizing the GI tract. The Company has conducted initial experiments using *Streptococcus gordonii* ("*S. gordonii*"), a commensal that colonizes the oral cavity and that can potentially be used in vaccines targeting pathogens that enter through the upper respiratory tract, such as the influenza virus.

By using an antigen unique to a given pathogen, the technology can potentially be applied to any infectious agent that enters the body through a mucosal surface. The Company's founding scientists have expressed and anchored a variety of viral and bacterial antigens on the outside of *S. gordonii*, including the M6 protein from group A streptococcus, a group of organisms that cause a range of diseases, including strep throat, necrotizing fasciitis,

impetigo and scarlet fever. In addition, proteins from other infectious agents, such as HIV and human papilloma virus have also been expressed using this system. The Company believes this technology will enable the expression of essentially any antigen regardless of size or shape. In animal studies, the Company has shown that the administration of a recombinant *S. gordonii* vaccine prototype induces both a local mucosal immune response and a systemic immune response.

The Company believes that mucosal vaccines developed using its proprietary commensal delivery technology could provide a number of advantages, including:

More complete protection than conventional vaccines: Mucosal vaccines in general may be more effective than conventional parenteral (injectable) vaccines, due to their ability to produce both a systemic and local (mucosal) immune response. By stopping infectious organisms at the earliest stage, the immune response has no need to eliminate pathogens which have already become established in the host.

Potential single dose administration: The commensal delivery has the potential to allow for long term colonization of the host, eliminating the need for boosters, while providing an extended exposure to the selected vaccine candidate(s).

Safety advantage over other live vectors: A number of bacterial pathogens have been genetically rendered less infectious, or attenuated, for use as live vaccine vectors. Commensals, by virtue of their harmless nature, offer a safer delivery vehicle without fear of genetic reversion to the infectious state inherent in attenuated pathogens.

Non-injection administration: Oral, nasal, rectal or vaginal administration of the vaccine eliminates the need for painful injections with their potential adverse reactions.

Potential for combined vaccine delivery: The Children's Vaccine Initiative has called for the development of combined vaccines, specifically to reduce the number of needle sticks per child by combining several vaccines into one injection, thereby increasing compliance and decreasing disease. The Company believes its commensal delivery technology can be an effective method of delivery of multi-component vaccines within a single commensal organism that address multiple diseases or diseases caused by multiple strains of an infectious agent.

Eliminating need for refrigeration: One of the problems confronting the effective delivery of parenteral vaccines is the need for refrigeration at all stages prior to injection. The stability of the commensal organisms in a freeze-dried state would, for the most part, eliminate the need for special climate conditions, a critical consideration, especially for the delivery of vaccines in developing countries.

Low cost production: By using a live bacterial vector, extensive downstream processing is eliminated, leading to considerable cost savings in the production of the vaccine. The potential for eliminating the need for refrigeration would add considerably to these savings by reducing the costs inherent in refrigeration for vaccine delivery.

Anti-Infectives Technology: Prevention of Attachment and Infectivity

The bacterial infectious process generally includes three steps: colonization, invasion and disease. The adherence of bacteria to a host's surface is crucial to establishing colonization. Bacteria cells adhere through a number of mechanisms, but generally by using highly specialized surface structures which, in turn, bind to specific structures or molecules on the host's cells or, as discussed below, to inanimate objects residing in the host. Once adhered, many bacteria will invade the host's cells and either establish residence or continue invasion into deeper tissues. During any of these stages, the invading bacteria can produce the molecules (toxins) which result in the outward manifestations of the disease. The severity of disease, while dependent on a large combination of factors, is often the result of the ability of the bacteria to persist in the host. These bacteria accomplish this persistence by using surface molecules which can alter the host's non-specific mechanisms or its highly specific immune responses to clear or destroy the organisms.

Unlike conventional antibiotics, as discussed above, the Company's anti-infectives approaches aim to block the ability of pathogenic bacteria to attach to and colonize human tissue, thereby preventing infection at its earliest stage. The Company is pursuing two anti-infective strategies: (i) inhibiting the expression of bacterial surface proteins required for bacterial infectivity and (ii) blocking the tissue binding sites on bacterial surface proteins. The Company believes that these approaches have promise in the areas of hospital-acquired drug-resistant infections and a broad range of other diseases caused by bacteria.

Many special surface proteins used by bacteria to infect the host are anchored in the bacterial cell wall. Scientists at Rockefeller have identified an amino acid sequence and related enzyme, a selective protease, that are essential for anchoring proteins to the surface of most gram-positive bacteria. Published information indicates that this amino acid sequence is shared by more than 50 different surface proteins found on a variety of gram-positive bacteria. This commonality suggests that this protease represents a promising target for the development of a new class of antibiotic products for the treatment of a wide range of infectious diseases. Experiments by the Company's founding scientists at Rockefeller have shown that without this sequence, proteins cannot become anchored to the bacterial surface and thus the bacteria are no longer capable of attachment, colonization or infection. Such "disarmed" bacteria should be readily cleared by the body's immune system. The Company is using a combination of structure-based drug design and high throughput screening procedures to identify compounds that inhibit the protease, thereby blocking the anchoring process. If successful, this strategy should provide relief from many gram-positive bacterial infections, but may prove particularly important in combating diseases caused by the emerging antibiotic resistance of the gram-positive organisms *S. aureus*, *Streptococcus pneumoniae*, and the enterococci.

Surface Protein Expression System ("SPEX")

The ability to overproduce many bacterial and human proteins has been made possible through the use of recombinant DNA technology. The introduction of DNA molecules into *E. coli* has been the method of choice to express a variety of gene products, because of this bacteria's rapid reproduction and well-understood genetics. Yet despite the development of many efficient *E. coli*-based gene expression systems, the most important concern continues to be associated with subsequent purification of the product. Recombinant proteins produced in this manner do not readily cross *E. coli*'s outer membrane, and as a result, proteins must be purified from the bacterial cytoplasm or periplasmic space. Purification of proteins from these cellular compartments can be very difficult. Frequently encountered problems include low product yields, contamination with potentially toxic cellular material (i.e., endotoxin) and the formation of large amounts of partially folded polypeptide chains in non-active aggregates termed inclusion bodies.

To overcome these problems, the Company has taken advantage of its knowledge of gram-positive bacterial protein expression and anchoring pathways. This pathway has evolved to handle the transport of surface proteins that vary widely in size, structure and function. Modifying the approach used to create commensal mucosal vaccines, the Company has developed methods which, instead of anchoring the foreign protein to the surface of the recombinant gram-positive bacteria, result in it being secreted into the surrounding medium in a manner which is readily amenable to simple batch purification. The Company believes the advantages of this approach include the ease and lower cost of gram-positive bacterial growth, the likelihood that secreted recombinant proteins will be folded properly, and the ability to purify recombinant proteins from the culture medium without having to disrupt the bacterial cells and liberating cellular contaminants. Gram-positive bacteria may be grown simply in scales from those required for laboratory research up to commercial mass production.

THE COMPANY'S PRODUCT CANDIDATES AND RESEARCH AND DISCOVERY PROGRAMS

The following table lists the potential indications and current status of the Company's product candidates and research and discovery programs. A more detailed description of these product candidates and research and discovery programs follows this table. The Company's product candidates are subject to the risks of failure inherent in the development of products based on innovative technologies. See "Risk Factors--Early Stage of Development; Absence of Products; No Commercialization of Products Expected in Near Future."

| PRODUCT CANDIDATES/PROGRAM ----- | INDICATION ----- | STAGE OF DEVELOPMENT* ----- |
|-------------------------------------|------------------------------------|-----------------------------------|
| MUCOSAL VACCINES | | |
| Streptococcal vaccine | Strep throat | Pre-clinical |
| STD vaccines | Herpes, HIV, HPV | Research |
| Periodontal vaccine | Periodontal disease | Pre-clinical |
| DELIVERY SYSTEM | | |
| Mucosal vaccine delivery system | Infectious diseases | Pre-clinical |
| ANTI-INFECTIVES | | |
| Protease inhibitor | Gram-positive bacterial infections | Research |
| PROTEIN EXPRESSION SYSTEM | | |
| SPEX | Protein production | Research |

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* "Research" activities include initial research and development related to specific vaccine or antibiotic compounds or formulations and their delivery. "Pre-clinical" indicates that the Company is conducting pharmacology testing, toxicity testing, formulation process development and/or development of the manufacturing process prior to possible submission of an IND.

Mucosal Vaccines

Development of the Company's mucosal vaccine candidates involves: (i) identifying a suitable immunizing antigen from a pathogen; (ii) selecting a commensal that naturally colonizes the mucosal point of entry for that pathogen; and (iii) genetically engineering the commensal to express the antigen on its surface for subsequent delivery to the target population.

Strep Throat Vaccine Candidate. Until the age of 15, many children suffer recurrent strep throat infections. Up to five percent of ineffectively treated strep throat cases progress to rheumatic fever, a debilitating heart disease which worsens with each succeeding streptococcal infection. Since the advent of penicillin therapy, rheumatic fever in the United States has experienced a dramatic decline. However, in the last decade, rheumatic fever has experienced a resurgence in the United States. Part of the reason for this is the latent presence of this organism in children who do not display symptoms of a sore throat, and, therefore, remain untreated and at risk for development of rheumatic fever. Based on data from the Centers for Disease Control and Prevention, there are seven to 20 million cases of pharyngitis due to group A streptococcus in the United States each year. There are over 32 million children in the principal age group targeted by the Company for vaccination. Worldwide, it is estimated that one percent of all school age children in the developing world have rheumatic heart disease. Despite the relative ease of treating strep throat with antibiotics, the specter of antibiotic resistance is always present. In fact, resistance to erythromycin, the second line antibiotic in patients allergic to penicillin, has appeared in a large number of cases.

No vaccine for strep throat has been developed because of the problems associated with identifying an antigen that is common to the more than 100 different serotypes of group A streptococcus, the bacterium that causes the disease. The Company has licensed from Rockefeller a proprietary antigen which is common to most types of group A streptococcus, including types that have been associated with rheumatic fever. When this antigen was orally administered to animals, it was shown to provide protection against multiple types of group A streptococcal infection. Utilizing this antigen, the Company is developing a mucosal vaccine for strep throat.

The Company's technology expresses the strep throat antigen on the surface of the commensal, *S. gordonii*, which lives on the surface of the teeth and gums. The Company believes that a single oral dose of the vaccine may be adequate to provide protection. Indeed, investigators at other institutions have shown that organisms of this type can safely colonize in the human oral cavity for up to two years. The Company is currently completing pre-clinical development of its strep throat vaccine candidate. Pre-clinical research in mice and rabbits has

established the ability of this vaccine candidate to colonize and induce both a local and systemic immune response. The Company is collaborating with the National Institutes of Health and the University of Maryland Center for Vaccine Development on the clinical development of this vaccine candidate and expects to file an IND with the FDA in the fall of 1997.

STD Vaccine Candidates. One of the great challenges in vaccine research remains the development of effective vaccines to prevent sexually transmitted viral diseases. The three principal viral pathogens which are transmitted via this route are Herpes simplex, type 2 ("HSV-2") which causes recurrent genital ulcers, HIV, the causative agent of AIDS, and human papilloma virus (HPV) which is linked to both genital warts and cervical carcinoma. To date, a great deal of effort has been expended, without appreciable success, to develop effective injectable prophylactic vaccines versus these pathogens. Given that each of these viruses enters the host through the mucosa, the Company believes that induction of a vigorous mucosal response to viral antigens may protect against acquisition of the initial infection. To test this hypothesis, the Company is expressing known immunodominant antigens from each of these viral pathogens in its proprietary mucosal vaccine delivery system. These live recombinant vaccines will be delivered to animals and tested for local and systemic immune response induction, and whether these responses can block subsequent viral infections. The Company is collaborating with Chiron on research toward the development of vaccines against two sexually transmitted diseases.

Periodontal Vaccine Candidate. Periodontal disease is characterized by acute soft tissue inflammation and subsequent alveolar bone loss. It is estimated that this condition afflicts up to 50% of the adult population by the time they reach age 65. Current treatments include mechanical debridement, tissue resection and/or antibiotic therapy. It is believed that periodontal disease is the result of an interaction between the immune system or the host and a number of oral bacterial pathogens, principally *Porphyromonas gingivalis* ("P. gingivalis"). The Company has entered into a research agreement with SUNY Buffalo to develop a mucosal vaccine to prevent periodontal disease. The vaccine, as currently constructed, features a surface antigen, fimbrillin, from *P. gingivalis* delivered to the oral cavity via the Company's proprietary mucosal vaccine delivery system. In pre-clinical trials, mucosal immunization with, or direct delivery of, fimbrillin-derived peptides to the oral cavity of germ-free rats blocked the ability of *P. gingivalis* to colonize in the rats upon subsequent challenge and dramatically reduced associated periodontal disease and bone loss. Two vaccine candidates are currently being studied in pre-clinical animal colonization and challenge experiments.

Mucosal Vaccine Delivery System

The Company's commensal vaccine candidates utilize gram-positive bacteria as vectors for the presentation of antigens. Scientists at Rockefeller have identified a protein region used by gram-positive bacteria to anchor proteins to their surfaces. The Company is using proprietary technology licensed from Rockefeller to fuse antigens from a wide range of infectious organisms, both viral and bacterial, to the surface protein anchor region of a variety of commensal organisms. By combining a specific antigen with a specific commensal, the Company believes that vaccines can be tailored to both the target pathogen and its mucosal point of entry.

The Company has developed several genetic methods for recombining foreign sequences into the genome of gram-positive bacteria at a number of non-essential sites. Various parameters have been tested and optimized to improve the level of foreign protein expression and its immunogenicity. In pre-clinical studies, recombinant commensals have been implanted into the oral cavities of several animal species with no deleterious effects. The introduced vaccine strains have taken up residence for prolonged periods of time and induce both a local mucosal (IgA) as well as a systemic immune response (IgG and T-cell).

Anti-Infectives

More than two million nosocomial infections occur each year. Of these, a large number are due to the pathogenic gram-positive bacteria. Many of these bacteria have acquired antibiotic resistance and have become an increasing problem. The gram-positive bacteria principally involved in these nosocomial

infections include: *S. aureus*, coagulase-negative staphylococci and enterococci. *S. aureus* has been described above. The coagulase-

negative staphylococci have become the leading cause of nosocomial bacteremia and, alarmingly, have shown a higher percentage of methicillin resistant strains (up to 78%) than *S. aureus* (up to 22%). The enterococci have shown a disturbing propensity toward resistance to the antibiotic of last resort, vancomycin. Even more alarming is the fact that in certain cases where the last antibiotic of choice to treat a *S. aureus* or coagulase-negative infection is vancomycin, some strains of enterococci have evolved that may actually thrive on vancomycin, rendering the treatment potentially life threatening. Another important gram-positive organism with an increasing presence of antibiotic resistance is *Streptococcus pneumoniae*, an organism responsible for pneumonia and meningitis, and which is the leading cause of middle ear infections in children.

Scientists at Rockefeller have determined that many different surface proteins from a variety of gram-positive bacteria are attached to the bacterial surface via a common anchoring mechanism. These surface proteins are responsible for a wide variety of functions essential to the successful establishment of infection by the organism, including adherence, binding to serum proteins, resistance to phagocytosis (ingestion and destruction by the host's cells), cross-signaling between the bacterium and the host's cells, and various enzymatic processes. The Company has identified an enzyme, a selective protease, utilized by most gram-positive bacteria to anchor certain proteins to the bacterial cell wall. The Company will attempt to identify compounds that will inhibit this protease, thereby blocking the anchoring process and the ability of the bacteria to initiate or prolong infection. In this process, the Company is using molecular modeling to identify possible structures of the anchor region. Once these structures are identified, natural and synthetic molecules that may inhibit the anchoring process will be screened using an existing high throughput assay developed by Rockefeller and licensed to the Company. The Company believes that this approach represents a departure from conventional antibiotics and therefore may afford a method to circumvent the resistance mechanisms already established in many gram-positive organisms. The Company has entered into an agreement with Wyeth-Ayerst to identify and develop protease inhibitors as novel antibiotics.

SPEX

The Company's proprietary SPEX protein expression uses the protein export and anchoring pathway of gram-positive bacteria as a means to facilitate the production and purification of biopharmaceutical proteins. The Company has developed vectors which allow foreign genes to be inserted into the chromosome of gram-positive bacteria in a manner such that the encoded protein is synthesized, transported to the cell surface and secreted into the medium. This system has been used to produce milligram quantities of soluble antigenically-authentic protein that can be easily purified from the culture medium by affinity chromatography. The Company believes this technology can be extended to a variety of different antigens and enzymes.

MedImmune Technology

The Company has entered into a letter of intent with MedImmune regarding a technology transfer agreement pursuant to which the Company will acquire all of MedImmune's rights in gram-negative antibiotic targets, products, screens and services. Such rights include MedImmune's rights to technology developed by scientists at Washington University. Research carried out by these scientists has demonstrated that assembly of type P pili on gram-negative bacteria requires the participation of both a periplasmic molecular chaperone and an outer membrane usher. Since the gram-negative pili are the primary mechanism by which these organisms adhere to and colonize host tissue, inhibition of their assembly should effectively inhibit disease caused by this class of organisms. Detailed structural data is available on the molecular chaperone and scientists at Washington University are developing the same for the usher protein. This information will be used in concert with molecular modeling techniques to identify potential structures that will bind to the conserved residues of the chaperone and usher proteins. Once these structures are identified, natural and synthetic molecules that inhibit chaperone/usher function will be screened using high throughput assays developed by scientists at Washington University. The Company believes that this approach is a departure from conventional antibiotics and therefore may afford a method to

circumvent the resistance mechanisms already established in many gram-negative bacteria. There can be no assurance that the Company will enter into a final agreement with MedImmune, and, therefore, there can be no assurance that the Company will acquire the rights to the technology described above. See "Risk Factors--Dependence on Others; Collaborations."

COLLABORATIVE RESEARCH AND LICENSES

The Company sponsors research and development activities in laboratories at Rockefeller, Emory, Oregon State, and SUNY Buffalo and does not maintain its own research and development facilities. The Company's research is conducted by its employees and employees of the aforementioned universities. The Company's two principal research scientists, Dr. Vincent Fischetti, whose laboratory is at Rockefeller, and Dr. Dennis Hruby, whose laboratory is at Oregon State, work together to coordinate the Company's research projects. The majority of the Company's molecular biology and genetic research is conducted at Oregon State and the bulk of its bacteriology and immunology research is conducted at Rockefeller. The Company has entered into the following license agreements and collaborative research arrangements:

Rockefeller University. The Company and Rockefeller have entered into an exclusive worldwide license and research agreement whereby the Company has obtained the right and license to make, use and sell mucosal vaccines based on gram-positive organisms and products for the therapy, prevention and diagnosis of diseases caused by streptococcus, staphylococcus and other organisms. The license covers two issued United States patents and one issued European patent as well as 11 pending United States patent applications and corresponding foreign patent applications. The issued United States patents expire in 2005 and 2014, respectively. The agreement generally requires the Company to pay royalties on sales of products developed from the licensed technologies and fees on revenues from sublicensees, where applicable, and the Company is responsible for certain milestone payments and for the costs of filing and prosecuting patent applications. Pursuant to the agreement, the Company has provided funding to Rockefeller for sponsored research through January 31, 1998, with exclusive license rights to all inventions and discoveries resulting from this research.

Emory. Emory is a party to the Company's license agreement with Rockefeller whereby the Company has obtained the right and license to make, use and sell products for the therapy, prevention and diagnosis of diseases caused by streptococcus. Because the license relates to one of the pending United States patent applications covered by the Rockefeller license, the Company has agreed to reimburse Rockefeller for Emory's patent expenses and Rockefeller will remit such amounts to Emory. Pursuant to a separate research support agreement with Emory, the Company is providing funding for sponsored research through January 31, 1998, with a right of first refusal to acquire exclusive license rights to all inventions and discoveries resulting from this research.

Oregon State. Oregon State is also a party to the Company's license agreement with Rockefeller whereby the Company has obtained the right and license to make, use and sell products for the therapy, prevention and diagnosis of diseases caused by streptococcus. Because the license relates to one of the pending United States patent applications covered by the Rockefeller license, the Company has agreed to reimburse Rockefeller for Oregon State's patent expenses and Rockefeller will remit such amounts to Oregon State. Pursuant to a separate research support agreement with Oregon State, the Company is providing funding for sponsored research through January 31, 1998, with exclusive license rights to all inventions and discoveries resulting from this research.

National Institutes of Health. The Company has entered into a clinical trials agreement with the National Institute of Allergy and Infectious Diseases, National Institutes of Health ("NIH") pursuant to which NIH, with the cooperation of the Company, will submit an IND for the Company's strep throat vaccine and conduct a clinical trial of the Company's strep throat vaccine.

SUNY Buffalo. The Company has entered into a research agreement with SUNY Buffalo to develop a mucosal vaccine to prevent periodontal disease. Pursuant to the agreement, the Company is providing funding for sponsored research through June 30, 1998 and has an exclusive option to license all inventions and discoveries resulting from this research.

Wyeth-Ayerst. The Company has entered into a collaborative research and license agreement with Wyeth-Ayerst in connection with the discovery and development of anti-infectives for the prevention and treatment of gram-positive bacterial infections. Pursuant to the agreement, Wyeth-Ayerst is providing funding for a joint research and development program through June 30, 1999 and is responsible for additional milestone payments. Under the terms of the agreement, the Company could receive up to \$18.2 million in research and milestone

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payments for products developed from a single compound, or up to \$25.5 million if products are developed from an additional compound. The milestone payments are contingent upon the Company meeting the milestones set forth in the agreement, and, accordingly, if the Company is unable to meet such milestones, the Company will not receive such milestone payments. Wyeth-Ayerst has exclusive license rights in the field (as defined in the agreement) to any product resulting from this research and is required to make royalty payments based on sales of any product developed from the licensed technologies.

Chiron. The Company has entered into a collaborative research agreement with Chiron regarding research toward the development of vaccines against two sexually transmitted diseases. The agreement was entered into as of July 1, 1997 and expires on July 1, 1998. Pursuant to the agreement, each company retains sole rights to any technology invented solely by such company and the companies will jointly own any technology jointly developed by the companies.

In addition, the Company has entered into a letter of intent with MedImmune regarding a technology transfer agreement pursuant to which the Company will acquire all of MedImmune's rights in gram-negative antibiotic targets, products, screens and services. The Company and MedImmune plan to collaborate in the development of antibiotics against gram-negative pathogens. The Company and MedImmune contemplate that upon the execution of the technology transfer agreement, MedImmune will receive 335,530 shares of Common Stock. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described above or at all. See "Risk Factors--Dependence on Others; Collaborations."

MANUFACTURING

The Company does not intend to invest in large scale manufacturing facilities unless and until its product candidates pass significant developmental hurdles. The Company believes that all of its existing products under development can be made using well understood manufacturing methods. Nevertheless, the Company has no manufacturing experience and it may not be able to develop reproducible and effective manufacturing processes at a reasonable cost. In such event, the Company will have to rely on third party manufacturers whose availability and cost are presently unknown. The Company plans to contract with third party manufacturers to produce pre-clinical and clinical lots of its biological products. No assurances can be given that the Company will establish such relationships or manufacture its product candidates successfully. See "Risk Factors--Lack of Manufacturing, Marketing or Sales Capabilities."

MARKETING

The Company currently has no internal marketing and sales resources and personnel. The Company recognizes the challenges associated with marketing and sales in the pharmaceutical industry and anticipates undertaking these activities only for products that address large but focused therapeutic markets in which a small marketing organization can compete effectively. It is, however, the Company's present intention to seek marketing partners to assist it in later stages of regulatory and clinical development, process scale up, production and marketing. No assurances can be given that the Company will establish such relationships or market its product candidates successfully. See "Risk Factors--Lack of Manufacturing, Marketing or Sales Capabilities."

PATENTS AND PROPRIETARY RIGHTS

Protection of the Company's proprietary compounds and technology is essential to the Company's business. The Company's policy is to seek, when

appropriate, protection for its lead compounds and certain other proprietary technology by filing patent applications in the United States and other countries. The Company has licensed the rights to two issued United States patents and one issued European patent. The Company has also licensed the rights to 11 pending United States patent applications as well as corresponding foreign patent applications. The two issued United States patents expire in 2005 and 2014, respectively.

The patents and patent applications licensed by the Company relate to all of the core technology used in the development of the Company's leading product candidates, including the mucosal vaccine delivery system, the SPEX protein expression system for producing biopharmaceutical products, the protective streptococcal antigens and the antibiotic development target, as well as a variety of early stage research projects. Each of the Company's products represented by each of the patents is in a very early stage in its development process.

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The Company also relies upon trade secret protection for its confidential and proprietary information. No assurance can be given that other companies will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to the Company's trade secrets or that the Company can meaningfully protect its trade secrets.

The Company requires its employees, consultants, outside scientific collaborators and sponsored researchers and certain other advisors to enter into confidentiality agreements with the Company. These agreements will provide that all confidential information developed or made known to the individual during the course of the individual's relationship with the Company will be kept confidential and will not be disclosed to third parties except in specific circumstances. In the case of employees, such agreements will provide that all inventions conceived by the employee are the exclusive property of the Company. There can be no assurance, however, that these agreements will provide meaningful protection or adequate remedies for the Company's trade secrets in the event of unauthorized use or disclosure of such information.

GOVERNMENT REGULATION

Regulation by governmental authorities in the United States and other countries will be a significant factor in the production and marketing of any products that may be developed by the Company. The nature and the extent to which such regulation may apply to the Company will vary depending on the nature of any such products. Virtually all of the Company's potential products will require regulatory approval by governmental agencies prior to commercialization. In particular, human therapeutic products are subject to rigorous pre-clinical and clinical testing and other approval procedures by the FDA and similar health authorities in foreign countries. Various federal statutes and regulations also govern or influence the manufacturing, safety, labeling, storage, record keeping and marketing of such products. The process of obtaining these approvals and the subsequent compliance with appropriate federal and foreign statutes and regulations requires the expenditure of substantial resources.

In order to test clinically, produce and market products for diagnostic or therapeutic use, a company must comply with mandatory procedures and safety standards established by the FDA and comparable agencies in foreign countries. Before beginning human clinical testing of a potential new drug, a company must file an IND and receive clearance from the FDA. This application is a summary of the pre-clinical studies that were conducted to characterize the drug, including toxicity and safety studies, as well as an in-depth discussion of the human clinical studies that are being proposed.

The pre-marketing program required for approval of a new drug typically involves a time-consuming and costly three-phase process. In Phase I, trials are conducted with a small number of patients to determine the early safety profile, the pattern of drug distribution and metabolism. In Phase II, trials are conducted with small groups of patients afflicted with a target disease in order to determine preliminary efficacy, optimal dosages and expanded evidence of safety. In Phase III, large scale, multi-center comparative trials are conducted with patients afflicted with a target disease in order to provide enough data for statistical proof of efficacy and safety required by the FDA and others.

The FDA closely monitors the progress of each of the three phases of clinical testing and may, in its discretion, reevaluate, alter, suspend or terminate the testing based on the data that have been accumulated to that point and its assessment of the risk/benefit ratio to the patient. Estimates of the total time required for carrying out such clinical testing vary between two and ten years. Upon completion of such clinical testing, a company typically submits a New Drug Application ("NDA") or Product License Application ("PLA") to the FDA that summarizes the results and observations of the drug during the clinical testing. Based on its review of the NDA or PLA, the FDA will decide whether or not to approve the drug. This review process can be quite lengthy, and approval for the production and marketing of a new pharmaceutical product can require a number of years and substantial funding, and there can be no assurance that any approvals will be granted on a timely basis, if at all.

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Once the product is approved for sale, FDA regulations govern the production process and marketing activities, and a post-marketing testing and surveillance program may be required to monitor continuously a product's usage and its effects. Product approvals may be withdrawn if compliance with regulatory standards is not maintained. Other countries in which any products developed by the Company may be marketed impose a similar regulatory process.

COMPETITION

The biotechnology and pharmaceutical industries are characterized by rapidly evolving technology and intense competition. The Company's competitors include most of the major pharmaceutical companies, which have financial, technical and marketing resources significantly greater than those of the Company. Biotechnology and other pharmaceutical competitors include Cubist Pharmaceuticals, Inc., Microcide Pharmaceuticals, Inc., Oravax, Inc., Maxim Pharmaceuticals, Inc., and Vaxcel, Inc. Academic institutions, governmental agencies and other public and private research organizations are also conducting research activities and seeking patent protection and may commercialize products on their own or through joint venture. There can be no assurance that the Company's competitors will not succeed in developing products that are more effective or less costly than any which are being developed by the Company or which would render the Company's technology and future products obsolete and noncompetitive.

HUMAN RESOURCES AND FACILITIES

The Company currently has seven employees. In addition, the Company has a consulting agreement with Dr. Vincent Fischetti, the principal founding scientist and Chief Scientific Advisor of the Company and a Professor and Co-Chairman of the Laboratory of Bacterial Pathogenesis and Immunology and Co-Director of the Protein Sequence/Biopolymer Facility at Rockefeller. In addition, the Company and CSO have entered into a consulting agreement under which CSO has agreed to provide certain business services to the Company, including business development, licensing, strategic alliances and administrative support. See "Certain Transactions."

The Company's President and Chief Executive Officer is David de Weese. Dr. Dennis Hruby is the Company's Vice President of Research. Drs. Fischetti and Hruby, along with Mr. de Weese, have primary responsibility for directing the Company's research efforts. Mr. de Weese, along with Dr. Joshua Schein and Judson Cooper, Executive Vice Presidents of the Company, have primary responsibility for directing the Company's strategic efforts.

The Company sponsors research and development activities in laboratories at Rockefeller, Emory, Oregon State and SUNY Buffalo and does not maintain its own research and development facilities. The Company leases office space at 666 Third Avenue, New York, New York, 10017. The Company is planning on leasing its own research facility in the next 12 months. See "Risk Factors--Lack of Research and Development Facilities."

PRODUCT LIABILITY INSURANCE

The Company's business exposes it to potential liability risks that are inherent in the testing, manufacturing and marketing of pharmaceutical products. The Company does not have product liability insurance but intends to obtain such coverage if and when its product candidates are tested in clinical

trials. There can be no assurance, however, that the Company will be able to obtain insurance coverage at acceptable costs or in a sufficient amount, if at all, or that a product liability claim would not adversely affect the Company's business, operating results or financial condition. See "Risk Factors--Potential Product Liability and Availability of Insurance."

LEGAL PROCEEDINGS

The Company is not a party to any legal proceedings.

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MANAGEMENT

DIRECTORS, EXECUTIVE OFFICERS, KEY PERSONNEL AND CONSULTANTS

The following table sets forth information concerning each of the directors, executive officers, key personnel and consultants of the Company.

| NAME | AGE | POSITION |
|---------------------------------|-----|--|
| David H. de Weese..... | 54 | Chairman, President and Chief Executive Officer |
| Joshua D. Schein, Ph.D. | 36 | Executive Vice President, Chief Financial Officer, Secretary and Director |
| Judson A. Cooper..... | 37 | Executive Vice President, Director |
| Donald S. Howard*..... | 68 | Director |
| Terence E. Downer..... | 58 | Director |
| Dennis E. Hruby, Ph.D. | 45 | Vice President of Research |
| Kevin F. Jones, Ph.D. .. | 44 | Director of Bacterial Research |
| Vincent A. Fischetti.... | 56 | Consultant |

* Subject to the consummation of the Offering.

All Directors hold office until the next annual meeting of stockholders and the election and qualification of their successors. Directors receive no cash compensation for serving on the Board of Directors other than reimbursement of reasonable expenses incurred in attending meetings. Officers are elected annually by the Board of Directors and serve at the discretion of the Board, subject to the provisions of certain employment agreements. See "--Employment and Consulting Agreements."

David H. de Weese has served as Chairman of the Board of Directors, President and Chief Executive Officer of the Company since November 1996. Prior to joining the Company, Mr. de Weese served as a director and a consultant to Biovector Therapeutics, S.A., a developer of drug delivery technology based in France, and as an advisor to Paul Capital Partners, L.P., a private equity investment manager with whom he maintains a consulting relationship. From 1993 to 1995, Mr. de Weese was President, Chief Executive Officer and a Director of M6 Pharmaceuticals, Inc, a biopharmaceutical company. From 1986 to 1992, Mr. de Weese was the President, Chief Executive Officer, a Director and a founder of Cygnus Therapeutic Systems (now Cygnus, Inc.), a developer and manufacturer of transdermal drug delivery systems. Prior to that, Mr. de Weese co-founded Medical Innovations Corporation, a medical device business currently a division of Ballard Medical Products, Inc., and was Chairman of the Board, President and Chief Executive Officer of Machine Intelligence Corporation, a developer of computer software and hardware. Mr. de Weese is a director of Bioject Medical Technologies, Inc., a publicly traded biotechnology company. Mr. de Weese received his M.B.A. from the Harvard University Graduate School of Business.

Joshua D. Schein, Ph.D. has served as an Executive Vice President of the Company since December 1996 and Chief Financial Officer, Secretary and a Director of the Company since December 1995. Dr. Schein also serves as Executive Vice President and Director of Virologix Corporation, a private biotechnology company ("Virologix"). Additionally, Dr. Schein serves as Chief Financial Officer and a Director of Callisto Pharmaceuticals, Inc., a privately held, development stage, pharmaceutical company ("Callisto"). Dr. Schein devotes substantial amounts of his time to the Company, Virologix and Callisto on a substantially equal basis. Dr. Schein has served as a Director

of DepoMed, Inc., a private biotechnology company, since January 1996. From October 1994 to December 1995, Dr. Schein served as a Vice President of Investment Banking at Josephthal, Lyon and Ross, Incorporated, an investment banking firm. From June 1991 to September 1994, Dr. Schein was a Vice President at D. Blech & Company, Incorporated, a merchant bank that invested in the biopharmaceutical industry. Dr. Schein received a Ph.D. in neuroscience from the Albert Einstein College of Medicine and an MBA from the Columbia Graduate School of Business. Dr. Schein is a principal of CSO Ventures LLC ("CSO"), a privately held limited liability company. See "Certain Transactions."

Judson A. Cooper has served as Executive Vice President of the Company since November 1996 and a Director of the Company since December 1995 and served as President from December 1995 until November

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1996. Mr. Cooper also serves as Chief Financial Officer and Director of Virologix. Additionally, Mr. Cooper serves as President and a Director of Callisto. Mr. Cooper devotes substantial amounts of his time to the Company, Virologix and Callisto on a substantially equal basis. Mr. Cooper has also served as a Director of DepoMed, Inc. since November 1995. Mr. Cooper had been a private investor from September 1993 to December 1995. From 1991 to 1993, Mr. Cooper served as a Vice President of D. Blech & Company, Incorporated. Mr. Cooper is a graduate of the Kellogg School of Management. Mr. Cooper is a principal of CSO. See "Certain Transactions."

Donald S. Howard has agreed to serve as a Director of the Company beginning on the date of the consummation of the Offering. Mr. Howard has served as a consultant to a number of financial institutions since 1993. Mr. Howard served as Executive Vice President and Chief Financial Officer and a Managing Director of Salomon Brothers from 1988 to 1993. From 1980 to 1988, Mr. Howard served as Executive Vice President and Chief Financial Officer of Citicorp, Inc. Prior to that time, Mr. Howard held numerous positions at Citicorp, Inc. Mr. Howard is currently a director of Green Garden Inc., Consolidated Purchasing Services and Bank Leumi New York Trust Co.

Terence E. Downer has served as a Director of the Company since July 1, 1997. Mr. Downer served as Vice President, Corporate Development of Janssen Pharmaceutica, Inc., an affiliate of Johnson & Johnson, from 1991 to June 1997. Mr. Downer has worked in the pharmaceutical industry for Johnson & Johnson and its affiliates for over 30 years and has held senior positions in sales, marketing, research and business development. In addition to Janssen Pharmaceutica, Inc., Mr. Downer was also involved in starting up two other companies for Johnson & Johnson, Cyclex, Inc. and Critikon, Inc. Mr. Downer is on the Board of the National Organization of Orthopaedic Nurses and is the New Jersey Program Chair for the Licensing Executive Society.

Dennis E. Hruby, Ph.D. has served as Vice-President of Research of the Company since April 1, 1997. From January 1996 through March 1997, Dr. Hruby served as a senior scientific advisor to the Company. Dr. Hruby is a Professor of Microbiology at Oregon State University, and from 1990 to 1993 was Director of the Molecular and Cellular Biology Program and Associate Director of the Center for Gene Research and Biotechnology. From 1993 to 1995, Dr. Hruby served as Vice-President of Research for M6 Pharmaceuticals, Inc. Dr. Hruby specializes in virology and cell biology research, and the use of viral and bacterial vectors to produce recombinant vaccines. Dr. Hruby has published more than 100 research, review articles and book chapters. He is a member of the American Society of Virology, the American Society for Microbiology and a fellow of the American Academy of Microbiology. Dr. Hruby received a Ph.D. in microbiology from the University of Colorado Medical Center and a B.S. in microbiology from Oregon State University.

Kevin F. Jones, Ph.D. has been the Company's Director of Bacterial Research since January 1996. From 1992 to 1995, Dr. Jones served as Director of Bacterial Research for M6 Pharmaceuticals, Inc. From 1990 until joining the Company, Dr. Jones was a Senior Research Scientist at Lederle-Praxis Biologicals, Inc., a vaccine company and division of American Cyanamid. Dr. Jones has written numerous articles on the pathogenesis of group A streptococcal infection. Dr. Jones is currently Adjunct Professor at Rockefeller. Dr. Jones received a Ph.D. and an M.S. in immunology from Cornell University.

Vincent A. Fischetti, Ph.D. has served as a consultant to the Company since

January 1996. Dr. Fischetti is a Professor and Co-Chairman of the Laboratory of Bacterial Pathogenesis and Immunology and Co-Director of the Protein Sequence/Biopolymer Facility at Rockefeller. Dr. Fischetti specializes in the research of group A streptococcus and streptococcal diseases. Dr. Fischetti is the chairman of the Microbial Pathogenesis Division of the American Society of Microbiology and was recently elected a fellow of the American Academy of Microbiology. Dr. Fischetti is the editor-in-chief of *Infection and Immunity*, is an editor of the *Journal of Immunology* and serves on the editorial board of the *Journal of Experimental Medicine*. Dr. Fischetti has published approximately 100 research articles and is a contributing author to 60 textbooks. Dr. Fischetti received a Ph.D. in microbiology from New York University.

BOARD OF DIRECTORS

The number of directors on the Board of Directors is determined from time to time by the Board of Directors and is currently fixed at four. Directors are elected at each annual meeting of stockholders by the holders of the Common Stock and hold office until their successors have been duly elected and qualified or until their resignation, removal from office or death. Officers of the Company are appointed by and may be removed by the Board of Directors. Upon the consummation of the Offering, Mr. Howard will become a director and the Company plans to appoint an additional person not otherwise affiliated with the Company as a director.

COMMITTEES OF THE BOARD OF DIRECTORS

Upon the consummation of the Offering, the Company will form an Audit Committee and a Compensation Committee. The Audit Committee will be responsible for reviewing audit functions, including accounting and financial reporting practices of the Company, the adequacy of the Company's system of internal accounting control, the quality and integrity of the Company's financial statements and relations with its independent accountants. It is anticipated that the Audit Committee will consist of two non-employee directors. The Compensation Committee will be responsible for establishing the compensation of the Company's directors, officers and employees, including salaries, bonuses, commission, and benefit plans, administering the Plan, and other forms of or matters relating to compensation. It is anticipated that the Compensation Committee will consist of two non-employee directors.

SCIENTIFIC ADVISORS

The Company's Scientific Advisory Board currently consists of advisors to the Company with experience in microbiology, immunology, protein chemistry and infectious disease. At the Company's request, the scientific advisors review and evaluate the Company's research programs and advise the Company with respect to technical matters in fields in which the Company is involved.

The table below sets forth the name and current position of each member of the Scientific Advisory Board:

| NAME ---- | POSITION ----- |
|------------------------------------|--|
| Vincent A. Fischetti, Ph.D..... | Chief Scientific Advisor; Professor and Co-Chairman of the Laboratory of Bacterial Pathogenesis and Immunology and Co-Director of the Protein Sequence/Biopolymer Facility at Rockefeller |
| Richard M. Krause, Ph.D... | Advisor; Senior Scientific Advisor, Fogarty International Center |
| Robert J. Genco, Ph.D..... | Advisor; Distinguished Professor and Chair of Oral Biology, State University of New York at Buffalo |
| Scott Hultgren, Ph.D..... | Advisor; Associate Professor of Molecular Microbiology, Washington University |

Each of the scientific advisors are employed by other entities and may have consulting agreements with entities other than the Company. The Company has entered into written agreements with each of its scientific advisors. The terms of such agreements are included in the description of each advisor's

background set forth below.

Vincent A. Fischetti, Ph.D. has served as Chief Scientific Advisor and a consultant to the Company since January 1996 and is Chairman of the Scientific Advisory Board. Dr. Fischetti receives an annual consulting fee of \$75,000. See "--Directors, Executive Officers, Key Personnel and Consultants" and "--Employment and Consulting Agreements."

Richard M. Krause, Ph.D. has served as an advisor to the Company since June 1997. Dr. Krause spent over twenty years on the faculty of Rockefeller University working on the immune response to streptococcal infections. From 1975 to 1984, Dr. Krause served as the Director of the National Institute of Allergy and Infectious Disease at the National Institutes of Health where he directed efforts to combat emerging pathogens.

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From 1984 to 1989, Dr. Krause was the Dean of the School of Medicine at Emory University. From 1989 to the present, Dr. Krause has served as a Senior Scientific Advisor at the Fogarty International Center. During his career, Dr. Krause has published numerous research papers and several books. In recognition of his pioneering work, Dr. Krause was elected to the National Academy of Sciences in 1977. In 1980 he received from President Sadat the Republic of Egypt Order of Gumburria Award, in 1985 he received the Robert Koch Medal in Gold and in 1997 he received the Order of Merit from the President of the Federal Republic of Germany. Dr. Krause receives an annual advisory fee of \$10,000 and received warrants to purchase 5,000 shares of Common Stock at the initial offering price per share (or \$5.00 per share if the Offering is not completed by November 1, 1997).

Robert J. Genco, Ph.D. has served as an advisor to the Company since May 1997. Dr. Genco has worked for over two decades on laboratory and clinical studies which have helped in understanding the causes, prevention and treatment of oral diseases including caries and periodontal disease. Dr. Genco is active in many professional organizations including the American Society of Microbiology, the American Society of Immunology, the International and American Association for Dental Research, the American Dental Association and the American Academy of Periodontology. Dr. Genco is a member of the Institute of Medicine and was awarded the Gold Medal for Excellence in Research by the American Dental Association, as well as the Gold Medal Award from the American Academy of Periodontology. Dr. Genco has published over 260 articles describing his research and edited several books including Contemporary Periodontics. Dr. Genco is currently Editor of the Journal of Periodontology and serves on the editorial board of several other journals. Dr. Genco receives an annual advisory fee of \$10,000 and received warrants to purchase 5,000 shares of Common Stock at the initial offering price per share (or \$5.00 per share if the Offering is not completed by November 1, 1997).

Scott Hultgren, Ph.D. has served as an advisor to the Company since July 1997. For the past decade Dr. Hultgren has conducted pioneering research aimed at elucidating the mechanisms by which type P pili are exported and assembled on the surface of gram-negative bacteria. As a result of his efforts the genetics and biochemistry of this process are now well-defined. Dr. Hultgren has published more than 50 research publications and numerous book chapters on these topics. Dr. Hultgren is a member of the American Society for Microbiology, the American Association for the Advancement of Science, The Protein Society, the Erlanger Society, and is a past recipient of a Markey Young Investigator Faculty Award. Dr. Hultgren receives an annual consulting fee of \$30,000 and received warrants to purchase 5,000 shares of Common Stock at the initial offering price per share (or \$5.00 per share if the Offering is not completed by November 1, 1997). See "--Employment and Consulting Agreements."

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EXECUTIVE COMPENSATION

The following table sets forth certain information with respect to annual and long-term compensation paid by the Company to the Chief Executive Officer and the other executive officers of the Company (the "Named Executive Officers") whose 1996 compensation exceeded \$100,000:

SUMMARY COMPENSATION TABLE

| NAME AND PRINCIPAL POSITION | ANNUAL COMPENSATION THROUGH 12/31/96 | | | | LONG TERM COMPENSATION | |
|--|--------------------------------------|---------------|---------|---------------------------|-----------------------------------|------------------------|
| | YEAR | SALARY | BONUSES | OTHER ANNUAL COMPENSATION | STOCK UNDERLYING OPTIONS/WARRANTS | ALL OTHER COMPENSATION |
| David H. de Weese..... Chairman, President and Chief Executive Officer | 1996 | \$ 21,635(1) | -- | -- (5) | 477,683(2) | -- |
| Joshua D. Schein, Ph.D. Executive Vice President, Chief Financial Officer and Director | 1996 | \$ 153,116(3) | -- | -- (5) | 16,667 | -- |
| Judson A. Cooper..... Executive Vice President and Director | 1996 | \$ 153,116(4) | -- | -- (5) | 16,667 | -- |

- (1) Mr. de Weese became Chairman, President and Chief Executive Officer of the Company in November 1996. Mr. de Weese's annual salary is \$225,000. See "--Employment and Consulting Agreements."
- (2) Includes the 461,016 de Weese Warrants and options to purchase 16,667 shares of Common Stock held by Mr. de Weese. See "--Employment and Consulting Agreements."
- (3) Dr. Schein currently receives an annual salary of \$ 150,000. This amount does not include Dr. Schein's share (\$40,000) of payments made to CSO. See "Certain Transactions."
- (4) Mr. Cooper currently receives an annual salary of \$150,000. This amount does not include Mr. Cooper's share (\$40,000) of payments made to CSO. See "Certain Transactions."
- (5) Aggregate amount does not exceed the lesser of \$50,000 or 10% of the total annual salary and bonus for the named officer.

The following table sets forth certain information concerning all stock option grants to the Named Executive Officers during the year ended December 31, 1996.

OPTION GRANTS

| NAME | COMMON STOCK UNDERLYING | % OF TOTAL OPTIONS GRANTED TO EMPLOYEES | EXERCISE PRICE PER SHARE | FAIR VALUE AT DATE OF GRANT | EXPIRATION DATE |
|--------------------------|-------------------------|---|--------------------------|-----------------------------|-----------------|
| | OPTIONS GRANTED(1) | | | | |
| David H. de Weese (2)... | 16,667 | 33.3% | \$3.00 | \$3.50 | 11/18/06 |
| Joshua D. Schein (3).... | 16,667 | 33.3% | \$1.50 | \$1.50 | 1/1/01 |
| Judson A. Cooper (3).... | 16,667 | 33.3% | \$1.50 | \$1.50 | 1/1/01 |

- (1) All options were granted pursuant to the Plan.
- (2) The options were granted on November 18, 1996.
- (3) The options were granted on January 1, 1996.

The following table sets forth certain information concerning option exercises and option holdings under the Plan as of December 31, 1996 with respect to each of the Named Executive Officers.

| NAME | SHARES | | OF STOCK UNDERLYING | | VALUE OF UNEXERCISED | |
|--------------------------|-------------|----------|---------------------|---------------|--------------------------|---------------|
| | ACQUIRED | VALUE | UNEXERCISED OPTIONS | UNEXERCISABLE | IN-THE-MONEY OPTIONS (1) | UNEXERCISABLE |
| ---- | ON EXERCISE | REALIZED | EXERCISABLE | UNEXERCISABLE | EXERCISABLE | UNEXERCISABLE |
| David H. deWeese(2)..... | -- | -- | 16,667 | -- | \$33,334 | -- |
| Joshua D. Schein, Ph.D.. | -- | -- | 16,667 | -- | \$58,335 | -- |
| Judson A. Cooper..... | -- | -- | 16,667 | -- | \$58,335 | -- |

- (1) Based upon the assumed initial public offering price of \$5.00 per share.
(2) Excludes the 461,016 de Weese Warrants exercisable at \$3.00 per share.

EMPLOYMENT AND CONSULTING AGREEMENTS

David H. de Weese, President and Chief Executive Officer of the Company, has an employment agreement with the Company which expires in November 1999 and is cancelable by the Company only for cause, as defined in the agreement. Mr. de Weese currently receives an annual base salary of \$225,000 and 16,667 stock options per year, exercisable at the fair market value on the date of grant, and is eligible to receive additional stock options and bonuses at the discretion of the Board of Directors. In addition, Mr. de Weese will receive a cash payment equal to 1.5% of the total consideration received by the Company in a transaction resulting in a change of ownership of at least 50% of the outstanding Common Stock of the Company. The consummation of the Offering will not result in a change of ownership under the terms of the agreement. In connection with Mr. de Weese's employment agreement, Mr. de Weese received warrants to purchase 461,016 shares of Common Stock at \$3.00 per share. Warrants to purchase 25% of such shares are currently exercisable and the remaining warrants become exercisable on a pro rata basis on the first, second and third anniversaries of the agreement.

Dr. Joshua Schein, an Executive Vice President and Chief Financial Officer of the Company, has an employment agreement with the Company which expires in December 1998 and is cancelable by the Company only for cause, as defined in the agreement. Dr. Schein currently receives an annual base salary of \$150,000 and 16,667 stock options per year, exercisable at the fair market value on the date of grant, and is eligible to receive additional stock options and bonuses at the discretion of the Board of Directors. In addition, Dr. Schein will receive a cash payment equal to 1.5% of the total consideration received by the Company in a transaction resulting in a change of ownership of at least 50% of the outstanding Common Stock of the Company. The consummation of the Offering will not result in a change of ownership under the terms of the agreement.

Judson Cooper, an Executive Vice President of the Company, has an employment agreement with the Company which expires in December 1998 and is cancelable by the Company only for cause, as defined in the agreement. Mr. Cooper currently receives an annual base salary of \$150,000 and 16,667 stock options per year, exercisable at the fair market value on the date of grant, and is eligible to receive additional stock options and bonuses at the discretion of the Board of Directors. In addition, Mr. Cooper will receive a cash payment equal to 1.5% of the total consideration received by the Company in a transaction resulting in a change of ownership of at least 50% of the outstanding Common Stock of the Company. The consummation of the Offering will not result in a change of ownership under the terms of the agreement.

Dr. Dennis Hruby, Vice President of Research of the Company, has an employment agreement with the Company which expires April 1, 1998, but is automatically renewed each year unless either party notifies the other of its intention not to renew. Dr. Hruby currently receives an annual base salary of \$85,000, and in April 1997 received options to purchase 10,000 shares of Common Stock at the initial offering price (or \$5.00 if the Offering is not completed by November 1, 1997). Dr. Hruby is eligible to receive additional stock options and bonuses at the discretion of the Board of Directors.

Dr. Kevin F. Jones, Director of Bacterial Research of the Company, has an employment agreement with the Company which expires in December 1997 and is cancelable by the Company only for cause, as defined in the agreement. Dr. Jones currently receives an annual base salary of \$90,000 and is eligible to receive additional stock options and bonuses at the discretion of the Board of Directors.

Dr. Vincent A. Fischetti, the Chief Scientific Advisor of the Company, has entered into a consulting agreement with the Company under which Dr. Fischetti has agreed to provide certain research and development services to the Company. Pursuant to the terms of the agreement, Dr. Fischetti will receive an annual fee of \$75,000. The agreement expires December 31, 1998 and is cancelable by the Company only for cause as defined in the agreement.

Dr. Scott Hultgren, a Scientific Advisor of the Company since July 1997, has entered into a consulting agreement with the Company under which Dr. Hultgren has agreed to provide certain research and development services to the Company. Pursuant to the terms of the agreement, Dr. Hultgren receives an annual fee of \$30,000. The agreement expires in July 1998, but may be extended for up to four additional one year terms by mutual agreement. Dr. Hultgren also received warrants to purchase 5,000 shares of Common Stock at the initial offering price per share (or \$5.00 per share if the Offering is not completed by November 1, 1997).

1996 INCENTIVE AND NON-QUALIFIED STOCK OPTION PLAN

As of January 1, 1996, the Company adopted its 1996 Incentive and Non-Qualified Stock Option Plan (the "Plan"), pursuant to which stock options may be granted to key employees, consultants and outside directors.

Following the completion of the Offering, the Plan will be administered by a committee (the "Committee") comprised of disinterested directors. The Committee will determine persons to be granted stock options, the amount of stock options to be granted to each such person, and the terms and conditions of any stock options as permitted under the Plan. The members of the Committee have not yet been appointed.

Both Incentive Options and Nonqualified Options may be granted under the Plan. An Incentive Option is intended to qualify as an incentive stock option within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"). Any Incentive Option granted under the Plan will have an exercise price of not less than 100% of the fair market value of the shares on the date on which such option is granted. With respect to an Incentive Option granted to an employee who owns more than 10% of the total combined voting stock of the Company or of any parent or Subsidiary of the Company, the exercise price for such option must be at least 110% of the fair market value of the shares subject to the option on the date the option is granted. A Nonqualified Option (i.e., an option to purchase Common Stock that does not meet the Code's requirements for Incentive Options) must have an exercise price of at least the fair market value of the stock at the date of grant.

The Plan provides for the granting of options to purchase 333,333 shares of Common Stock, of which 33,334 options are outstanding at an exercise price of \$1.50 per share, 16,667 options are outstanding at an exercise price of \$3.00 per share and 10,000 options are outstanding at an exercise price per share equal to the initial offering price (or \$5.00 if the Offering is not completed by November 1, 1997).

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PRINCIPAL STOCKHOLDERS

The table below sets forth information as of the date of this Prospectus and, as adjusted, assumes the sale of the Common Stock offered pursuant to this Prospectus. The table also assumes, with respect to each individual stockholder, the exercise of all warrants, options or conversion of all convertible securities held by such stockholder. It does not assume the exercise or conversion of securities held by any other holder of securities. The table is based on information obtained from the persons named below with respect to the beneficial ownership of shares of Common Stock by (i) each person known by the Company to be the owner of more than 5% of the aggregate outstanding shares of Common Stock, (ii) each Named Executive Officer and director and (iii) all officers and directors as a group.

| AMOUNT AND | PERCENTAGE OF OUTSTANDING SHARES OWNED |
|------------|--|
|------------|--|

| NAMES AND ADDRESSES OF BENEFICIAL OWNER(1) | NATURE OF BENEFICIAL OWNERSHIP | ----- | |
|--|--------------------------------------|----------------------|---------------------------|
| | | PRIOR TO OFFERING | AFTER OFFERING (2) (3) |
| David H. de Weese(4)..... | 477,683 | 12.4% | 6.5% |
| Judson Cooper(5)..... | 477,683 | 14.1% | 6.9% |
| Joshua D. Schein, Ph.D.(6)..... | 477,683 | 14.1% | 6.9% |
| Steven M. Oliveira(7)..... | 461,016 | 13.7% | 6.7% |
| Richard B. Stone(8)..... | 414,915 | 12.3% | 6.0% |
| 135 East 57th St., 11th FL New York, NY 10022 | | | |
| Vincent Fischetti, Ph.D.(9)..... | 305,938 | 8.7% | 4.4% |
| Nathan Low(10)..... | 179,436 | 5.3% | 2.6% |
| 135 East 57th St., 11th FL New York, NY 10022 | | | |
| Terence E. Downer(11)..... | 10,000 | * | * |
| All Officers and Directors as a Group (five persons)..... | 1,503,049 | 38.6% | 20.3% |

* Less than 1% of the outstanding shares of Common Stock.

- (1) Unless otherwise indicated the address of each beneficial owner identified is 666 Third Avenue, New York, NY 10017. Unless otherwise noted, the Company believes that all persons named in the table have sole voting and investment power with respect to all shares of Common Stock beneficially owned by them.
- (2) Excludes (i) 525,000 shares of Common Stock issuable by the Company upon exercise of the Underwriters' Over-allotment Option in full; (ii) 350,000 shares of Common Stock reserved for issuance upon exercise of the Representatives' Warrants; (iii) 333,333 shares of Common Stock reserved for issuance under the Plan, pursuant to which options to purchase 60,001 of such reserved shares have been granted; and (iv) 746,016 shares of Common Stock issuable upon the exercise of the de Weese, Fischetti, Directors/Advisors Warrants and Bridge Warrants.
- (3) Does not include the MedImmune Shares. There can be no assurance that the Company will enter into a final agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations."
- (4) Includes shares underlying the 461,016 de Weese Warrants and 16,667 options held by Mr. de Weese.
- (5) Includes shares underlying 16,667 options held by Mr. Cooper.
- (6) Includes shares underlying 16,667 options held by Dr. Schein.
- (7) Mr. Oliveira is a member of CSO. Mr. Oliviera is also a registered representative of Hampshire Securities Corporation, which is anticipated to participate in the distribution of the Securities in this Offering. See "Certain Transactions" and "Underwriting."
- (8) Mr. Stone is a managing director of Sunrise, one of the Underwriters. See "Underwriting."
- (9) Includes shares underlying the 150,000 Fischetti Warrants.
- (10) Mr. Low is a principal of Sunrise, one of the Underwriters. See "Underwriting."
- (11) Consists of shares underlying warrants held by Mr. Downer.

CERTAIN TRANSACTIONS

The Company and CSO have entered into a consulting agreement under which CSO has agreed to provide certain business services to the Company, including business development, licensing, strategic alliances and administrative support. Pursuant to the terms of the agreement, CSO receives an annual fee of \$120,000 and will be reimbursed for certain expenses. The agreement expires on January 15, 1998 and is cancelable by the Company only for cause as defined in the agreement. Mr. Cooper, Dr. Schein and Steven Oliveira are the members of CSO.

In March 1996, Dr. Fischetti and the Company entered into an agreement pursuant to which Dr. Fischetti was to receive options to purchase up to

150,000 shares of Common Stock upon the completion of collaborative agreements with certain pharmaceutical companies. On September 15, 1996, such agreement was cancelled and Dr. Fischetti received warrants to purchase 150,000 shares of Common Stock at \$1.50 per share as compensation for introducing the Company to certain potential collaborative pharmaceutical companies.

The Company believes that the terms of the transactions described above were no less favorable than the Company could have obtained from unaffiliated third parties. The Company has adopted a policy, effective following the consummation of this Offering, that all future transactions between the Company and its officers, directors and affiliates must (i) be approved by a majority of those members of the Company's Board of Directors that are not parties, directly or indirectly through affiliates, to such transactions and (ii) be on terms no less favorable to the Company than could be obtained from unrelated third parties.

DESCRIPTION OF SECURITIES

The Company is authorized to issue 25,000,000 shares of Common Stock, par value \$.0001 per share, and 10,000,000 shares of Preferred Stock, par value \$.0001 per share. As of the date of this Prospectus, there are 3,367,182 shares of Common Stock outstanding and no shares of Preferred Stock outstanding.

The following summary description of the Company's Common Stock and Preferred Stock is qualified in its entirety by reference to the Articles and Bylaws, copies of which are included as exhibits to the Registration Statement of which this Prospectus is a part.

COMMON STOCK

Holders of Common Stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. Accordingly, holders of a majority of the shares of Common Stock entitled to vote in any election of directors may elect all of the directors standing for election. Holders of Common Stock are entitled to receive ratably such dividends, if any, as may be declared by the Board of Directors out of funds legally available therefor, subject to any preferential dividend rights of any outstanding Preferred Stock. Upon the liquidation, dissolution or winding up of the Company, the holders of Common Stock are entitled to receive ratably the net assets of the Company available after the payment of all debts and other liabilities and subject to the prior rights of any outstanding Preferred Stock. Holders of Common Stock have no preemptive, subscription, redemption or conversion rights. The outstanding shares of Common Stock are, and the shares offered by the Company in this Offering will be, when issued and paid for, fully paid and nonassessable. The rights, preferences and privileges of holders of Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of Preferred Stock which the Company may designate and issue in the future.

PREFERRED STOCK

The Board of Directors has the authority, without further action of the stockholders of the Company, to issue up to an aggregate of 10,000,000 shares of Preferred Stock in one or more series and to fix or alter the

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designations, preferences, rights and any qualifications, limitations or restrictions of the shares of each such series thereof, including the dividend rights, dividend rates, conversion rights, voting rights, terms of redemption (including sinking fund provisions), redemption price or prices, liquidation preferences and the number of shares constituting any series or the designation of such series.

The Board of Directors, without stockholder approval, can issue Preferred Stock with voting and conversion rights that could adversely affect the voting power of holders of Common Stock. The issuance of Preferred Stock may have the effect of delaying, deferring or preventing a change in control of the Company. The Company has no present plans to issue any shares of Preferred Stock.

TRANSFER AGENT

The Company's transfer agent and registrar for the Common Stock is American Stock Transfer & Trust Company.

INDEMNIFICATION

The Certificate of Incorporation (the "Certificate") of the Company provides that, to the fullest extent permitted by applicable law, as amended from time to time, the Company will indemnify any person who was or is a party or is threatened to be made a party to an action, suit or proceeding (whether civil, criminal, administrative or investigative) by reason of the fact that such person is or was director, officer, employee or agent of the Company or serves or served any other enterprise at the request of the Company.

In addition, the Certificate provides that a director of the Company shall not be personally liable to the Company or its stockholders for monetary damages for breach of the director's fiduciary duty. However, the Certificate does not eliminate or limit the liability of a director for any of the following reasons: (i) a breach of the director's duty of loyalty to the Company or its stockholders; (ii) acts or omissions not in good faith or that involve intentional misconduct or knowing violation of law; or (iii) a transaction from which the director derived an improper personal benefit.

The Company will purchase and maintain Directors' and Officers' Insurance as soon as the Board of Directors determines practicable, in amounts which they consider appropriate, insuring the directors against any liability arising out of the director's status as a director of the Company regardless of whether the Company has the power to indemnify the director against such liability under applicable law.

The Company has been advised that it is the position of the Commission that insofar as the foregoing provisions may be invoked to disclaim liability for damages arising under the Securities Act, such provisions are against public policy as expressed in the Securities Act and are, therefore, unenforceable.

CERTAIN CERTIFICATE OF INCORPORATION AND BYLAW PROVISIONS

In addition, certain provisions of the Company's Certificate and Bylaws summarized in the following paragraphs may be deemed to have an anti-takeover effect and may delay, defer or prevent a tender offer or takeover attempt that a stockholder might consider in its best interest, including those attempts that might result in a premium over the market price for the shares held by stockholders.

Special Meeting of Stockholders

The Company's Bylaws provide that special meetings of stockholders of the Company may be called only by the President of the Company, the Board of Directors or holders of not less than 10% of the votes entitled to be cast at the special meeting.

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Authorized But Unissued Shares

The authorized but unissued shares of Common Stock and Preferred Stock are available for future issuance without stockholder approval. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions, poison pills and employee benefit plans. The existence of authorized but unissued and unreserved Common Stock and Preferred Stock may enable the Board of Directors to issue shares to persons friendly to current management which could render more difficult or discourage an attempt to obtain control of the Company by means of a proxy contest, tender, offer, merger or otherwise, and thereby protect the continuity of the Company's management.

SHARES ELIGIBLE FOR FUTURE SALE

Upon completion of this Offering, the Company will have outstanding 6,867,182 shares of Common Stock, without giving effect to (a) shares of Common Stock issuable upon exercise of (i) the Underwriters' Over-allotment Option, (ii) the Representatives' Warrants, (iii) options granted under the Plan, (iv) the de Weese Warrants, (v) the Fischetti Warrants, (vi) the Directors/Advisors Warrants or (vii) the Bridge Warrants or (b) the MedImmune Shares. There can be no assurance that the Company will enter into a final

agreement with MedImmune on the terms described herein or at all. See "Risk Factors--Dependence on Others; Collaborations." Of such outstanding shares of Common Stock, all the shares to be sold by the Company in this Offering will be freely tradeable without restriction or further registration under the Securities Act, except for any shares held by "affiliates" of the Company within the meaning of the Securities Act which shares will be subject to the resale limitations of Rule 144 promulgated under the Securities Act. In addition, the estimated 100,000 shares of Common Stock issuable upon the exercise of the Bridge Warrants, all of which also are being registered under the Securities Act pursuant to the registration statement of which this Prospectus constitutes a part, will be freely transferable under the Securities Act, other than those shares held by affiliates of the Company. See "Plan of Operation--Bridge Financing."

The remaining 3,367,182 Restricted Shares were issued by the Company in private transactions in reliance upon one or more exemptions contained in the Securities Act. The 1,288,012 Private Shares were issued in connection with two private placement transactions completed in March and September 1996 and the 2,079,170 Founders' Shares were issued to the founders of the Company in December 1995. The Restricted Shares are deemed to be "restricted securities" within the meaning of Rule 144 promulgated pursuant to the Securities Act and may be publicly sold only if registered under the Securities Act or sold pursuant to exemptions therefrom. Because the Founders' Shares and 1,038,008 of the Private Shares acquired in the March 1996 private placement will have been held for more than one year as of the date of this Prospectus, such shares will be eligible for public sale in accordance with the requirements of Rule 144, as described below. In addition, the remaining 250,004 of the Private Shares will be eligible for public sale in September 1997. However, certain holders of the Private Shares and the holders of the Founders' Shares have agreed with Sunrise not to sell or otherwise dispose of such shares for a period of six months and 24 months, respectively, after the date of the consummation of the Offering.

In general, under Rule 144, as amended, subject to the satisfaction of certain other conditions, a person, including an affiliate of the Company (or persons whose shares are aggregated with an affiliate), who has owned restricted shares of Common Stock beneficially for at least one year is entitled to sell, within any three-month period, a number of shares that does not exceed the greater of one per cent of the total number of outstanding shares of the same class or, if the common stock is quoted on Nasdaq, the average weekly trading volume during the four calendar weeks preceding the sale. A person who has not been an affiliate of the Company for at least three months immediately preceding the sale and who has beneficially owned shares of the Company for at least two years is entitled to sell such shares under Rule 144 without regard to any of the limitations described above.

The Company intends to file a registration statement under the Securities Act to register shares of Common Stock reserved for issuance under the Plan, thereby permitting the resale of such shares by non-affiliates in the public market without restriction under the Securities Act. The Company has reserved up to 333,333 shares of

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Common Stock for issuance under the Plan. As of the date of this Prospectus, options to purchase 60,001 of such reserved shares of Common Stock were outstanding under the Plan. See "Management--1996 Incentive and Non-Qualified Stock Option Plan."

Prior to this Offering, there has been no public market for the Common Stock, and no predictions can be made as to the effect, if any, that sales of the Common Stock will have on the market price of such securities from time to time. Sales of substantial amounts of the Company's securities in the public market could have a significant adverse effect on prevailing market prices and could impair the Company's future ability to raise capital through the sale of its equity securities. See "Risk Factors--Shares Eligible for Future Sale."

UNDERWRITING

The Underwriters (the "Underwriters") below, for whom the Representatives are acting as representatives, have severally agreed, subject to the terms and conditions contained in the Underwriting Agreement, to purchase from the Company the number of shares of Common Stock set forth below opposite their

respective names:

| UNDERWRITER ----- | NUMBER OF SHARES ----- |
|--------------------------------|------------------------------|
| Sunrise Securities Corp..... | |
| M.H. Meyerson & Co., Inc. | |
| Total..... | 3,500,000 ===== |

The Underwriting Agreement provides that the obligations of the several Underwriters thereunder are subject to approval of certain legal matters by counsel and to various other conditions. The nature of the Underwriters' obligations is such that they are committed to purchase and pay for all of the above shares of Common Stock offered hereby if any are purchased.

The Underwriters, through the Representatives, have advised the Company that they propose to offer the shares of Common Stock initially at the public offering price set forth on the cover page of the Prospectus; that the Underwriters may allow to selected dealers a concession of \$ per share and that such dealers may reallocate a concession of \$ per share to certain other dealers who are members of the National Association of Securities Dealers, Inc. After the public offering, the offering price and other selling terms may be changed by the Underwriters. The Company has applied for quotation of the Common Stock on Nasdaq.

The Company has granted to the Underwriters a 30-day Underwriters' Over-allotment Option to purchase from the Company up to an aggregate of 525,000 additional shares of Common Stock exercisable at the initial public offering price less the underwriting discount. If the Underwriters exercise such Over-allotment Option, then each of the Underwriters will have a firm commitment, subject to certain conditions, to purchase approximately the same percentage thereof as the number of shares of Common Stock to be purchased by it as shown in the above table bears to the 3,500,000 shares of Common Stock offered hereby. The Underwriters may exercise such Over-allotment Option only to cover over-allotments made in connection with the sale of the shares of Common Stock offered hereby.

The Underwriting Agreement provides further that Sunrise will receive from the Company a non-accountable expense allowance of three per cent of the gross proceeds of the Offering, of which \$45,000 has been paid by the Company to date. The Company has also agreed to pay all expenses in connection with qualifying the shares of Common Stock offered hereby for sale under the laws of such states as Sunrise may designate, including expenses of counsel retained for such purpose by Sunrise.

The Company has agreed to sell to the Representatives, for nominal consideration, the Representatives' Warrants to purchase up to 350,000 shares of Common Stock. The Representatives' Warrants will be nonexercisable for one year after the date of this Prospectus. Thereafter, for a period of four years, the

Representatives' Warrants will be exercisable at an amount equal to 165% of the offering price of the Common Stock sold in this Offering. The Representatives' Warrants are not transferable for a period of one year after the date of this Prospectus, except to officers and partners of the Representatives, members of the selling group and their officers and partners. The Company has also granted certain demand and "piggyback" registration rights to the holders of the Representatives' Warrants.

For the life of the Representatives' Warrants, the holders thereof are given, at a nominal cost, the opportunity to profit from a rise in the market price of the Common Stock with a resulting dilution in the interest of other stockholders. Further, such holders may be expected to exercise the Representatives' Warrants at a time the Company would in all likelihood be able to obtain equity capital on terms more favorable than those provided in

the Representatives' Warrants.

Nathan Low, President of Sunrise, beneficially owns an aggregate of 179,436 shares of Common Stock (representing 5.3% of the outstanding Common Stock) of the Company. Richard Stone, a managing director of Sunrise, beneficially owns an aggregate of 414,915 shares of Common Stock (representing 12.3% of the outstanding Common Stock) of the Company. In addition, Steven Oliveira, a registered representative of Hampshire Securities Corporation, which is anticipated to participate in the distribution of the Securities in this Offering, beneficially owns an aggregate of 461,016 shares of Common Stock (representing 13.7% of the outstanding Common Stock). As a result, this Offering is being conducted in accordance with the applicable provisions of Rule 2720 of the NASD Rules of Conduct. Accordingly, the initial public offering price can be no higher than that recommended by a "qualified independent underwriter" meeting certain standards. Loeb Partners Corporation served as qualified independent underwriter in connection with this Offering. Loeb Partners Corporation has assumed the responsibilities of acting as qualified independent underwriter in pricing the Offering, has performed due diligence with respect to the information contained herein and has participated in preparing the Registration Statement. In its role as qualified independent underwriter, Loeb Partners Corporation will receive an aggregate fee from the Underwriters of \$25,000, \$12,500 of which has been paid and \$12,500 of which is to be paid upon consummation of the Offering. In addition, Loeb Partners Corporation will be reimbursed by the Underwriters for up to \$5,000 for certain expenses incurred in connection with its services, including its independent counsel.

The Underwriting Agreement provides for reciprocal indemnification between the Company and the Underwriters against liabilities in connection with the Offering, including liabilities under the Securities Act.

The initial public offering price of the shares of Common Stock offered hereby has been determined by negotiation between the Company and the Underwriters, and within the parameters set forth above, and does not necessarily bear any direct relationship to the Company's assets, earnings, book value per share or other generally accepted criteria of value. Factors considered in determining the offering price of the shares of Common Stock included the business in which the Company is engaged, the Company's financial condition, an assessment of the Company's management, the general condition of the securities markets and the demand for similar securities of comparable companies.

During and after the Offering, the Underwriters may purchase and sell Common Stock in the open market. These transactions may include stabilizing transactions and purchases to cover short positions created in connection with the Offering. The Underwriters also may impose a penalty bid, whereby selling concessions allowed to broker-dealers in respect of the Common Stock sold in the Offering for their account may be reclaimed if such shares are repurchased by the Underwriters in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the Common Stock which may be higher than the price that might otherwise prevail in the open market. The Company and the Underwriters make no representation or prediction as to the discretion or magnitude of any effect that the transactions described above may have on the price of the Common Stock.

The foregoing includes a summary of the principal terms of the Underwriting Agreement and does not purport to be complete. Reference is made to the copy of the Underwriting Agreement filed as an exhibit to the Registration Statement of which this Prospectus is a part.

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LEGAL MATTERS

The validity of the securities offered by this Prospectus will be passed upon for the Company by Eilenberg & Zivian, New York, New York. Eilenberg & Zivian owns 4,668 shares of Common Stock and has from time to time represented CSO and its members. Squadron, Ellenoff, Plesent & Sheinfeld, LLP, New York, New York, has acted as counsel to the Underwriters with respect to certain legal matters related to this Offering.

EXPERTS

The financial statements of the Company as of December 31, 1995 and 1996,

for the period from inception (December 28, 1995) through December 31, 1995, for the year ended December 31, 1996, and for the period from inception through December 31, 1996 included in this Prospectus have been so included in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1 to such financial statements) of Price Waterhouse LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

AVAILABLE INFORMATION

The Company has filed a Registration Statement on Form SB-2 under the Act with the Securities and Exchange Commission with respect to the Common Stock offered hereby. This Prospectus does not contain all of the information set forth in the Registration Statement and the exhibits thereto: certain portions have been omitted pursuant to rules and regulations of the Commission. Statements contained in this Prospectus as to the contents of any contract or other document are not necessarily complete, however all material terms of such contract or document are reflected in this Prospectus. In each instance, reference is made to the copy of such contract or document filed as an exhibit to the Registration Statement, each such statement being qualified in all respects by such reference. The Registration Statement, including the exhibits and schedules thereto, may be inspected without charge, at the Public Reference Facilities maintained by the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549, 1400 Citicorp Center, 500 West Madison, Chicago, Illinois 60661; and 7 World Trade Center, New York, New York 10048 and copies of all or any part thereof may be obtained upon payment of the fees prescribed by the Commission. Electronic registration statements made through the Electronic Data Gathering, Analysis and Retrieval System are publicly available through the Commissions's World Wide Web site at <http://www.sec.gov>.

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GLOSSARY

ANTIBIOTIC. A substance, such as penicillin or streptomycin, produced by or derived from certain fungi, bacteria, and other organisms, that can destroy or inhibit the growth of other microorganisms. Antibiotics are widely used in the prevention and treatment of infectious diseases.

ANTIGEN. A substance that when introduced into the body stimulates the production of an antibody. Antigens include toxins, bacteria, foreign blood cells, and the cells of transplanted organs.

COMMENSAL. An organism participating in a symbiotic relationship in which one species derives some benefit while the other is unaffected.

EFFECTOR. A small molecule that when bound to the allosteric site of an enzyme causes either a decrease or an increase in the activity of the enzyme.

ENTEROCOCCUS. A usually nonpathogenic streptococcus that inhabits the intestine.

ENZYME. Any of numerous proteins or conjugated proteins produced by living organisms and functioning as biochemical catalysts.

FLUOROQUINOLONE. Chemical analogs of nalidixic acid, fluoroquinolones exert their anti-microbial activity by inhibition of bacterial DNA gyrase (involved in DNA coiling) and, generally, have a wide spectrum of antibiotic activity.

HUMORAL IMMUNITY. The component of the immune response involving the transformation of B-lymphocytes into plasma cells that produce and secrete antibodies to a specific antigen.

IMMUNE RESPONSE. An integrated bodily response to an antigen, especially one mediated by lymphocytes and involving recognition of antigens by specific antibodies or previously sensitized lymphocytes.

IMMUNE SYSTEM. The integrated body system of organs, tissues, cells, and cell products such as antibodies that differentiates self from nonself and neutralizes potentially pathogenic organisms or substances.

IMMUNOGLOBULIN. Any of a group of large glycoproteins secreted by plasma cells in vertebrates that function as antibodies in the immune response by binding the specific antigens. Immunoglobulins are found along the respiratory

and intestinal tracts, on mucosal surfaces, and in milk, saliva, tears, and blood serum.

IMMUNOSUPPRESSION. Suppression of the immune response, as by drugs or radiation, in order to prevent the rejection of grafts or transplants or control autoimmune diseases. Also called immunodepression.

LACTOFERRIN. An iron-binding glycoprotein found in mucosal secretions and blood neutrophils, which has antimicrobial activity.

LYMPHOCYTE. Any of the nearly colorless cells formed in lymphoid tissue, as in the lymph nodes, spleen, thymus, and tonsils, constituting between 22 and 28 percent of all white blood cells in the blood of a normal adult human being. Lymphocytes function in the development of immunity and include two specific types, B cells and T cells.

LYSOZYME. An enzyme occurring naturally in egg white, human tears, saliva, and other body fluids, capable of destroying the cell walls of certain bacteria and thereby acting as a mild antiseptic.

METHICILLIN. A synthetic antibiotic, C₁₇H₁₉N₂O₆NaS, related to penicillin and most commonly used in treatment of infections caused by penicillinase-producing staphylococci.

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MUCOUS MEMBRANE. A membrane lining all body passages that communicate with the air, such as the respiratory and alimentary tracts, and having cells and associated glands that secrete mucus.

PATHOGEN. An agent that causes disease, especially a living microorganism such as a bacterium or fungus.

PENICILLIN. Any of a group of broad-spectrum antibiotic drugs obtained from penicillium molds or produced synthetically, most active against gram-positive bacteria and used in the treatment of various infections and diseases.

PEROXIDASE. Any of a group of enzymes that occur especially in plant cells and catalyze the oxidation of a substance by a peroxide.

PHARYNGITIS. Inflammation of the pharynx, the section of the alimentary canal that extends from the mouth and nasal cavities to the larynx, where it becomes continuous with the esophagus.

RHEUMATIC FEVER. A severe infectious disease occurring chiefly in children, characterized by fever and painful inflammation of the joints and frequently resulting in permanent damage to the valves of the heart.

SEROTYPE. A group of closely related microorganisms distinguished by a characteristic set of antigens.

STREPTOCOCCUS. A round to ovoid, gram-positive, often pathogenic bacterium of the genus Streptococcus that occurs in pairs or chains, many species of which destroy red blood cells and cause various diseases in human beings, including erysipelas, scarlet fever, and septic sore throat.

SUBUNIT VACCINE. A vaccine consisting of purified or semi-purified components of an infectious organism for which protection is desired.

SYSTEMIC. Of, relating to, or affecting the entire body or an entire organism.

TETRACYCLINE. A yellow crystalline compound, C₂₂H₂₄N₂O₈, synthesized or derived from certain microorganisms of the genus Streptomyces and used as a broad-spectrum antibiotic.

TOXIN. A poisonous substance, especially a protein, that is produced by living cells or organisms and is capable of causing disease when introduced into the body tissues but is often also capable of inducing neutralizing antibodies or antitoxins.

VACCINE. A preparation of a weakened or killed pathogen, such as a bacterium or virus, or of a portion of the pathogen's structure that upon administration stimulates antibody production against the pathogen but is incapable of

causing severe infection.

VANCOMYCIN. An antibiotic, C\66\H\75\C1\2\N\9\O\24, produced by the actinomycete *Streptomyces orientalis*, found in Indonesian and Indian soil, and effective against staphylococci and spirochetes.

VIRUS. Any of various simple submicroscopic parasites of plants, animals, and bacteria that often cause disease and that consist essentially of a core of RNA or DNA surrounded by a protein coat. Unable to replicate without a host cell, viruses are typically not considered living organisms.

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

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REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Stockholders
of SIGA Pharmaceuticals, Inc.

In our opinion, the accompanying balance sheet and related statements of operations, of cash flows and of changes in stockholders' equity present fairly, in all material respects, the financial position of SIGA Pharmaceuticals, Inc. (a development stage company) at December 31, 1995 and 1996, and the results of its operations for the period from inception (December 28, 1995) through December 31, 1995, for the year ended December 31, 1996 and for the period from inception through December 31, 1996, in conformity with generally accepted accounting principles. 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 audit. We conducted our audit of these statements in accordance with generally accepted auditing standards which 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, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for the opinion expressed above.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company is a development stage company and has

suffered operating losses since inception. These and other factors, as discussed in Note 1, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Price Waterhouse LLP
New York, New York
March 3, 1997

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

BALANCE SHEET

| | DECEMBER 31, 1995 | DECEMBER 31, 1996 | JUNE 30, 1997 |
|--|----------------------|----------------------|------------------|
| | ----- | ----- | ----- |
| | | | (Unaudited) |
| ASSETS | | | |
| Current assets | | | |
| Cash and cash equivalents..... | -- | \$ 42,190 | \$ 129,913 |
| Prepaid sponsored research (Note 7)... | -- | 370,798 | 215,208 |
| Prepaid expenses..... | -- | -- | -- |
| Deferred offering costs (Note 2)..... | -- | 115,688 | 195,988 |
| | ----- | ----- | ----- |
| Total current assets..... | -- | 528,676 | 541,109 |
| Prepaid sponsored research (Note 7)... | -- | 30,208 | -- |
| Equipment, net (Note 3)..... | -- | 21,425 | 16,646 |
| Other assets..... | \$ 6,937 | 609 | 609 |
| | ----- | ----- | ----- |
| Total assets..... | \$ 6,937 | \$ 580,918 | \$ 558,364 |
| | ===== | ===== | ===== |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | | |
| Current liabilities | | | |
| Accounts payable..... | \$ 7,937 | \$ 92,241 | \$ 148,160 |
| Accrued expenses..... | -- | 22,260 | 139,318 |
| Patent preparation fees payable (Note 7)..... | -- | 66,437 | 66,437 |
| Bridge notes (Note 9)..... | -- | -- | 955,667 |
| | ----- | ----- | ----- |
| Total liabilities..... | 7,937 | 180,938 | 1,309,582 |
| | ----- | ----- | ----- |
| Commitments and contingencies (Notes 6, 7, 8 and 9) | -- | -- | -- |
| Stockholders' equity | | | |
| Preferred stock (\$.0001 par value, 10,000,000 shares authorized, none issued and outstanding)..... | -- | -- | -- |
| Common stock (\$.0001 par value, 25,000,000 shares authorized, 2,079,170, 3,367,182 and 3,367,182 shares issued and outstanding at December 31, 1995, December 31, 1996, and June 30, 1997, respectively) (Notes 4 and 9)..... | 208 | 337 | 337 |
| Additional paid-in capital..... | 1,040 | 2,668,819 | 2,830,632 |
| Stock subscriptions outstanding..... | (1,248) | -- | -- |
| Deficit accumulated during the development stage..... | (1,000) | (2,269,176) | (3,582,187) |
| | ----- | ----- | ----- |
| Total stockholders' equity (deficit)..... | (1,000) | 399,980 | (751,218) |
| | ----- | ----- | ----- |
| Total liabilities and stockholders' equity..... | \$ 6,937 | \$ 580,918 | \$ 558,364 |
| | ===== | ===== | ===== |

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

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

STATEMENT OF OPERATIONS

| | DECEMBER 28, 1995 (INCEPTION) TO DECEMBER 31, 1995 | YEAR ENDED DECEMBER 31, 1996 | DECEMBER 28, 1995 (INCEPTION) TO DECEMBER 31, 1996 | SIX MONTHS ENDED JUNE 30, 1996 | SIX MONTHS ENDED JUNE 30, 1997 | DECEMBER 28, 1995 (INCEPTION) TO JUNE 30, 1997 |
|--|---|---------------------------------------|---|--------------------------------------|--------------------------------------|--|
| | | | | (Unaudited) | (Unaudited) | (Unaudited) |
| Operating expenses | | | | | | |
| General and administrative (including amounts to related parties of \$444,000 for the year ended December 31, 1996 and \$216,000 for each of the six months ended June 30, 1996 and 1997)..... | \$ 1,000 | \$ 787,817 | \$ 788,817 | \$ 394,229 | \$ 680,122 | \$ 1,468,939 |
| Research and development (including amounts to related parties of \$75,000 for the year ended December 31, 1996 and \$37,500 for each of the six months ended June 30, 1996 and 1997)..... | -- | 662,205 | 662,205 | 311,419 | 432,668 | 1,094,873 |
| Patent preparation fees..... | -- | 452,999 | 452,999 | 324,514 | 49,681 | 502,680 |
| Stock option and warrant compensation.. | -- | 367,461 | 367,461 | -- | 28,813 | 396,274 |
| Total operating expenses..... | 1,000 | 2,270,482 | 2,271,482 | 1,030,162 | 1,191,284 | 3,462,766 |
| Interest income/(expense)..... | -- | 2,306 | 2,306 | -- | (121,727) | (119,421) |
| Net loss..... | \$ (1,000) | \$ (2,268,176) | \$ (2,269,176) | \$ (1,030,162) | \$ (1,313,011) | \$ (3,582,187) |
| Net loss per common share..... | -- | \$ (0.66) | | \$ (0.32) | \$ (0.36) | |
| Weighted average number of shares outstanding..... | 2,498,581 | 3,413,531 | | 3,211,499 | 3,686,589 | |

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

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY

| | COMMON STOCK SHARES | PAR VALUE | ADDITIONAL PAID-IN CAPITAL | STOCK SUBSCRIPTIONS OUTSTANDING | DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE | TOTAL STOCKHOLDERS' EQUITY (DEFICIT) |
|---|------------------------|-----------|----------------------------------|---------------------------------------|--|--|
| Issuance of common stock at inception.... | 2,079,170 | \$208 | \$ 1,040 | \$ (1,248) | -- | -- |
| Net loss..... | -- | -- | -- | -- | \$ (1,000) | \$ (1,000) |

| | | | | | | |
|---|-----------|-------|-------------|---------|----------------|--------------|
| Balance at December 31, 1995..... | 2,079,170 | 208 | 1,040 | (1,248) | (1,000) | (1,000) |
| Net proceeds from issuance and sale of common stock..... | 1,038,008 | 104 | 1,551,333 | -- | -- | 1,551,437 |
| Net proceeds from issuance and sale of common stock..... | 250,004 | 25 | 748,985 | -- | -- | 749,010 |
| Receipt of stock subscriptions outstanding..... | -- | -- | -- | 1,248 | -- | 1,248 |
| Issuance of compensatory options and warrants..... | -- | -- | 367,461 | -- | -- | 367,461 |
| Net loss..... | -- | -- | -- | -- | (2,268,176) | (2,268,176) |
| Balance at December 31, 1996..... | 3,367,182 | 337 | 2,668,819 | -- | (2,269,176) | 399,980 |
| Issuance of warrants with bridge notes (Note 9) (unaudited).. | -- | -- | 133,000 | -- | -- | 133,000 |
| Stock warrant compensation (unaudited)..... | -- | -- | 28,813 | -- | -- | 28,813 |
| Net loss (unaudited)... | -- | -- | -- | -- | (1,313,011) | (1,313,011) |
| Balance at June 30, 1997 (unaudited)..... | 3,367,182 | \$337 | \$2,830,632 | -- | \$ (3,582,187) | \$ (751,218) |

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

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

STATEMENT OF CASH FLOWS

| | DECEMBER 28, 1995 (INCEPTION) TO DECEMBER 31, 1995 | YEAR ENDED DECEMBER 31, 1996 | DECEMBER 28, 1995 (INCEPTION) TO DECEMBER 31, 1996 | SIX MONTHS ENDED JUNE 30, 1996 (Unaudited) | SIX MONTHS ENDED JUNE 30, 1997 (Unaudited) | DECEMBER 28, 1995 (INCEPTION) TO JUNE 30, 1997 (Unaudited) |
|---|--|------------------------------------|--|---|--|--|
| Cash flows from operating activities: | | | | | | |
| Net loss..... | \$ (1,000) | \$ (2,268,176) | \$ (2,269,176) | \$ (1,030,162) | \$ (1,313,011) | \$ (3,582,187) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | | | | |
| Depreciation..... | -- | 7,249 | 7,249 | 3,127 | 4,779 | 12,028 |
| Stock option and warrant compensation..... | -- | 367,461 | 367,461 | -- | 28,813 | 396,274 |
| Amortization of debt discount..... | -- | -- | -- | -- | 88,667 | 88,667 |
| Changes in assets and liabilities: | | | | | | |
| Prepaid sponsored research..... | -- | (401,006) | (401,006) | (567,776) | 185,798 | (215,208) |
| Prepaid expenses..... | -- | -- | -- | (32,820) | -- | -- |
| Other assets..... | (6,937) | 6,328 | (609) | -- | -- | (609) |
| Accounts payable and accrued expenses.... | 7,937 | 173,001 | 180,938 | 48,981 | 172,977 | 353,915 |
| Net cash used in operating activities..... | -- | (2,115,143) | (2,115,143) | (1,578,650) | (831,977) | (2,947,120) |
| Cash flows from investing activities: | | | | | | |
| Capital expenditures... | -- | (28,674) | (28,674) | (26,043) | -- | (28,674) |
| Net cash used in investing activities..... | -- | (28,674) | (28,674) | (26,043) | -- | (28,674) |

| | | | | | | |
|---|----|-----------|-----------|------------|------------|------------|
| Cash flows from financing activities: | | | | | | |
| Net proceeds from issuance of common stock..... | -- | 2,300,447 | 2,300,447 | 1,551,437 | -- | 2,300,447 |
| Receipt of stock subscriptions outstanding..... | -- | 1,248 | 1,248 | -- | -- | 1,248 |
| Deposits on stock subscriptions..... | -- | -- | -- | 350,000 | -- | -- |
| Deferred offering costs..... | -- | (115,688) | (115,688) | -- | (80,300) | (195,988) |
| Proceeds from bridge notes..... | -- | -- | -- | -- | 1,000,000 | 1,000,000 |
| Net cash provided from financing activities..... | -- | 2,186,007 | 2,186,007 | 1,901,437 | 919,700 | 3,105,707 |
| Net increase in cash and cash equivalents..... | -- | 42,190 | 42,190 | 296,744 | 87,723 | 129,913 |
| Cash and cash equivalents, beginning of period..... | -- | -- | -- | -- | 42,190 | -- |
| Cash and cash equivalents, end of period..... | -- | \$ 42,190 | \$ 42,190 | \$ 296,744 | \$ 129,913 | \$ 129,913 |

There were no cash payments for interest or income taxes for the periods ended December 31, 1995 and 1996 and the period ended June 30, 1997.

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

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

1. ORGANIZATION AND BASIS OF PRESENTATION

Organization

SIGA Pharmaceuticals, Inc. (the "Company") was incorporated in the State of Delaware on December 28, 1995. The Company is engaged in the discovery, development and commercialization of vaccines, antibiotics, and novel anti-infectives for the prevention and treatment of infectious diseases. The Company's technologies are licensed from third parties and the Company depends on third parties to conduct research on its behalf pursuant to research and consulting agreements.

Basis of presentation

The Company's activities since inception have consisted primarily of sponsoring research and development, performing business and financial planning, preparing and filing patent applications, and raising capital. Accordingly, the Company is considered to be a development stage company and will require additional financing to achieve commercialization of its technologies.

The accompanying financial statements have been prepared assuming the Company will continue as a going concern. Since inception, the Company has incurred cumulative net operating losses and expects to incur substantial additional losses to complete the commercialization of its technologies. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The Company's ability to continue as a going concern is dependent upon its ability to generate sufficient cash flow to meet its obligations as they come due. Management is actively pursuing various options which include securing additional equity financing through an initial public offering and believes that sufficient funding will be available to meet its planned business objectives. The Company has entered into a non-binding letter of intent with an underwriter to sell shares of the Company's common stock in an initial public offering (the "IPO") pursuant to the Securities Act of 1933.

The financial statements do not include any adjustments relating to the recoverability of the carrying amount of recorded assets or the amount of liabilities that might result from the outcome of these uncertainties.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Cash equivalents

Cash equivalents consist of short term, highly liquid investments, with original maturities of less than three months when purchased and are stated at cost. Interest is accrued as earned.

Equipment

Equipment is stated at cost. Depreciation is provided on the straight-line method over the estimated useful lives of the respective assets, none of which exceeds three years.

Deferred offering costs

In connection with the Company's proposed IPO, the Company has incurred certain costs which have been deferred. In the event the proposed IPO is not consummated the deferred offering costs will be expensed.

Research and development

Research and development costs are expensed as incurred and include costs of third parties who conduct research and development, pursuant to development and consulting agreements, on behalf of the Company. Costs related to the acquisition of technology rights, for which development work is still in process, and that have no alternative future uses, are expensed as incurred and considered a component of research and development costs.

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS--(CONTINUED)

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

Income taxes

Income taxes are accounted for under the asset and liability method prescribed by Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes." Deferred income taxes are recorded for temporary differences between financial statement carrying amounts and the tax basis of assets and liabilities. Deferred tax assets and liabilities reflect the tax rates expected to be in effect for the years in which the differences are expected to reverse. A valuation allowance is provided if it is more likely than not that some or all of the deferred tax asset will not be realized.

Net loss per common share

Net loss per common share is computed using the weighted average number of common shares and common share equivalents assumed to be outstanding during the period. Common share equivalents consist of the Company's common shares issuable upon exercise of stock options and outstanding warrants. Pursuant to the requirements of the Securities and Exchange Commission, stock options, warrants and shares issued by the Company within one year of the date of the initial public offering at prices below the proposed offering price have been included in the calculation of weighted average shares outstanding as if they were outstanding for all periods presented using the treasury stock method.

Accounting estimates

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

Fair value of financial instruments

The carrying value of cash and cash equivalents, and accounts payable and accrued expenses approximates fair value due to the relatively short maturity of these instruments.

New accounting pronouncements

In February 1997, the Financial Accounting Standards Board issued statement of Financial Accounting Standards No. 128, "Earnings per Share" ("FAS 128") which requires presentation of basic earnings per share ("Basic EPS") and diluted earnings per share ("Diluted EPS") by all entities that have publicly traded common stock or potential common stock (options, warrants, convertible securities or contingent stock arrangements). FAS 128 also requires presentation of earnings per share by an entity that has made a filing or is in the process of filing with a regulatory agency in preparation for the sale of those securities in a public market. Basic EPS is computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted EPS gives effect to all dilutive potential common shares outstanding during the period. The computation of Diluted EPS does not assume conversion, exercise or contingent exercise of securities that would have an antidilutive effect on earnings. The statement is effective for both interim and annual periods ending after December 15, 1997. The effect on the Company's earnings per share resulting from the adoption of FAS 128 is not expected to be significant.

In June 1997, the Financial Accounting Standards Board issued Statement of Accounting Standards No. 130, "Reporting Comprehensive Income" (FAS 130"), which requires the presentation of the components of comprehensive income in an company's financial statements for reporting periods beginning subsequent to

SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS--(CONTINUED)

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

December 15, 1997. Comprehensive income is defined as the change in a company's equity during a financial reporting period from transactions and other circumstances from nonowner sources (including cumulative translation adjustments, minimum pension liabilities and unrealized gains/losses on available for sale securities). The adoption of FAS 130 is not expected to have a material impact on the Company's financial statements.

3. EQUIPMENT

Equipment consisted of the following at December 31, 1996 and June 30, 1997:

| | DECEMBER 31, 1996 | JUNE 30, 1997 |
|-------------------------------------|----------------------|---------------------|
| | ----- | ----- |
| Computer equipment..... | \$28,674 | \$28,674 |
| Less--Accumulated depreciation..... | (7,249) | (12,028) |
| | ----- | ----- |
| Equipment, net..... | \$21,425 | \$16,646 |
| | ===== | ===== |

4. STOCKHOLDERS' EQUITY

In March 1996, the Company completed a private offering of 1,038,008 shares of its common stock at the price of \$1.50 per share, providing gross proceeds of \$1,557,000, and net proceeds, after deducting expenses, of \$1,551,437. In

September 1996, the Company completed a second private offering of 250,004 shares of common stock at a price of \$3.00 per share providing gross proceeds of \$750,000 and net proceeds, after deducting expenses, of \$749,010.

Reverse stock split

Effective December 1996, the Company implemented a one for six reverse stock split (without changing the par value thereof) applicable to all issued and outstanding shares of the Company's common stock. All fractional shares resulting from such stock split were rounded up to the next whole share. All common shares, stock options, warrants and related per share data, reflected in the accompanying financial statements and notes thereto, have been presented as if such change had occurred at December 28, 1995.

Stock option plan and warrants

In January 1996, the Company implemented its 1996 Incentive and Non-Qualified Stock Option Plan (the "Plan") whereby options to purchase up to 333,333 shares of the Company's common stock may be granted to employees, consultants and outside directors of the Company. The exercise period for options granted under the Plan, except those granted to outside directors, is determined by a committee of the Board of Directors. Stock options granted to outside directors pursuant to the Plan must have an exercise price equal to or in excess of the fair market value of the Company's common stock at the date of grant and become exercisable over a period of three years with a third of the grant being exercisable at the completion of each year of service subsequent to the grant. The fair market value of the Company's common stock is determined by a committee of the Board of Directors. The committee is comprised entirely of employees who receive stock options under the Plan. During the year ended December 31, 1996, the Company granted options under the Plan to employees to purchase 33,334 shares of its common stock at an exercise price of \$1.50 per share and options to purchase 16,667 shares at an exercise price of \$3.00 per share. These options expire on January 1, 2001 and November 18, 2006, respectively. All such grants were outstanding at December 31, 1996 and were eligible for exercise. There were no grants to outside directors during the year ended December 31, 1996. The weighted-average grant-date fair value of options granted during the year ended December 31, 1996 whose exercise price equaled the fair market

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS--(CONTINUED)

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

value on the date of grant was \$.22. The weighted-average grant-date fair value of options granted during the year ended December 31, 1996 whose exercise price was less than the fair market value on the date of grant was \$.99. The weighted-average remaining contractual life of options outstanding at December 31, 1996 was 6.5 years.

In November 1996, the Company entered into an employment agreement with its President and Chief Executive Officer. Under the terms of the agreement, the employee received warrants to purchase 461,016 shares of common stock at \$3.00 per share. Warrants to purchase 25% of such shares were exercisable upon issuance and the remaining warrants are exercisable on a pro rata basis on the first, second and third anniversaries of the agreement (see Note 8). These warrants expire on November 18, 2006. The grant date fair value of such warrants was \$.99. At December 31, 1996, the remaining contractual life of such warrants was approximately 9.9 years.

The Company applies Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations in accounting for warrants issued to employees and stock options granted under the Plan. During the year ended December 31, 1996, compensation expense of \$57,627 has been recognized for warrants issued to employees and \$8,334 for options issued pursuant to its stock-based compensation plan calculated based upon the difference between the exercise price of the warrant or option and the fair market value of the Company's common stock on the date of grant. Had compensation cost for warrants issued and stock options granted been

determined based upon the fair value at the grant date for awards consistent with the methodology prescribed under Statement of Financial Accounting Standards No. 123 ("FAS 123"), "Accounting for Stock-Based Compensation," the Company's net loss and loss per share would have been increased by approximately \$72,000, or approximately \$.02 per share.

In March 1996, the Company entered into an agreement with a consultant, who is a stockholder, whereby the consultant would be granted options to purchase 150,000 shares of the Company's common stock, at an exercise price of \$1.50 per share, contingent upon completion of collaborative agreements with specified pharmaceutical companies. In September 1996, such agreement was terminated and the consultant was issued warrants to purchase 150,000 shares of its common stock, at an exercise price of \$1.50 per share. The warrants were exercisable upon issuance and expire on the twentieth anniversary of the date of issuance. The Company has recognized non-cash compensation expense of \$301,500 for the year ended December 31, 1996, based upon the fair value of such warrants on the date of grant (see Note 6). At December 31, 1996, the remaining contractual life of such warrants was approximately 19.7 years.

The fair value of the options and warrants granted to employees and the warrants issued to the consultant during 1996 ranged from \$.22 to \$2.01 on the date of the respective grant using the Black-Scholes option-pricing model assuming (a) no dividend yield, (b) a risk-free interest rate ranging from 5.26% to 6.26% based on the date of the respective grant, (c) no forfeitures, and (d) an expected life of three years. As permitted under the provisions of FAS 123, and based on the historical lack of a public market for the Company's common stock, no factor for volatility has been reflected in the option and warrant pricing calculation.

5. INCOME TAXES

The Company has incurred losses since inception which have generated net operating loss carryforwards of approximately \$1,901,000 and \$3,185,000, respectively, at December 31, 1996 and June 30, 1997 for federal and state income tax purposes. These carryforwards are available to offset future taxable income and expire in 2011 and 2012 for federal income tax purposes. These losses are subject to limitation on future years' utilization should certain ownership changes occur.

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS--(CONTINUED)

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

The net operating loss carryforwards and temporary differences, arising primarily from noncash compensation expense, result in a noncurrent deferred tax benefit at December 31, 1996 and June 30, 1997 of approximately \$877,000 and \$1,274,000, respectively. In consideration of the Company's accumulated losses and the uncertainty of its ability to utilize this deferred tax benefit in the future, the Company has recorded a valuation allowance of an equal amount on such dates to fully offset the deferred tax benefit amount.

For the year ended December 31, 1996 and the six months ended June 30, 1997, the Company's effective tax rate differs from the federal statutory rate principally due to net operating losses and other temporary differences for which no benefit was recorded, state taxes and other permanent differences.

6. RELATED PARTIES

Consulting agreements

The Company has entered into a consulting agreement, expiring January 15, 1998, with CSO Ventures LLC ("CSO") under which CSO provides the Company with business development, operations and other advisory services. Pursuant to the agreement CSO is paid an annual consulting fee of \$120,000. Two Executive Vice Presidents of the Company are principals of CSO. The agreement is only cancelable by the Company for cause, as defined in the agreement. During the year ended December 31, 1996 and the six months ended June 30, 1997, the Company incurred expense of \$120,000 and \$60,000, respectively, pursuant to the

agreement.

In connection with the development of its licensed technologies the Company has entered into a consulting agreement with the scientist who developed such technologies, under which the consultant serves as the Company's Chief Scientific Advisor. The scientist, who is a stockholder, shall be paid an annual consulting fee of \$75,000. The agreement, which commenced in January 1996 and is only cancelable by the Company for cause, as defined in the agreement, has an initial term of two years and provides for automatic renewals of three additional one year periods unless either party notifies the other of its intention not to renew. Research and development expense incurred under the agreement amounted to \$75,000 and \$37,500 for the year ended December 31, 1996 and the six month period ended June 30, 1997, respectively. During the year ended December 31, 1996, the scientist was issued warrants to purchase 150,000 shares of the Company's common stock at an exercise price of \$1.50 per share (see Note 4).

Employment agreements

The Company has employment agreements, expiring in December 1998, with its two Executive Vice Presidents ("EVPs"), who are principal shareholders of the Company and CSO, under which the EVPs are each to be paid minimum annual compensation of \$150,000. In addition, the Company granted each of the EVPs options to purchase 16,667 shares of the Company's common stock, at an exercise price of \$1.50 per share, upon execution of the respective agreements. During the term of the agreements the EVPs are each to receive annual stock option grants to purchase 16,667 common shares exercisable at the fair market value at the date of grant. Under the provisions of the agreements the EVPs will each receive a cash payment equal to 1.5% of the total consideration received by the Company in a transaction resulting in a greater than 50% change in ownership of the outstanding common stock of the Company. The Company incurred \$324,000 and \$156,000 of expense for the year ended December 31, 1996 and the six months ended June 30, 1997, respectively, pursuant to these agreements.

Underwriting agreement

As discussed in Note 1, the Company has secured a nonbinding letter of intent with an underwriter to sell shares of the Company's common stock in an IPO. At December 31, 1996 and June 30, 1997, employees of the underwriter hold 594,351 shares or approximately 18% of the Company's outstanding common stock.

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS--(CONTINUED)

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

7. LICENSE AND RESEARCH SUPPORT AGREEMENT

In January 1996, the Company entered into a license and research support agreement with third parties. Under the terms of the agreement, the Company has been granted an exclusive world-wide license to make, use and sell products derived from the licensed technologies. In consideration of the license grant the Company is obligated to pay royalties equal to a specified percentage of net sales of products incorporating the licensed technologies. In the event the Company sublicenses any technologies covered by the agreement the third parties would be entitled to a significant percentage of the sublicense revenue received by the Company. In addition, the Company is required to make milestone payments, up to \$225,000 per product, for each product developed from the licensed technologies.

The Company has agreed to sponsor further research by the third parties for the development of the licensed technologies for a period of two years from the date of the agreement, in return for a payment of \$725,000 to such third parties. The period of sponsored research will automatically be renewed for additional one-year periods unless terminated by the Company. Amortization of prepaid sponsored research under this agreement was \$332,292 and \$181,250 for the year ended December 31, 1996 and the six months ended June 30, 1997, respectively. The Company also agreed to reimburse the third parties for costs

associated with the preparation, filing and prosecution of patent rights for the licensed technologies incurred prior to the execution of the license and research support agreement. The agreement is only cancelable by the Company for cause, as defined in the agreement. The Company has expensed \$310,986 of reimbursable patent preparation costs pursuant to the agreement during the year ended December 31, 1996, of which \$66,437 remains accrued at December 31, 1996 and June 30, 1997.

In January 1996, the Company entered into research agreements with third parties. Under the terms of the agreements, the Company has agreed to fund two years of research in return for annual payments of \$183,320. Research and development expense under these agreements amounted to \$175,024 and \$91,661 for the year ended December 31, 1996 and the six months ended June 30, 1997, respectively.

8. COMMITMENTS AND CONTINGENCIES

Employment agreement

The Company has an employment agreement with its Director of Bacterial Research which expires in December 1997. Under the terms of the agreement, the employee is to receive minimum annual compensation of \$90,000. The agreement is only cancelable by the Company for cause, as defined in the agreement. During the year ended December 31, 1996 and the six months ended June 30, 1997, the Company incurred \$90,000 and \$45,000, respectively, of expense pursuant to the agreement.

In November 1996, the Company entered into an employment agreement, expiring in November 1999, with its President and Chief Executive Officer. Under the terms of the agreement, the employee is to receive annual base compensation of \$225,000 and options to purchase 16,667 shares of the Company's common stock, exercisable at the fair market value on the date of grant. Upon execution of the agreement, the Company granted the employee options to purchase 16,667 shares of its common stock at an exercise price of \$3.00 per share. In addition, the employee was issued warrants to purchase 461,016 shares of common stock at \$3.00 per share (see Note 4). Under the provisions of the agreement, the President will receive a cash payment equal to 1.5% of the total consideration received by the Company in a transaction resulting in a greater than 50% change in ownership of the outstanding common stock of the Company. During the year ended December 31, 1996 and the six months ended June 30, 1997, the Company incurred \$28,435 and \$112,500, respectively, of expense pursuant to the agreement.

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SIGA PHARMACEUTICALS, INC.
(A DEVELOPMENT STAGE COMPANY)

NOTES TO FINANCIAL STATEMENTS--(CONTINUED)

(Unaudited with respect to June 30, 1996 and 1997 and for each six month period then ended)

9. SUBSEQUENT EVENTS (UNAUDITED)

In January and February 1997, in contemplation of its proposed IPO, the Company issued bridge notes (the "Bridge Notes") in the principal amount of \$1,000,000. The Bridge Notes bear interest at 10% per annum and are due and payable together with accrued but unpaid interest, on the earlier of (a) the closing of an initial public offering of the Company's common stock, or (b) six months after the date of execution of the Bridge Notes. In conjunction with the issuance of the Bridge Notes, the Company entered into warrant agreements whereby to the purchasers of the Bridge Notes will be issued warrants to purchase a number of shares of common stock determined by dividing (i) one-half of the gross proceeds of the Bridge Notes (\$500,000) by (ii) the IPO price per share. The warrants will provide for an exercise price per share equal to the IPO price per share and will not be exercisable until the first anniversary of the date of the consummation of the IPO (or February 28, 1998 if the IPO is not consummated). In the event that prior to the maturity date of the Bridge Notes (i) the Company's proposed IPO is not consummated, or (ii) the Company is acquired by another corporation, the holders of the Bridge Notes will receive warrants to purchase an aggregate of 100,000 shares of common stock at an exercise price of \$5.00 per share. As of July 8, 1997, the

maturity date of Bridge Notes in the principal amount of \$250,000, which had original maturity dates of July 1997, had been extended to the earlier of October 1, 1997 or completion of the IPO. The remaining Bridge Notes mature on August 28, 1997 and the Company is currently seeking extensions of the maturity date of such Bridge Notes to the earlier of October 1, 1997 or completion of the IPO.

The fair value of the warrants, in the amount of \$133,000, issued by the Company in connection with the bridge financing, has been recorded as debt discount and is being amortized over the six month term of the Bridge Notes. During the period ended June 30, 1997 the Company recognized \$88,667 of debt discount amortization as interest expense. Upon completion of the Company's planned IPO and repayment of the Bridge Notes from the net proceeds of the offering, the unamortized portion of the debt discount will be immediately expensed.

In July 1997, the Company entered into a collaborative research and license agreement with a large pharmaceutical company. Under the terms of the agreement, the Company has granted the pharmaceutical company an exclusive worldwide license to develop, make, use and sell products derived from specified technologies. The agreement requires the pharmaceutical company to sponsor further research by the Company for the development of the licensed technologies for a period of two years from the effective date of the agreement, in return for payments to the Company totaling \$1,200,000. In consideration of the license grant the Company is entitled to receive royalties equal to specified percentages of net sales of products incorporating the licensed technologies. The royalty percentages increase as certain cumulative and annual net sales amounts are attained. The Company could receive milestone payments, under the terms of the agreement of up to \$13,750,000 for the initial product and up to \$3,250,000 for the second product developed from a single compound derived from licensed technologies. The Company could also receive, under certain circumstances additional milestone payments for an additional compound, as defined in the agreement, developed from the licensed technologies. Such milestone payments are contingent upon the Company making project milestones set forth in the agreements, and, accordingly, if the Company is unable to make such milestones, the Company will not receive such milestone payments.

In July 1997, the Company entered into a non-binding letter of intent with a third party pursuant to which the Company will acquire the third party's rights to certain technology, intellectual property and related rights in the field of gram negative antibiotics in exchange for 335,530 shares of the Company's common stock. There can be no assurance that the Company will enter into a final agreement with the third party on the terms described above or at all.

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SIGA'S FOCUS

APPLYING CUTTING-EDGE SCIENCE
TO FIGHT INFECTIOUS DISEASE

[Photo]

SIGA is engaged in the discovery, development and commercialization of novel products for the prevention and treatment of infectious diseases. The company has four lead programs in development, including gram positive commensal vectors for the delivery of mucosal vaccines; mucosal vaccines against strep throat and periodontal diseases; novel targets for new antibiotics; and Surface Protein Expression System (SPEX) for cost-effective mass production of proteins.

NO DEALER, SALESPERSON OR OTHER PERSON IS AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATION OTHER THAN AS CONTAINED IN THIS PROSPECTUS AND, IF GIVEN OR MADE, SUCH INFORMATION OR REPRESENTATION MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE COMPANY OR ANY UNDERWRITER. THIS PROSPECTUS DOES NOT CONSTITUTE AN OFFER TO SELL, OR A SOLICITATION OF AN OFFER TO BUY, BY ANY PERSON IN ANY JURISDICTION IN WHICH IT IS UNLAWFUL TO MAKE SUCH AN OFFER OR SOLICITATION. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE

HEREUNDER SHALL, UNDER ANY CIRCUMSTANCES, CREATE AN IMPLICATION THAT THE INFORMATION CONTAINED HEREIN IS CORRECT AS OF ANY TIME SUBSEQUENT TO THE DATE HEREOF.

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UNTIL , 1997 (25 DAYS FROM THE DATE OF THIS PROSPECTUS), ALL DEALERS EFFECTING TRANSACTIONS IN THE REGISTERED SECURITIES, WHETHER OR NOT PARTICIPATING IN THIS DISTRIBUTION, MAY BE REQUIRED TO DELIVER A PROSPECTUS. THIS IS IN ADDITION TO THE OBLIGATION OF DEALERS TO DELIVER A PROSPECTUS WITH RESPECT TO THEIR SOLICITATIONS TO PURCHASE THE SECURITIES OFFERED HEREBY.

3,500,000 SHARES OF COMMON STOCK

SIGA

SIGA PHARMACEUTICALS, INC.

PROSPECTUS

SUNRISE SECURITIES CORP.

M.H. MEYERSON & CO., INC.

, 1997

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 24. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The Certificate of Incorporation (the "Certificate") of the Company provides that, to the fullest extent permitted by applicable law, as amended from time to time, the Company will indemnify any person who was or is a party or is threatened to be made a party to an action, suit or proceeding (whether civil, criminal, administrative or investigative) by reason of the fact that such person is or was director, officer, employee or agent of the Company or serves or served any other enterprise at the request of the Company.

In addition, the Certificate provides that a director of the Company shall not be personally liable to the Company or its stockholders for monetary damages for breach of the director's fiduciary duty. However, the Certificate does not eliminate or limit the liability of a director for any of the following reasons: (i) a breach of the director's duty of loyalty to the Company or its stockholders; (ii) acts or omissions not in good faith or that involve intentional misconduct or knowing violation of law; or (iii) a transaction from which the director derived an improper personal benefit.

The Company will purchase and maintain Directors' and Officers' Insurance as soon as the Board of Directors determines practicable, in amounts which they consider appropriate, insuring the directors against any liability arising out of the director's status as a director of the Company regardless of whether the Company has the power to indemnify the director against such liability under applicable law.

ITEM 25. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

| | |
|---|-----------|
| SEC Registration Fee..... | \$ 7,125 |
| Nasdaq-SCM Listing Fee..... | \$ 10,000 |
| NASD Filing Fee..... | \$ 2,851 |
| Accounting Fees and Expenses*..... | \$100,000 |
| Printing and Engraving*..... | \$ 75,000 |
| Legal Fees and Expenses*..... | \$100,000 |
| Blue Sky Fees and Expenses..... | \$ 46,000 |
| Transfer Agent and Registrar Fees*..... | \$ 2,000 |
| Miscellaneous Expenses*..... | \$ 7,024 |
| | ----- |
| Total..... | \$350,000 |
| | ===== |

- - - - -
*Estimated.

ITEM 26. RECENT SALES OF UNREGISTERED SECURITIES.

The following discussion gives retroactive effect to the one for 6 reverse stock split effected on December 6, 1996. Since its organization in December 1995, the Company has sold and issued the following unregistered securities:

In December 1995, the Company issued 2,079,170 shares of Common Stock to Judson A. Cooper, Steven M. Oliveira, Joshua D. Schein, Vincent A. Fischetti, Kevin F. Jones, Dennis Hruby and Richard Stone for nominal consideration in connection with the formation of the Company.

In March 1996, the Company sold 1,038,008 shares of Common Stock to eighteen accredited investors for gross proceeds of \$1,557,000 in cash.

In September 1996, the Company issued 250,004 shares of Common Stock to twelve accredited investors and two non-accredited investors for \$750,000 in cash.

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In February 1997, the Company entered into warrant agreements to issue warrants to purchase an estimated 100,000 shares of common stock to eight accredited investors in connection with a \$1,000,000 bridge financing completed on February 28, 1997.

ITEM 27. EXHIBITS.

| EXHIBIT NUMBER ----- | DESCRIPTION OF EXHIBITS ----- |
|----------------------------|---|
| 1 | Underwriting Agreement |
| ***1(a) | Form of Underwriting Agreement |
| *1(b) | Form of Representatives's Warrant |
| ***1(c) | Form of Qualified Independent Underwriter Agreement |
| 3 | Certificate of Incorporation and By-Laws |
| *3(a) | Certificate of Incorporation of the Company, in effect as of the date hereof |
| *3(b) | Bylaws of the Company, in effect as of the date hereof |
| 4 | Instruments defining the rights of holders |
| *4(a) | Form of Common Stock Certificate |
| *4(b) | 1996 Incentive and Non-Qualified Stock Option Plan(1) |
| *4(c) | Warrant Agreement dated as of September 15, 1996 between the Company and Vincent A. Fischetti(1) |
| *4(d) | Warrant Agreement dated as of November 18, 1996 between the Company and David de Weese(1) |
| *4(e) | Form of Bridge Loan Letter Agreement for Bridge Investors |
| *4(f) | Form of Promissory Note for Bridge Investors |
| *4(g) | Form of Warrant Agreement for Bridge Investors |
| *4(h) | Form of Registration Rights Agreement for Bridge Investors |
| 5 | Opinion re: legality |
| *5(a) | Opinion of Eilenberg & Zivian |
| 10 | Material Contracts |
| *10(a) | License and Research Support Agreement between the Company and The Rockefeller University, dated as of January 31, 1996; and Amendment to License and Research Support Agreement between the Company and The Rockefeller University, dated as of October 1, 1996(2) |
| *10(b) | Research Agreement between the Company and Emory University, dated as of January 31, 1996(2) |
| *10(c) | Research Support Agreement between the Company and Oregon State University, dated as of January 31, 1996(2) |
| *10(d) | Employment Agreement between the Company and Dr. Joshua D. Schein, dated as of January 1, 1996(1) |
| *10(e) | Employment Agreement between the Company and Judson A. Cooper, dated as of January 1, 1996; and Amendment No. 1 to Employment Agreement between the Company and Judson A. Cooper, dated as of November 18, 1996(1) |

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| EXHIBIT NUMBER ----- | DESCRIPTION OF EXHIBITS ----- |
|----------------------------|--|
| *10(f) | Employment Agreement between the Company and Dr. Kevin F. Jones, dated as of January 1, 1996 |
| *10(g) | Employment Agreement between the Company and David de Weese, dated as of November 18, 1996(1) |
| *10(h) | Consulting Agreement between the Company and CSO Ventures LLC, dated as of January 1, 1996 |
| *10(i) | Consulting Agreement between the Company and Dr. Vincent A. Fischetti, dated as of January 1, 1996 |
| *10(j) | Consulting Agreement between the Company and Dr. Dennis Hruby, dated as of January 1, 1996 |
| *10(k) | Letter Agreement between the Company and Dr. Vincent A. Fischetti, dated as of March 1, 1996 |
| **10(l) | Employment Agreement between the Company and Dr. Dennis Hruby, dated as of April 1, 1997 |
| **10(m) | Clinical Trials Agreement between the Company and National Institute of Allergy and Infectious Diseases, dated as of July 1, 1997 |
| **10(n) | Research Agreement between the Company and The Research Foundation of State University of New York, dated as of July 1, 1997(2) |
| **10(o) | Collaborative Research and License Agreement between the Company and American Home Products Corporation, dated as of July 1, 1997(2) |
| **10(p) | Collaborative Evaluation Agreement between the Company and Chiron Corporation, dated as of July 1, 1997 |
| **10(q) | Consulting Agreement between the Company and Dr. Scott Hultgren, dated as |

of July 9, 1997
**10(r) Letter of Intent between the Company and MedImmune, Inc., dated as of July 10, 1997
11 Statement re: Computation of per share earnings
***11(a) Statement re: Computation of per share earnings
24 Consents of experts and counsel
*24(a) Consent of Eilenberg & Zivian
***24(b) Consent of Price Waterhouse LLP
***24(c) Consent of Donald S. Howard

--
(1) These agreements were entered into prior to the reverse split of the Company's Common Stock and, therefore, do not reflect such reverse split.
(2) Confidential information is omitted and identified by "*****" and filed separately with the SEC pursuant to a request for Confidential Treatment.
* Filed with original SB-2 Registration Statement filed on March 10, 1997.

** Filed with Amendment No. 1 to SB-2 Registration Statement filed on July 11, 1997.

*** Filed herewith.

ITEM 28. UNDERTAKINGS.

--The undersigned Registrant in all instances will provide to the Underwriter at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

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--Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the small business issuer pursuant to the foregoing provisions, or otherwise, the undersigned 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 undersigned Registrant of expenses incurred or paid by a director, officer or controlling person of the undersigned 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 undersigned Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

--The undersigned Registrant hereby undertakes that:

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

(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.

--The undersigned Registrant hereby undertakes that it will:

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

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

(ii) Reflect in the prospectus any facts or events which,

individually or together, represent a fundamental change in the information in the registration statement; and

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

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

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

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SIGNATURES

IN ACCORDANCE WITH THE REQUIREMENTS OF THE SECURITIES ACT OF 1933, THE UNDERSIGNED REGISTRANT CERTIFIES THAT IT HAS REASONABLE GROUNDS TO BELIEVE THAT IT MEETS ALL OF THE REQUIREMENTS FOR FILING ON FORM SB-2 AND AUTHORIZED THIS REGISTRATION STATEMENT TO BE SIGNED ON ITS BEHALF BY THE UNDERSIGNED, THEREUNTO DULY AUTHORIZED, IN THE CITY OF NEW YORK, ON THE 5TH DAY OF AUGUST, 1997.

SIGA Pharmaceuticals, Inc.

/s/ David H. de Weese

By: _____
David H. de Weese
Chairman, President, Chief Executive
Officer and Director (Principal
Executive Officer)

IN ACCORDANCE WITH THE REQUIREMENTS OF THE SECURITIES ACT OF 1933, THIS REGISTRATION STATEMENT OR AMENDMENT HAS BEEN SIGNED BELOW BY THE FOLLOWING PERSONS IN THE CAPACITIES AND ON THE DATES INDICATED:

| SIGNATURE ----- | TITLE ----- | DATE ---- |
|---|--|----------------|
| /s/ Joshua D. Schein ----- Dr. Joshua D. Schein | Chief Financial Officer (Principal Accounting and Financial Officer), Executive Vice President, Secretary and Director | August 5, 1997 |
| /s/ Judson A. Cooper ----- Judson A. Cooper | Executive Vice President and Director | August 5, 1997 |
| /s/ Terence E. Downer ----- Terence E. Downer | Director | August 5, 1997 |

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INDEX TO EXHIBITS

EXHIBIT
NUMBER

PAGE

- 1(a) Form of Underwriting Agreement
- 1(c) Form of Qualified Independent Underwriter Agreement
- 11(a) Statement re: Computation of per share earnings
- 24(b) Consent of Price Waterhouse LLP
- 24(c) Consent of Donald S. Howard

3,500,000 SHARES

SIGA PHARMACEUTICALS, INC.

UNDERWRITING AGREEMENT

August __, 1997

Sunrise Securities Corp.
M.H. Meyerson & Co.
c/o Sunrise Securities Corp.
135 E. 57th Street
New York, New York 10022

On behalf of the several Underwriters
named in Schedule I attached hereto.

Ladies and Gentlemen:

The undersigned, SIGA Pharmaceuticals, Inc., a Delaware corporation (the "Company"), hereby confirms its agreement with Sunrise Securities Corp. ("Sunrise") and M.H. Meyerson & Co., as representatives (the "Representatives") of the several underwriters identified in Schedule I hereto (the "Underwriters") as follows:

1. INTRODUCTION.

(a) Subject to the terms and conditions contained herein, the Company proposes to issue and sell to the Underwriters an aggregate of 3,500,000 shares (the "Shares") of common stock, par value \$.0001 per share of the Company (the "Common Stock"). In addition, solely for the purpose of covering over-allotments, the Company proposes to grant to the Underwriters an option (the "Over-allotment Option") to purchase from it, in the aggregate, up to an additional

525,000 shares (the "Additional Shares") of Common Stock. The Common Stock is more fully described in the prospectus described below.

(b) The Company hereby agrees to issue and sell to the Representatives warrants (the "Representatives' Warrants") to purchase a number of shares of Common Stock equal to 10% of the number of Shares sold to purchasers in the Offering (the "Warrant Stock") for a purchase price of \$.001 per warrant. The Representatives' Warrants will be exercisable for the Warrant Stock for a period of four years, commencing one year after the effective date of the Registration Statement (as hereinafter defined) at an initial exercise price per share equal to 165% of the price per Share in the Offering. The Warrant Stock shall be identical to the Shares. The Representatives' Warrants shall be substantially in the form filed as Exhibit 1(b) to the Registration Statement. The Representatives' Warrants shall be allocated between each of the Representatives as the Company shall be advised in writing by Sunrise. The Representatives' Warrants and the Warrant Stock are sometimes hereinafter referred to collectively as the "Representatives' Securities." The Shares and the Representatives' Securities are sometimes hereinafter referred to collectively as the "Securities."

2. REPRESENTATIONS AND WARRANTIES. The Company represents and warrants

to, and agrees with, the Underwriters that:

(a) The Company has filed with the Securities and Exchange Commission (the "Commission") a registration statement, and may have filed one or more amendments thereto, on Form SB-2 (Registration No. 333-23037), including in such registration statement and each such amendment a related preliminary prospectus, for the registration of the Securities under the Securities Act of 1933, as amended (the "Act"). As used in this Agreement, the term "Registration Statement" shall refer to such registration statement, as

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amended, on file with the Commission at the time such registration statement becomes effective under the Act (including the prospectus, financial statements, exhibits, and all other documents filed as a part thereof, or incorporated by reference directly or indirectly therein (such incorporated documents being herein referred to as the "Incorporated Documents")); provided, however, that such Registration Statement, at the time it becomes effective, may omit such information as is permitted to be omitted from such Registration Statement when it becomes effective under the Act pursuant to Rule 430A of the General Rules and Regulations under the Act (the "Regulations"), which information (the "Rule 430A Information") shall be deemed to be included in such Registration Statement when a final prospectus is filed with the Commission in accordance with Rules 430A and 424(b)(1) or (4) of the Regulations; the term "Preliminary Prospectus" shall refer to each prospectus included in the Registration Statement, or any amendments thereto, before the Registration Statement becomes effective under the Act, the form of prospectus omitting Rule 430A Information included in the Registration Statement when the Registration Statement becomes effective under the Act, if applicable (the "Rule 430A Prospectus"), and any prospectus filed by the Company with your consent pursuant to Rule 424(a) of the Regulations; and the term "Prospectus" shall refer to the final prospectus in the form first filed pursuant to Rule 424(b)(1) or (4) of the Regulations or, if no such filing is required, the form of final prospectus included in the Registration Statement. Any reference in this Agreement to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after the effective date under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and

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regulations of the Commission thereunder that are deemed to be incorporated by reference therein.

(b) When the Registration Statement becomes effective under the Act, and at all times subsequent thereto up to and including the Closing Date (as defined in Section 3) and each Additional Closing Date (as defined in Section 3), and during such longer period as the Prospectus may be required to be delivered in connection with sales by the Underwriters or a dealer, and during such longer period until any post-effective amendment thereto shall become effective under the Act, the Registration Statement (and any post-effective amendment thereto) and the Prospectus (as amended or as supplemented, if the Company shall have filed with the Commission any amendment or supplement to the Registration Statement or the Prospectus), respectively, will contain all statements which are required to be stated therein in accordance with the Act and the Regulations, will comply with the Act and the Regulations, and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading, and no event will have occurred which should have been set forth in an amendment or supplement to the Registration Statement or the Prospectus which has not then been set forth in such an amendment or supplement; if a Rule 430A Prospectus is included in the Registration Statement at the time it becomes effective under the Act, the Prospectus filed pursuant to Rules 430A and 424(b)(1) or (4) of the Regulations will contain all Rule 430A Information and all statements which are required to be stated therein in accordance with the Act or the Regulations, will comply with the Act and the Regulations, and will not contain any untrue statement of a material

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fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and each Preliminary Prospectus, as of the date filed with the Commission, did not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; except that no representation or warranty is made in this Section 2(b) with respect to statements or omissions made in reliance upon and in conformity with written information furnished to the Company as stated in Section 8(b) with respect to any Underwriter by or on behalf of such Underwriter through the Representatives expressly for inclusion in the Registration Statement, any Preliminary Prospectus, or the Prospectus, or any amendment or supplement thereto. Each of the Incorporated Documents complies in all material respects with the requirements of the Exchange Act and the rules and regulations thereunder.

(c) Neither the Commission nor the "blue sky" or securities authority of any jurisdiction has issued an order (a "Stop Order") suspending the effectiveness of the Registration Statement, preventing or suspending the use of the Registration Statement, any Preliminary Prospectus, the Prospectus, or any amendment or supplement thereto, refusing to permit the effectiveness of the Registration Statement, or suspending the registration or qualification of the Securities, nor has any of such authorities instituted or, to the knowledge of the Company, threatened to institute any proceedings with respect to a Stop Order.

(d) Any contract, agreement, instrument, lease, or license required to be described in the Registration Statement or the Prospectus has been properly and accurately

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described therein. Any contract, agreement, instrument, lease, or license required to be filed as an exhibit to the Registration Statement has been filed with the Commission as an exhibit to, or has been incorporated as an exhibit by reference into, the Registration Statement.

(e) The Company has no subsidiary or subsidiaries (as defined in the Regulations). The Company is a corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction of its incorporation, with full power and authority, and all necessary consents, authorizations, approvals, orders, licenses, certificates, and permits of and from, and declarations and filings with, all federal, state, local, and other governmental authorities and all courts and other tribunals, to own, lease, license, and use its properties and assets and to conduct its business in the manner described in the Prospectus. The Company is duly qualified to do business as a foreign corporation and is in good standing as such in every jurisdiction in which its ownership, leasing, licensing, or use of property and assets or the conduct of its business makes such qualification necessary, except where the failure to be so qualified does not amount to a material liability or disability to the Company.

(f) The authorized capital stock of the Company consists of 25,000,000 shares of Common Stock, of which 3,367,182 shares are outstanding without giving effect to the issuance of the Shares and 10,000,000 shares of Preferred Stock, par value \$.0001 per share, of which there are no outstanding shares. Except as disclosed in the Prospectus, each outstanding share of Common Stock is validly authorized and issued, fully paid, and nonassessable, without any personal liability attaching to the ownership thereof, has not

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been issued and is not owned or held in violation of any preemptive rights of stockholders. Except as may be properly described in the Prospectus, or as is not required to be described in the Prospectus, there is no commitment, plan, or arrangement to issue, and no outstanding option, warrant, or other right calling for the issuance of, any share of capital stock of the Company or any security or other instrument which by its terms is convertible into, or exercisable or exchangeable for, capital stock of the Company. There is outstanding no security or other instrument which by its terms is convertible into, or exercisable or exchangeable for, capital

stock of the Company, except as may be properly described in the Prospectus. The certificates evidencing the Common Stock are in proper form.

(g) The financial statements of the Company included in the Registration Statement and the Prospectus fairly present, with respect to the Company, the balance sheets, the statements of stockholders' equity, the statements of operations, the statements of cash flows, and the other information purported to be shown therein at the respective dates and for the respective periods to which they apply. Such financial statements have been prepared in accordance with generally accepted accounting principles (except to the extent that certain footnote disclosures regarding any stub period may have been omitted in accordance with the applicable rules of the Commission under the Act and the Exchange Act) consistently applied throughout the periods involved, are correct and complete in all material respects, and are in accordance with the books and records of the Company. Price Waterhouse LLP, the accountants whose report on the audited financial statements is filed with the Commission as a part of the Registration Statement, are, and during the periods

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covered by their report(s) included in the Registration Statement and the Prospectus were, independent certified public accountants with respect to the Company within the meaning of the Act and the Regulations. No other financial statements are required by Form SB-2 or otherwise to be included in the Registration Statement or the Prospectus. Since the date of the latest information set forth in the Registration Statement or the Prospectus, except as may be properly described in the Prospectus, there has at no time been a material adverse change in the financial condition, results of operations, business, properties, assets, liabilities or, to the best of its knowledge, future prospects of the Company.

(h) There is no claim or litigation, arbitration, governmental or other proceeding (formal or informal), or investigation pending, threatened, or, to the best knowledge of the Company, in prospect (or any basis therefor) with respect to the Company or any of its operations, businesses, properties, or assets, except (i) as may be properly described in the Prospectus or (ii) such as individually or in the aggregate do not now have, and will not in the future have, a material adverse effect upon the operations, business, properties, or assets of the Company. The Company is not in violation of, or in default with respect to, any law, rule, regulation, order, judgment, or decree, except: (A) as may be properly described in the Prospectus or (B) such as in the aggregate do not now have, and will not in the future have, a material adverse effect upon the operations, business, properties, assets or net worth of the Company. The Company is not currently required to take any action in order to avoid any such violation or default.

(i) The Company has good title to all properties and assets which the Prospectus indicates are owned by it, free and clear of all liens, security interests, pledges, charges,

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encumbrances and mortgages, except such as do not materially and adversely affect the value of such property and do not interfere with the use made or proposed to be made of such property by the Company (or except as may be properly described in the Prospectus). No real property leased, licensed, or used by the Company lies in an area which is, or to the knowledge of the Company will be, subject to zoning, use, or building code restrictions which would prohibit, and no state of facts relating to the actions or inactions of another person or entity or his or its ownership, leasing, licensing, or use of any real or personal property exists or will exist which would prevent, the continued effective leasing, licensing, or use of such real property in the business of the Company as presently conducted or as the Prospectus indicates the Company contemplates conducting, with such exceptions as are not material and do not interfere with the use made or proposed to be made of such property and buildings by the Company (or except as may be properly described in the Prospectus).

(j) Neither the Company nor, to the knowledge of the Company, any

other party, is now, or is expected by the Company to be, in violation or breach of, or in default with respect to, any material provision of any contract, agreement, instrument, lease, license, arrangement, or understanding which is material to the Company, and each such contract, agreement, instrument, lease, license, arrangement, and understanding is in full force and effect and is the legal, valid, and binding obligation of the parties thereto and is enforceable as to them in accordance with its terms, subject to applicable bankruptcy and insolvency laws. The Company enjoys peaceful and undisturbed possession under all leases and licenses under which it is operating. Except as described in the Prospectus, the

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Company is not a party to, or bound by, any contract, agreement, instrument, lease, license, arrangement, or understanding, or subject to any charter or other restriction, which has had, or may reasonably be expected to have, a material adverse effect on the financial condition, results of operations, business, properties, assets, liabilities or future prospects of the Company. The Company is not in violation or breach of, or in default with respect to, any term of its certificate of incorporation (or other charter document) or by-laws.

(k) All United States and foreign patents, patent applications, trademarks, trademark applications, trade names, service marks, copyrights, franchises, and other intangible properties and assets (all of the foregoing being herein called "Intangibles") that the Company owns or has pending, or under which it is licensed, are in good standing and uncontested, except as may be properly described in the Prospectus. There is no right under any Intangible necessary to the business of the Company as presently conducted or as the Prospectus indicates it contemplates conducting, except as may be so designated in the Prospectus. The Company has not infringed, is not infringing, or has not received notice of (or knows of any basis for) a third party claim of infringement with respect to asserted Intangibles of others, except as may be properly described in the Prospectus. To the knowledge of the Company, there is no infringement by others of Intangibles of the Company. To the knowledge of the Company, there is no Intangible of others which has had, or may in the future have a material adverse effect on the financial condition, results of operations, business, properties, assets, liabilities or future prospects of the Company, except as may be properly described in the Prospectus.

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(l) Neither the Company, nor any director, officer, agent, employee, or other person associated with the Company, in such capacity, or acting on behalf of, the Company has, directly or indirectly: used any corporate funds for unlawful contributions, gifts, entertainment, or other unlawful expenses relating to political activity; made any unlawful payment to foreign or domestic government officials or employees or to foreign or domestic political parties or campaigns from corporate funds; violated any provision of the Foreign Corrupt Practices Act of 1977, as amended; or made any bribe, rebate, payoff, influence payment, kickback, or other unlawful payment. The Company's internal accounting controls and procedures are sufficient to cause the Company to comply in all respects with the Foreign Corrupt Practices Act of 1977, as amended.

(m) The Company has all requisite power and authority to execute, deliver, and perform this Agreement and the Representatives' Warrants. All necessary corporate proceedings of the Company have been duly taken effective the date hereof to authorize the execution, delivery and performance by the Company of this Agreement and the Representatives' Warrants. Assuming due execution and delivery by the Representatives, this Agreement has been duly authorized, executed, and delivered by the Company, is the legal, valid and binding obligation of the Company, and is enforceable against the Company in accordance with its terms. Assuming due execution and delivery by any other parties thereto, the Representatives' Warrants have been duly authorized by the Company and, when executed and delivered by the Company, will be the legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their terms. No consent, authorization, approval, order, license, certificate, or permit of or from,

or declaration or filing with, any federal, state, local, or other governmental authority or any court or other tribunal is required by the Company for the execution, delivery, or performance by the Company of this Agreement or the Representatives' Warrants (except such as have been obtained or filings under the Act which have been or will be made before the Closing Date and consents, authorizations, approvals, orders, licenses, certificates, permits, declarations, or filings required under "blue sky" or securities laws which have been obtained at or prior to the date of this Agreement). No consent of any party to any contract, agreement, instrument, lease, license, arrangement, or understanding to which the Company is a party, or to which any of their respective properties or assets are subject, is required for the execution, delivery, or performance of this Agreement and the Representatives' Warrants, except such consents as in the aggregate will not have a material adverse effect upon the operations, business, properties, assets or net worth of the Company. The execution, delivery, and performance of this Agreement and the Representatives' Warrants will not violate, result in a material breach of, conflict with, result in the creation or imposition of any lien, charge, or encumbrance upon any properties or assets of the Company pursuant to the terms of, or (with or without the giving of notice or the passage of time or both) entitle any party to terminate or call a default under, any such contract, agreement, instrument, lease, license, arrangement, or understanding, or violate, result in a breach of, or conflict with any term of the certificate of incorporation (or other charter document) or by-laws of the Company, or violate, result in a material breach of, or conflict with any law, rule, regulation, order, judgment or decree binding on the Company or to which any of its operations, businesses, properties or assets are subject.

(n) The Shares and the Additional Shares are validly authorized and, when issued and delivered in accordance with this Agreement, will be validly issued, fully paid, and nonassessable, without any personal liability attaching to the ownership thereof, and will not be issued in violation of any preemptive or similar rights of stockholders, and the Underwriters will receive good title to the Shares and Additional Shares, free and clear of all liens, security interests, pledges, charges, encumbrances, stockholders' agreements, and voting trusts. The Warrant Stock is validly authorized and reserved for issuance and, when issued and delivered upon the exercise of the Representatives' Warrants and payment therefor in accordance with the respective terms thereof, will be validly issued, fully-paid, and nonassessable, without any personal liability attaching to the ownership thereof, and will not be issued in violation of any preemptive or similar rights of stockholders. When issued, the Representatives' Warrants will constitute legal, valid, and binding obligations of the Company to issue and sell, upon exercise thereof and payment therefor in accordance with the respective terms thereof, the number and type of securities of the Company called for thereby and the Representatives' Warrants will be enforceable against the Company in accordance with their respective terms. The holders of the Representatives' Warrants will receive good title to the securities purchased by them upon the exercise of the Representatives' Warrants, free and clear of all liens, security interests, pledges, charges, encumbrances, restrictions (other than restrictions under federal and any applicable state securities laws), stockholders' agreements, and voting trusts.

(o) The Securities conform in all material respects to the descriptions thereof contained in the Registration Statement and the Prospectus.

(p) Subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus, and except as may otherwise be properly described in the Prospectus, the Company has not (i) issued any securities or incurred any liability or obligation, primary or contingent, for borrowed money, (ii) entered into any transaction not in the ordinary course of business, (iii) declared or paid any dividend on its

capital stock or (iv) experienced any adverse changes or any development which may materially adversely effect the condition (financial or otherwise), net assets or stockholders' equity, results of operations, business, key personnel, assets, or properties of the Company.

(q) Neither the Company nor any of its officers, directors, or affiliates (as defined in the Regulations), has taken or will take, directly or indirectly, any action designed to stabilize or manipulate the price of any security of the Company, or which has caused or resulted in, or which might in the future reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company, to facilitate the sale or resale of any of the Shares or the Additional Shares.

(r) The Company has obtained from each of the Company's stockholders owning in excess of one percent of the outstanding securities of any class of the Company as of the effectiveness of the Registration Statement under the Act (the "Beneficial Owners"), and each officer, director and founder of the Company, his or its enforceable written agreement, in form and substance satisfactory to counsel for the Underwriters, that for a period of (i) six months from the date on which the Registration Statement becomes effective under the Act, with respect to the Beneficial Owners, and (ii) 24 months from such date with respect to the directors, officers and founders of the Company, he or it will not,

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without the prior written consent of Sunrise, issue, offer, sell, contract to sell, grant any option for the sale of, or otherwise dispose ("Dispose") of, directly or indirectly, any shares of Common Stock or other securities of the Company or any security or other instrument which by its terms is convertible into, exercisable for, or exchangeable for shares of Common Stock or any other securities of the Company, including, without limitation, any shares of Common Stock issuable under any employee stock options. Each such agreement is a legal, valid, and binding obligation of the director, officer, or securityholder executing the same, and is enforceable as to such director, officer, or securityholder in accordance with the terms thereof.

(s) The Company is not, and does not intend to conduct its business in a manner in which it would become, an "investment company" as defined in Section 3(a) of the Investment Company Act of 1940, as amended.

(t) No person or entity has the right to require registration of shares of Common Stock or other securities of the Company because of the filing or effectiveness of the Registration Statement, except as properly and accurately described in the Prospectus.

(u) Except as may be set forth in the Prospectus, the Company has not incurred any liability for a fee, commission, or other compensation on account of the employment of a broker or finder in connection with the transactions contemplated by this Agreement.

(v) Neither the Company nor any of its affiliates is presently doing business with the government of Cuba or with any person or affiliate located in Cuba. If, at any time after the date on which the Registration Statement is declared effective under the Act or with the Florida Department of Banking and Finance (the "Florida Department"), whichever

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is later, and prior to the end of the period referred to in the first clause of Section 2(b), the Company commences engaging in business with the government of Cuba or with any person or affiliate located in Cuba, the Company will so inform the Florida Department within 90 days after such commencement of business in Cuba, and, during the period referred to in Section 2(b), will inform the Florida Department within 90 days after any change occurs with respect to previously reported information.

(w) Except as disclosed in the Prospectus, no officer or director of

the Company has any affiliation or association with the National Association of Securities Dealers, Inc. (the "NASD") or any member thereof and upon inquiry of its stockholders beneficially owning five percent or more of the outstanding shares of Common Stock, the Company has been advised that no such stockholder has any such affiliation or association, except as disclosed in writing to the Representatives.

(x) Except as disclosed in the Prospectus, the Company has filed all necessary federal, state, local, and foreign income and franchise tax returns and other reports required to be filed and has paid all taxes shown as due thereon; and there is no tax deficiency which has been, or, to the knowledge of the Company, might be, asserted against the Company.

(y) All requirements for the use by the Company of a registration statement on Form SB-2 with respect to the Offering have been satisfied.

(z) The Common Stock is authorized for quotation on the Nasdaq SmallCap Market ("Nasdaq") and upon the Closing Date, all appropriate action will have been taken to include the Shares on Nasdaq.

3. PURCHASE, SALE, AND DELIVERY OF THE SHARES AND THE ADDITIONAL SHARES.

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On the basis of the representations, warranties, covenants, and agreements of the Company herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell to the Underwriters, and the Underwriters, severally and not jointly, agree to purchase from the Company, the numbers of shares of Common Stock set forth opposite the respective names of the Underwriters in Schedule I hereto.

The purchase price per share of Common Stock to be paid by the Underwriters shall be \$4.60. The initial public offering price per share of Common Stock shall be \$ 5.00.

Payment for the Shares by the Underwriters shall be made by certified or official bank check in New York Clearing House funds payable to the order of the Company at the offices of Sunrise Securities Corp., 135 E. 57th Street, New York, New York 10022, or at such other place in the New York City metropolitan area as the Representatives shall determine and advise the Company by at least two full days' notice in writing, upon delivery of the Shares to the Representatives for the respective accounts of the Underwriters. Such delivery and payment shall be made at 10:00 a.m., New York City local time, on the third business day following the time of the initial public offering, as defined in Section 11(a) (unless such time and date is postponed in accordance with the provisions of Section 9(c)), or at such other time as shall be agreed upon between the Representatives and the Company. The time and date of such delivery and payment are hereinafter referred to as the "Closing Date."

Certificates for the Shares shall be registered in such name or names and in such authorized denominations as the Representatives may request in writing at least two full business days prior to the Closing Date. The Company shall permit the Representatives to examine and package such certificates for delivery at least one full business day prior to the Closing Date.

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In addition, the Company hereby grants to the Representatives, the Over-allotment Option to purchase all or a portion of the Additional Shares as may be necessary to cover over-allotments, at the same purchase price per share to be paid by the several Underwriters to the Company for the Shares as provided for in this Section 3. The Over-allotment Option may be exercised only to cover over-allotments in the sale of shares by the Underwriters. The Over-allotment Option may be exercised by the Representatives on the basis of the representations, warranties, covenants, and agreements of the Company herein contained, but subject to the terms and conditions herein set forth, at any time

and from time to time on or before the thirtieth day following the date on which the Registration Statement becomes effective under the Act, by written notice by the Representatives to the Company. Such notice shall set forth the aggregate number of shares of Additional Shares as to which the Over-allotment Option is being exercised (which shall be allocated as to the Company and the Representatives deem appropriate) and the time and date, as determined by the Representatives, when such shares of Additional Shares are to be delivered (such time and date are hereinafter referred to as an "Additional Closing Date"); provided, however, that no Additional Closing Date shall be earlier than the Closing Date nor earlier than the second business day after the date on which the notice of the exercise of the Over-allotment Option shall have been given nor later than the eighth business day after the date on which such notice shall have been given.

In the event the Company declares or pays a dividend or a distribution on the Common Stock, whether in the form of cash, shares of Common Stock, or other consideration, prior to the Additional Closing Date, such dividend or distribution shall also be paid on the Additional Shares

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on the later of the Additional Closing Date and the date on which such dividend or distribution is payable.

Payment for the shares of Additional Shares by the Representatives shall be made by certified or official bank check in New York Clearing House funds payable to the order of the Company at the offices of Sunrise Securities Corp., New York, New York 10022, or at such other place in the New York City metropolitan area as the Representatives shall determine and advise the Company by at least two full days' notice in writing, upon delivery of the shares of Additional Shares to the Representatives for the account of the Representatives.

Certificates for the shares of Additional Shares shall be registered in such name or names and in such authorized denominations as the Representatives may request in writing at least two full business days prior to the Additional Closing Date with respect thereto. The Company shall permit the Representatives to examine and package such certificates for delivery at least one full business day prior to the Additional Closing Date with respect thereto.

It is understood that the Representatives, individually and not as Representatives of the several Underwriters, may (but shall not be obligated to) make any and all the payments required pursuant to this Section 3 on behalf of any Underwriters whose check or checks shall not have been received by the Representatives at the time of delivery of the Shares or the Additional Shares, as the case may be, to be purchased by such Underwriter or Underwriters. Any such payment by the Representatives shall not relieve any such Underwriter or Underwriters of any of its or their obligations hereunder.

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4. OFFERING OF THE SHARES ON BEHALF OF THE COMPANY.

The Underwriters are to make a public offering of the Shares as soon, on or after the date on which the Registration Statement becomes effective under the Act, as the Representatives deem it advisable so to do. The Shares are to be initially offered to the public at the initial public offering price as provided for in Section 3 (such price being hereinafter referred to as the "public offering price"). After the initial public offering, the Representatives may from time to time increase or decrease the public offering price, in the Representatives' sole discretion, by reason of changes in general market conditions or otherwise.

5. COVENANTS. The Company covenants that it will:

(a) Use its best efforts to cause the Registration Statement to become effective under the Act as promptly as possible and notify you immediately, and confirm such notice in writing, (i) when the Registration Statement and any post-effective amendment thereto become effective under the Act, (ii) of the receipt of any comments from the Commission or the "blue sky" or securities authority of any jurisdiction regarding the Registration Statement, any post-effective amendment thereto, the Prospectus, or any amendment or supplement thereto, (iii) of the filing with the Commission of any supplement to the Prospectus and (iv) of the receipt of, or its otherwise becoming aware of, any notification with respect to a Stop Order or the initiation or threatening of any proceeding with respect to a Stop Order. The Company will use its best efforts to prevent the issuance of any Stop Order and, if any Stop Order is issued, to obtain the lifting thereof as promptly as possible. If the Registration Statement has become or becomes effective under the Act with a form of prospectus omitting Rule 430A Information, or filing of the Prospectus with the

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Commission is otherwise required under Rule 424(b) of the Regulations, the Company will file with the Commission the Prospectus, properly completed, pursuant to Rule 424(b) of the Regulations within the time period prescribed and will provide evidence satisfactory to you of such timely filing.

(b) During the time when a prospectus relating to the Shares or the Additional Shares is required to be delivered hereunder or under the Act or the Regulations, comply with all requirements imposed upon it by the Act, as now existing and as hereafter amended, and by the Regulations, as from time to time in force, so far as necessary to permit the continuance of sales of, or dealings in, the Shares and the Additional Shares in accordance with the provisions hereof and of the Prospectus. If, at any time when a prospectus relating to the Shares or the Additional Shares is required to be delivered hereunder or under the Act or the Regulations, any event shall have occurred as a result of which, in the reasonable opinion of counsel for the Company or counsel for the Underwriters, the Registration Statement or the Prospectus as then amended or supplemented contains any untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein not misleading, or if, in the opinion of either of such counsel, it is necessary at any time to amend or supplement the Registration Statement or the Prospectus to comply with the Act or the Regulations, the Company will as promptly as practicable, and, in any event within one business day, notify you and promptly prepare and file with the Commission an appropriate amendment or supplement (in form and substance satisfactory to you) which will correct such statement or omission or which will effect such compliance and will use

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its best efforts to have any such amendment declared effective under the Act as soon as possible.

(c) Deliver without charge to each of the Underwriters such number of copies of each Preliminary Prospectus as the Underwriters may reasonably request and, as soon as the Registration Statement, or any amendment thereto, becomes effective under the Act or a supplement is filed with the Commission, deliver without charge to you or your counsel not less than two signed copies of the Registration Statement, including exhibits and Incorporated Documents, or such amendment thereto, as the case may be, and two copies of any supplement thereto, and deliver without charge to each of the Underwriters such number of copies of the Prospectus, the Registration Statement, and amendments and supplements thereto, if any, without exhibits or Incorporated Documents, as you may request for the purposes contemplated by the Act.

(d) Endeavor in good faith, in cooperation with you and your counsel, at or prior to the time the Registration Statement becomes effective under the Act, to qualify the Shares and the Additional Shares for offering and

sale under the "blue sky" or securities laws of such jurisdictions as you may designate; provided, however, that no such qualification shall be required in any jurisdiction where, as a result thereof, the Company would be subject to service of general process or to taxation as a foreign corporation doing business in such jurisdiction to which it is not then subject. In each jurisdiction where such qualification shall be effected, the Company will, unless you agree in writing that such action is not at the time necessary or advisable, file and make such statements or reports at such times as are or may be required by the laws of such jurisdiction.

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(e) Make generally available (within the meaning of Section 11(a) of the Act and the Regulations) to its securityholders as soon as practicable, but not later than 45 days after the end of its fiscal quarter in which the first anniversary date of the Registration Statement occurs an earnings statement (which need not be certified by independent certified public accountants unless required by the Act or the Regulations, but which shall satisfy the provisions of Section 11(a) of the Act and the Regulations) covering a period of at least 12 months beginning after the effective date of the Registration Statement.

(f) For a period of 12 months (or six months, in the case of any public offering under the Act) after the date hereof, not, without the prior written consent of the Representatives, which shall not be unreasonably withheld or delayed, Dispose of any shares of Common Stock or other securities of the Company (or any security or other instrument which by its terms is convertible into, or exercisable or exchangeable for, shares of Common Stock or any other securities of the Company), except for (i) the Representatives' Warrants and the Warrant Stock; (ii) the shares of Common Stock issuable upon the exercise of options or warrants outstanding on the date hereof, which may not be sold until the lock-ups referred to in Section 2(r) expire; (iii) the grant or exercise of options under the plans existing on the date hereof or pursuant to a plan adopted by the Company with the consent of the Board of Directors and the stockholders, in the case of grants to officers and directors, shall provide that the underlying shares are not saleable until the lock-ups referred to in Section 2(r) expire; (iv) securities Disposed of in connection with any strategic alliance with a pharmaceutical company or in connection with the hiring or retention of key employees, consultants or directors; and (v) securities Disposed of in

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connection with commitments existing as of the date hereof; provided further that the Company may extend the exercisibility of outstanding options and warrants or replace them upon their termination or expiration with a like number of options or warrants.

(g) For a period of three years after the effective date of the Registration Statement, furnish you without charge the following:

(i) within 90 days after the end of each fiscal year, three copies of financial statements certified by independent certified public accountants, including a balance sheet, statement of operations, and statement of cash flows of the Company and its then existing subsidiary or subsidiaries, with supporting schedules, prepared in accordance with generally accepted accounting principles, as at the end of such fiscal year and for the 12 months then ended, which may be on a consolidated basis;

(ii) as soon as practicable after they have been sent to stockholders of the Company or filed with, or furnished to, the Commission or the NASD, three copies of each annual and interim financial and other report or communication sent by the Company to its stockholders or filed with, or furnished to, the Commission or the NASD;

(iii) as soon as practicable, two copies of every press release

and every material news item and article in respect of the Company or its affairs which was released by the Company; and

(iv) such additional documents and information with respect to the affairs of the Company and its then existing subsidiary or subsidiaries as you may from

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time to time reasonably request; provided, however, that such additional documents and information shall be received by you on a confidential basis, unless otherwise disclosed to the public, and shall not be used in violation of the Federal securities laws and the regulations promulgated thereunder.

(h) Apply the net proceeds received by the Company from the Offering contemplated by this Agreement in the manner set forth under the heading "Use of Proceeds" in the Prospectus.

(i) Furnish to you as early as practicable prior to the Closing Date and any Additional Closing Date, as the case may be, but no less than two full business days prior thereto, a copy of the latest available unaudited interim financial statements of the Company which have been read by the Company's independent certified public accountants, as stated in their letters to be furnished pursuant to Section 7(e).

(j) File no amendment or supplement to the Registration Statement or Prospectus at any time, whether before or after the date on which the Registration Statement becomes effective under the Act, unless such filing shall comply with the Act and the Regulations and unless you shall previously have been advised of such filing and furnished with a copy thereof, and you and your counsel shall have approved such filing. Until the later of (i) the completion by the Underwriters of the distribution of the Shares (but in no event more than nine months after the date on which the Registration Statement shall have become effective under the Act) and (ii) 25 days after the date on which the Registration Statement becomes effective under the Act, the Company will prepare and file with the Commission, promptly upon the Representatives' request, any amendments or supplements

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to the Registration Statement or the Prospectus which, in the Representatives' sole opinion, may be necessary or advisable in connection with the distribution of the Shares.

(k) File timely with the Commission an appropriate form to register the Common Stock pursuant to Section 12(g) of the Exchange Act and comply with all registration, filing, and reporting requirements of the Exchange Act, which may from time to time be applicable to the Company.

(l) Comply with all provisions of all undertakings contained in the Registration Statement.

(m) Prior to the Closing Date or any Additional Closing Date, as the case may be, issue no press release or other communication, directly or indirectly, and hold no press conference with respect to the Company or the financial condition, results of operations, business, properties, assets, liabilities of the Company, or the Offering, without the prior written consent of the Representatives, (other than trade releases issued in the ordinary course of the Company's business or otherwise required by law, in which case deliver such release to the Representatives for review prior to issuance).

(n) Make all filings required, and otherwise use its reasonable best

efforts, to maintain the inclusion of the Common Stock on Nasdaq for at least five years from the date of this Agreement.

(o) On the Closing Date, sell to the Representatives, individually and not as Representatives of the Underwriters, the Representatives' Warrants at the price of \$.001 per warrant, entitling the holder thereof to purchase a number of shares of Common Stock equal

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to 10% of the number of Shares sold on the Closing Date for an exercise price equal to 165% of the price per Share in the Offering.

(p) Until expiration of the Representatives' Warrants, keep reserved sufficient shares of Common Stock for issuance upon exercise of the Representatives' Warrants.

(q) Deliver to the Representatives, without charge, within a reasonable period after the last Additional Closing Date or the expiration of the period during which the Underwriters may exercise the Over-allotment Option, three sets of bound volumes of the Registration Statement and all related materials to the individuals designated by you or your counsel.

(r) For a period of three years after the effective date of the Registration Statement, provide, at its sole expense, to the Representatives copies of the Company's daily transfer sheets, if so requested by the Representatives.

(s) For a period of five years after the Closing Date, supply to the appropriate parties such information as may be necessary or desirable, and otherwise use its best efforts, so that during such five-year period the Company will be listed in one or more of the securities manuals published by Standard & Poor's Corporation and Moody's Investors Service, Inc. and that, at all times during such period, such listing will, at a minimum, contain the names of the Company's officers and directors, a balance sheet as of a date not more than 18 months prior to such time and a statement of operations for either the fiscal year preceding such date or the most recent fiscal year of operations.

(t) Comply with all registration, filing and reporting requirements of the Exchange Act, which may from time to time be applicable to the Company.

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6. PAYMENT OF EXPENSES.

(a) The Company hereby agrees to pay, whether or not the Offering is consummated, all expenses (other than fees of counsel for the Representatives, except as provided in Sections 6(a)(iii) and 6(b)) in connection with (i) the preparation, printing, filing, distribution, and mailing of the Registration Statement and the Prospectus and the printing, filing, distribution, and mailing of this Agreement, the Master Agreement Among Underwriters, the Master Selected Dealers Agreement, and related documents, including the cost of all copies thereof and of the Preliminary Prospectuses and of the Prospectus and any amendments or supplements thereto supplied to the Underwriters in quantities as hereinabove stated, (ii) the issuance, sale, transfer, and delivery of the Securities, including any transfer or other taxes payable thereon, (iii) the registration or qualification of the Securities under state or foreign "blue sky" or securities laws, including the costs of printing and mailing any "Blue Sky Surveys" and the fees for the Underwriters' counsel (in the amount of \$35,000) and the disbursements in connection therewith, (iv) the filing fees payable to the Commission, the NASD, and the jurisdictions in which such

qualification is sought, (v) any fees relating to the listing of the Securities on Nasdaq, (vi) the cost of printing certificates representing the Securities and (vii) the fees of the transfer agent for the Securities.

(b) In addition, if the Offering is consummated, the Company hereby agrees to pay to the Representatives a non-accountable expense allowance equal to 3.0% of the gross proceeds from the sale of the Shares and, to the extent Additional Shares are sold, on the gross proceeds from the sale of the Additional Shares (less \$45,000 previously paid to Sunrise in respect of such non-accountable expense allowance).

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7. CONDITIONS OF UNDERWRITERS' OBLIGATIONS. The obligations of the

several Underwriters to purchase and pay for the Shares and the Additional Shares, as provided herein, shall be subject, in their discretion, to the continuing accuracy of the representations and warranties of the Company contained herein and in each certificate and document contemplated under this Agreement to be delivered to the Representatives, as of the date hereof and as of the Closing Date (or any Additional Closing Date, as the case may be), to the performance by the Company of its obligations hereunder, and to the following conditions:

(a) The Registration Statement shall have become effective under the Act not later than 6:00 p.m., New York City time, on the date of this Agreement or such later date and time as shall be consented to in writing by you; on or prior to the Closing Date or any Additional Closing Date, as the case may be, no Stop Order shall have been issued, and no proceeding shall have been initiated or threatened with respect to a Stop Order; and any request by the Commission for additional information shall have been complied with by the Company to the reasonable satisfaction of your counsel. If required, the Prospectus shall have been filed with the Commission in the manner and within the time period required by Rule 424(b) under the Regulations.

(b) On the Closing Date and any Additional Closing Date, as the case may be, the Representatives shall have received the opinions of Eilenberg & Zivian, counsel for the Company, dated the date of delivery, addressed to the Underwriters, and [], patent counsel for the Company, in form and substance satisfactory to counsel for the Representatives.

(c) On or prior to the Closing Date and any Additional Closing Date, as the case may be, the Representatives shall have been furnished such information, documents, certificates, and opinions as they may reasonably require in order to evidence the accuracy, completeness, or

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satisfaction of any of the representations, warranties, covenants, agreements, or conditions herein contained, or as the Underwriters may reasonably request.

(d) At the Closing Date and any Additional Closing Date, as the case may be, you shall have received a certificate of the chief executive officer and the chief financial officer of the Company, dated the Closing Date or such Additional Closing Date, as the case may be, to the effect that, (i) the conditions set forth in Section 7(a) have been satisfied, (ii) as of the date of this Agreement and as of the Closing Date or such Additional Closing Date, as the case may be, the representations and warranties of the Company contained herein were and are accurate and correct in all material respects, and (iii) as of the Closing Date or such Additional Closing Date, as the case may be, the obligations to be performed by the Company hereunder on or prior thereto have been fully performed in all material respects.

(e) At the Closing Date and any Additional Closing Date, as the case may be, you shall have received a letter, dated the date of delivery, addressed to the Representatives, from Price Waterhouse LLP, independent certified public accountants for the Company:

(i) confirming that they are, and during the period covered by their report included in the Registration Statement and the Prospectus were, independent certified public accountants with respect to the Company within the meaning of the Act and the published Regulations;

(ii) stating that, in their opinion, the consolidated financial statements of the Company included in the Registration Statement examined by them comply in form in all material respects with the applicable accounting requirements of the Act and the related published rules and regulations;

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(iii) stating that, on the basis of procedures (but not an examination made in accordance with generally accepted auditing standards) consisting of a reading of the latest available unaudited interim consolidated financial statements of the Company (with an indication of the date of the latest available unaudited consolidated interim financial statements), a reading of the latest available minutes of the stockholders and Board of Directors of the Company and committees of such Board of Directors, inquiries to certain officers and other employees of the Company responsible for financial and accounting matters, and other specified procedures and inquiries, nothing has come to their attention that caused them to believe that: (A) any unaudited financial statements of the Company included in the Registration Statement and Prospectus do not comply in form in all material respects with the applicable accounting requirements of the Act and the Exchange Act and the related published rules and regulations under the Act or the Exchange Act or are not fairly presented in conformity with generally accepted accounting principles (except to the extent that certain footnote disclosures regarding any stub period may have been omitted in accordance with the applicable rules of the Commission under the Exchange Act) applied on a basis consistent with that of the audited financial statements appearing therein; (B) there was any change in the capital stock or long-term debt of the Company or any decrease in the net current assets or stockholders' equity of the Company as of the date of the latest available monthly financial statements of the Company as of a specified date not more than five business days prior to the date of such letter, each as compared with the amounts shown in the latest balance sheet included in the Registration Statement and Prospectus, other than as properly described in the Registration Statement and Prospectus; or (C) there was any decrease in current assets or stockholders' equity or increase in net loss during the period from the date of such balance sheet to the date of the latest

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available monthly financial statements of the Company or to a specified date not more than five business days prior to the date of such letter, each as compared with the corresponding period in the preceding fiscal year, other than as properly described in the Registration Statement and Prospectus; and

(iv) stating that they have compared specific numerical data and financial information pertaining to the Company set forth in the Registration Statement, which have been specified by you, to the extent that such data and information may be derived from the general accounting records of the Company, with the results obtained from the application of specified readings, inquiries, and other appropriate procedures (which procedures do not constitute an examination in accordance with generally accepted auditing standards) set forth in the letter, and found them to be in agreement.

(f) All proceedings taken in connection with the issuance, sale, transfer, and delivery of the Securities shall be satisfactory in form and substance to you and to your counsel.

(g) The NASD, upon review of the terms of the public offering of the Shares and the Additional Shares, shall not have objected to the Underwriters' participation in such offering upon the terms and conditions provided for herein.

(h) Prior to or on the Closing Date, the Company shall have issued, in accordance with this Agreement, the Representatives' Warrants to the Representatives in the name or names and in such authorized denominations as the Representatives may request.

Any certificate or other document signed by any officer of the Company and delivered to the Representatives or to counsel for the Representatives shall be deemed a representation and warranty by the Company hereunder to the Underwriters as to the statements made therein. If any

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condition to the Underwriters' obligations hereunder to be fulfilled prior to or at the Closing Date or any Additional Closing Date, as the case may be, is not so fulfilled, the Representatives, on behalf of the Underwriters, may terminate this Agreement or, if the Representatives so elect, in writing waive any such conditions which have not been fulfilled or extend the time for their fulfillment.

If any of the conditions specified in this Section 7 shall not have been fulfilled or waived, this Agreement and all your obligations hereunder may be canceled, prospectively, by you at, or at any time prior to, the Closing Date or any Additional Closing Date, as the case may be. Any such cancellation shall be without liability to you, and the obligations of the Company pursuant to Sections 6 and 8 hereof shall nevertheless survive and continue thereafter. Notice of such cancellation shall be given to the Company at the addresses specified in Section 12 hereof, in writing, or by telegraph or telephone confirmed in writing.

8. INDEMNIFICATION AND CONTRIBUTION.

(a) Subject to the conditions set forth below, the Company agrees to indemnify and hold harmless each Underwriter, its officers, directors, partners, stockholders, employees, agents, and counsel, and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20(a) of the Exchange Act, against any and all loss, liability, claim, damage, and expense whatsoever (which shall include, for all purposes of this Section 8, but not be limited to, attorneys' fees and any and all expense whatsoever incurred in investigating, preparing, or defending against any litigation, commenced or threatened, or any claim whatsoever and any and all amounts paid in settlement of any claim or litigation) as and when incurred arising out of, based upon, or in connection with, (i) any untrue statement of a material fact or alleged

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untrue statement of a material fact contained in (A) the Registration Statement, any Preliminary Prospectus, or the Prospectus (as from time to time amended and supplemented), or any amendment or supplement thereto or (B) any application or other document or communication (for purposes of this Section 8, collectively referred to as an "application") executed by, or on behalf of, the Company or based upon written information furnished by, or on behalf of, the Company filed in any jurisdiction in order to qualify the Securities under the "blue sky" or securities laws thereof or filed with the Commission or any securities exchange; or any omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, unless such statement or omission was made in reliance upon, and in conformity with, written information furnished to the Company as stated in Section 8(b) with respect to any Underwriter by, or on behalf of, such Underwriter through the Representatives, expressly for inclusion in the Registration Statement, any Preliminary Prospectus, or the Prospectus, or any amendment or supplement thereto, or in any application, as the case may be, or (ii) any breach of any representation, warranty, covenant, or agreement of the Company contained in this Agreement. The foregoing agreement to indemnify shall be in addition to any liability the Company may otherwise have, including liabilities arising under this Agreement.

If any action is brought against an Underwriter or any of its officers, directors, partners, stockholders, employees, agents, or counsel, or any person who controls an Underwriter within the meaning of Section 15 of the Act or Section 20(a) of the Exchange Act (an "indemnified party") in respect of which indemnity may be sought against the Company pursuant to the foregoing paragraph, such indemnified party or parties shall within three business days notify the Company in writing of the institution of such action (but the failure so to notify, including within such three-

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day period, shall not relieve the Company from any liability it may have other than pursuant to this Section 8(a) and shall relieve the Company from liability pursuant to this Section 8(a) only to the extent the Company is materially prejudiced thereby), and the Company shall promptly assume the defense of such action, including the employment of counsel (satisfactory to such indemnified party or parties) and payment of expenses. Such indemnified party or parties shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such indemnified party or parties unless the employment of such counsel shall have been authorized in writing by the Company in connection with the defense of such action or the Company shall not have promptly employed counsel reasonably satisfactory to such indemnified party or parties to have charge of the defense of such action or such indemnified party or parties shall have reasonably concluded that there may be one or more legal defenses available to it or them or to other indemnified parties which are different from or additional to those available to the Company, in any of which events such fees and expenses shall be borne by the Company, and the Company shall not have the right to direct the defense of such action on behalf of the indemnified party or parties. Anything in this paragraph to the contrary notwithstanding, the Company shall not be liable for any settlement of any such claim or action effected without its written consent, which shall not be unreasonably withheld. The Company shall not, without the prior written consent of each indemnified party that is not released as described in this sentence, settle or compromise any action, or permit a default or consent to the entry of judgment in or otherwise seek to terminate any pending or threatened action, in respect of which indemnity may be sought hereunder (whether or not any indemnified party is a party thereto), unless such settlement, compromise, consent, or termination includes an unconditional release of each

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indemnified party from all liability in respect of such action. The Company agrees promptly to notify the Underwriters of the commencement of any litigation or proceedings against the Company or any of its officers or directors in connection with the sale of the Shares or the Additional Shares, the Registration Statement, any Preliminary Prospectus, any Rule 430A Prospectus, or the Prospectus, or any amendment or supplement thereto, or any application.

(b) Each Underwriter severally agrees to indemnify and hold harmless the Company, each director of the Company, each officer of the Company who shall have signed the Registration Statement, counsel of the Company and each other person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20(a) of the Exchange Act, to the same extent as the foregoing indemnity from the Company to the Underwriters in Section 8(a), but only with respect to statements or omissions, if any, made in the Registration Statement, any Preliminary Prospectus, or the Prospectus (as from time to time amended and supplemented), or any amendment or supplement thereto, or in any application in reliance upon, and in conformity with, written information furnished to the Company as stated in this Section 8(b) with respect to any Underwriter by or on behalf of such Underwriter through the Representatives expressly for inclusion in the Registration Statement, any Preliminary Prospectus, or the Prospectus, or any amendment or supplement thereto, or in any application, as the case may be; provided, however, that the obligation of each Underwriter to provide indemnity under the provisions of this Section 8(b) shall be limited to the amount which represents the product of the number of shares of Shares and Additional Shares underwritten by such Underwriter hereunder and the initial public offering price per share set forth on the cover page of the Prospectus. For all purposes of this Agreement, the information relating to when Sunrise registered and became a

member of the NASD and Sunrise's participation in prior offerings and the amounts of the selling concession and reallowance set forth in the Prospectus, constitute the only information furnished in writing by or on behalf of

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any Underwriter expressly for inclusion in the Registration Statement, any Preliminary Prospectus, or the Prospectus (as from time to time amended or supplemented), or any amendment or supplement thereto, or in any application, as the case may be. If any action shall be brought against the Company, or any other person so indemnified based on the Registration Statement, any Preliminary Prospectus, or the Prospectus, or any amendment or supplement thereto, or on any application, and in respect of which indemnity may be sought against any Underwriter pursuant to this Section 8(b), such Underwriter shall have the rights and duties given to the Company, and the Company and each other person so indemnified shall have the rights and duties given to the indemnified parties, by the provisions of Section 8(a).

(c) To provide for just and equitable contribution, if (i) an indemnified party makes a claim for indemnification pursuant to Sections 8(a) or 8(b) (subject to the limitations thereof) but it is found in a final judicial determination, not subject to further appeal, that such indemnification may not be enforced in such case, even though this Agreement expressly provides for indemnification in such case or (ii) any indemnified or indemnifying party seeks contribution under the Act, the Exchange Act, or otherwise, then the Company (including for this purpose any contribution made by or on behalf of any director of the Company, any officer of the Company who signed the Registration Statement, any controlling person of the Company and counsel of the Company), as one entity and the Underwriters, in the aggregate (including for this purpose any contribution by or on behalf of an indemnified party) as a second entity, shall contribute to the losses, liabilities, claims, damages, and expenses whatsoever to which any of them may be subject, so that the Underwriters are responsible for the proportion thereof equal to the percentage which the underwriting discount per share set forth on the cover page of the Prospectus represents of the initial public offering price per share set forth on the cover page of the Prospectus and the Company is responsible for the remaining portion; in such proportions as are appropriate to reflect the relative benefits received by the Company and the Underwriters in the aggregate; provided, however, that if applicable law does not permit such allocation, then other relevant equitable considerations such as the relative fault of the Company and the Underwriters in the aggregate in connection with the

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facts which resulted in such losses, liabilities, claims, damages, and expenses shall also be considered. The relative benefits received by the Company and the Underwriters in the aggregate shall be deemed to be in the same proportion as (x) the total proceeds from the Offering of the Shares (net of underwriting discounts and commissions but before deducting expenses) received by the Company, (y) the total proceeds of the Offering of the Additional Shares (net of underwriting discounts and commissions but before deducting expenses) and (z) the underwriting discounts and commissions received by the Underwriters in the aggregate, in each case as set forth in the table on the cover page of the Prospectus and in the footnotes thereto. The relative fault, in the case of an untrue statement, alleged untrue statement, omission, or alleged omission, shall be determined by, among other things, whether such statement, alleged statement, omission, or alleged omission relates to information supplied by the Company or by the Underwriters, and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement, alleged statement, omission, or alleged omission. The Company and the Underwriters agree that it would be unjust and inequitable if the respective obligations of the Company and the Underwriters for contribution were determined by pro rata or per capita allocation of the aggregate losses, liabilities, claims, damages, and expenses (even if the Underwriters and the other indemnified parties were treated as one entity for such purpose) or by any other method of allocation that does not reflect the equitable considerations referred to in this Section 8(c). In no case shall any Underwriter be responsible for a portion of the contribution obligation imposed on all Underwriters in excess of its pro rata share based on the number of shares underwritten by it as compared to the number of shares underwritten by all Underwriters who do not default in their

obligations under this Section 8(c). No person guilty of a fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who is not guilty of such fraudulent misrepresentation. For purposes of this Section 8(c), each person, if any, who controls an Underwriter within the meaning of Section 15 of the Act or Section 20(a) of the Exchange Act and each officer, director, partner, stockholder, employee, agent, and counsel of an Underwriter shall have the same rights to contribution as such Underwriter and each person, if any,

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who controls the Company within the meaning of Section 15 of the Act or Section 20(a) of the Exchange Act, each officer of the Company who shall have signed the Registration Statement, each director of the Company and counsel of the Company shall have the same rights to contribution as the Company, subject in each case to the provisions of this Section 8(c). Anything in this Section 8(c) to the contrary notwithstanding, no party shall be liable for contribution with respect to the settlement of any claim or action effected without its written consent. This Section 8(c) is intended to supersede any right to contribution under the Act, the Exchange Act, or otherwise.

9. DEFAULT BY AN UNDERWRITER.

(a) If any Underwriter or Underwriters shall default in its or their obligation to purchase Shares or Additional Shares hereunder, and if the number of shares of Shares or Additional Shares to which the defaults of all Underwriters in the aggregate relate does not exceed 10% of the number of shares of Shares or Additional Shares, as the case may be, which all Underwriters have agreed to purchase hereunder, then such shares of Shares or Additional Shares to which such defaults relate shall be purchased by the non-defaulting Underwriters in proportion to their respective commitments hereunder.

(b) If such defaults exceed in the aggregate 10% of the number of shares of Shares or Additional Shares, as the case may be, which all Underwriters have agreed to purchase hereunder, the Representatives may, in the Representatives' discretion, arrange for itself or for another party or parties to purchase such shares of Shares or Additional Shares, as the case may be, to which such default relates on the terms contained herein. If the Representatives do not arrange for the purchase of such shares of Shares or Additional Shares, as the case may be, within one business day after the occurrence of defaults relating to in excess of 10% of the Shares or the Additional Shares, as the case may be, then the Company shall be entitled to a further period of one business day within which to procure another party or parties satisfactory to the Representatives to purchase such shares of Shares or Additional Shares, as the case may be, on such terms. If the Representatives or the Company with respect to the Shares or Additional Shares do not arrange for the purchase of the shares of Shares or Additional Shares, as the case may be, to which such

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defaults relate as provided in this Section 9(b), this Agreement may be terminated by the Representatives or by the Company with respect to the Shares or Additional Shares, in each case without liability on the part of the Company (except that the provisions of Sections 5(a), 6, 8, 10, and 13 shall survive such termination) or the several Underwriters, but nothing in this Agreement shall relieve a defaulting Underwriter of its liability, if any, to the other several Underwriters and to the Company for any damages occasioned by its default hereunder.

(c) If the shares of Shares or Additional Shares to which such defaults relate are to be purchased by the non-defaulting Underwriters, or are to be purchased by another party or parties as aforesaid, the Representatives or the Company with respect to the Shares or Additional Shares or the Representatives shall have the right to postpone the Closing Date or the Additional Closing Date, as the case may be, for a reasonable period but not in any event more than seven business days in order to effect whatever changes may

thereby be made necessary in the Registration Statement or the Prospectus or in any other documents and arrangements with respect to the Shares or the Additional Shares, and the Company agrees to prepare and file promptly any amendment or supplement to the Registration Statement or the Prospectus which in the opinion of counsel for the Underwriters may thereby be made necessary. The term "Underwriter" as used in this Agreement shall include any party substituted under this Section 9 as if such party had originally been a party to this Agreement and had been allocated the number of shares of Shares and Additional Shares actually purchased by it as a result of its original commitment to purchase Shares and Additional Shares and its purchase of the Shares or Additional Shares pursuant to this Section 9.

10. REPRESENTATIONS AND AGREEMENTS TO SURVIVE DELIVERY. All

representations, warranties, covenants, and agreements contained in this Agreement shall be deemed to be representations, warranties, covenants, and agreements at the Closing Date and any Additional Closing Date, and such representations, warranties, covenants, and agreements of the Company, and the Underwriters, including the indemnity and contribution agreements contained in Section 8, shall remain operative and in full force and effect regardless of any investigation made by, or on

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behalf of, any Underwriter or any indemnified person, or by, or on behalf of, the Company, or any person or entity which is entitled to be indemnified under Section 8(b), and shall survive termination of this Agreement or the delivery of the Shares and the Additional Shares to the several Underwriters. In addition, the provisions of Sections 5(a), 6, 8, 10, 11 and 13 shall survive termination of this Agreement, whether such termination occurs before or after the Closing Date or any Additional Closing Date.

11. EFFECTIVE DATE OF THIS AGREEMENT AND TERMINATION THEREOF.

(a) This Agreement shall become effective upon its execution except that you, at your option, may delay the effectiveness of this Agreement until the earlier of (i) 11:00 A.M. New York time on the first full business day following the day on which the Registration Statement becomes effective under the Act and (ii) the commencement of the public offering by you of the Shares. In addition to the right to terminate this Agreement pursuant to Sections 7 and 9 hereof, you shall have the right to terminate this Agreement at any time prior to the Closing Date by giving notice to the Company and, if exercised, the Over-allotment Option, at any time prior to any Additional Closing Date, by giving notice to the Company, (i) if any domestic or international event, act, or occurrence has materially disrupted, or, in your opinion, will in the immediate future materially disrupt, the securities markets; or (ii) if there shall have been a general suspension of, or a general limitation on prices for, trading in securities on the New York Stock Exchange, the American Stock Exchange or in the over-the-counter market; or (iii) if there shall have been an outbreak or increase in the level of major hostilities or other national or international calamity; or (iv) if a banking moratorium has been declared by a state or federal authority; or (v) if a moratorium in foreign exchange trading by major international banks or persons has been declared; or (vi) if there shall have been a material interruption in the mail service or other means of communication within the United States; or (vii) if the Company shall have sustained a material or substantial loss by fire, flood, accident, hurricane, earthquake, theft, sabotage, or other calamity or malicious act, whether or not such loss shall have been insured, or from any labor dispute or court or government action, order, or decree, which will, in your opinion, make it inadvisable to

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proceed with the offering, sale, or delivery of the Shares or the Additional Shares, as the case may be; or (viii) if any material governmental restrictions shall have been imposed on trading in securities in general, which restrictions are not in effect on the date hereof; or (ix) if there shall be passed by the Congress of the United States or any state legislature any act or measure, or adopted by any governmental body, authoritative accounting institute or board,

or governmental executive any orders, rules, or regulations, which you believe likely to have a material adverse effect on the business, financial condition, or financial statements of the Company or the market for the Common Stock; or (x) if there shall have been a material adverse change in the market for the Company's securities or securities in general or in political, financial, or economic conditions as in your judgment makes it inadvisable to proceed with the offering, sale, and delivery of the Shares or the Additional Shares, as the case may be, on the terms contemplated by the Prospectus.

(b) If you elect to prevent this Agreement from becoming effective, as provided in this Section 11, or to terminate this Agreement, you shall notify the Company promptly by telephone or telecopy, confirmed by letter.

(c) Notwithstanding any election hereunder or any termination of this Agreement, and whether or not this Agreement is otherwise carried out, the provisions of Sections 5(a), 6, 8, 10 and 13 shall not be in any way affected by such termination or failure to carry out the terms of this Agreement or any part hereof.

12. NOTICES. All communications hereunder, except as may be otherwise

specifically provided herein, shall be in writing and shall be delivered personally, transmitted by facsimile transmission confirmed in writing within three business days thereafter, or sent by prepaid overnight air courier or registered or certified mail, postage prepaid, return receipt requested, if sent to any Underwriter, to such Underwriter, c/o Sunrise Securities Corp., 135 E. 57th Street, New York, New York 10022, Attention: Mr. Preston Tsao, Facsimile: (212) 421-5944, with a copy to Squadron, Ellenoff, Plesent & Sheinfeld, LLP, 551 Fifth Avenue, New York, New York 10176, Attention: Kenneth R. Koch, Esq., Facsimile: (212) 697-6686 and a copy to Loeb Partners Corporation, 61 Broadway, New York, New York 10006, Attention Mr. Warren Bagatelle,

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Facsimile: (212) 425-7090; or if sent to the Company, to 666 Third Avenue, New York, New York 10017, Attention: Joshua D. Schein, Chief Financial Officer, Facsimile: (212) 986-2399, with a copy to Eilenberg & Zivian, 666 Third Avenue, New York, New York 10017, Attention: Adam Eilenberg, Esq., Facsimile: (212) 986-2399. All notices hereunder shall be deemed to have been given (a) when delivered, if delivered personally, or sent by facsimile transmission and, in the case of facsimile transmission, confirmed in writing within three business days thereafter, or sent by prepaid overnight air courier or (b) three business days following the mailing thereof, if mailed by registered or certified mail, postage prepaid, return receipt requested, in any such case at the address set forth in this Section 12, or such other address or addresses as a party may have advised the other party in the manner provided in this Section 12.

13. PARTIES. The Representatives represent that they are authorized to

act on behalf of the several Underwriters named in Schedule I hereto, and the Company shall be entitled to act and rely on any request, notice, consent, waiver, or agreement purportedly given on behalf of the Underwriters when the same shall have been given by the Representatives on such behalf. This Agreement shall inure solely to the benefit of, and shall be binding upon, the Underwriters, the Company, and the persons and entities referred to in Section 8 who are entitled to indemnification or contribution, and their respective successors, legal representatives, and assigns (which shall not include any buyer, as such, of the Shares or the Additional Shares), and no other person shall have or be construed to have any legal or equitable right, remedy, or claim under or in respect of or by virtue of this Agreement or any provision herein contained.

14. CONSTRUCTION. THIS AGREEMENT SHALL BE CONSTRUED IN ACCORDANCE WITH

THE LAWS OF THE STATE OF NEW YORK, WITHOUT GIVING EFFECT TO CONFLICT OF LAWS. TIME IS OF THE ESSENCE IN THIS AGREEMENT.

15. CONSENT TO JURISDICTION. THE COMPANY IRREVOCABLY CONSENTS TO THE

JURISDICTION OF THE COURTS OF THE STATE OF NEW YORK AND OF ANY FEDERAL COURT
LOCATED IN SUCH STATE IN CONNECTION

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WITH ANY ACTION OR PROCEEDING ARISING OUT OF, OR RELATING TO, THIS AGREEMENT,
ANY DOCUMENT OR INSTRUMENT DELIVERED PURSUANT TO, IN CONNECTION WITH, OR
SIMULTANEOUSLY WITH THIS AGREEMENT, OR A BREACH OF THIS AGREEMENT OR ANY SUCH
DOCUMENT OR INSTRUMENT. IN ANY SUCH ACTION OR PROCEEDING, THE COMPANY WAIVES
PERSONAL SERVICE OF ANY SUMMONS, COMPLAINT, OR OTHER PROCESS AND AGREES THAT
SERVICE THEREOF MAY BE MADE IN ACCORDANCE WITH SECTION 12. WITHIN 30 DAYS AFTER
SUCH SERVICE, OR SUCH OTHER TIME AS MAY BE MUTUALLY AGREED UPON IN WRITING BY
THE ATTORNEYS FOR THE PARTIES TO SUCH ACTION OR PROCEEDING, THE COMPANY SHALL
APPEAR OR ANSWER SUCH SUMMONS, COMPLAINT, OR OTHER PROCESS. SHOULD THE COMPANY
FAIL TO APPEAR OR ANSWER WITHIN SUCH 30-DAY PERIOD OR SUCH EXTENDED PERIOD, AS
THE CASE MAY BE, THE COMPANY SHALL BE DEEMED IN DEFAULT AND JUDGMENT MAY BE
ENTERED AGAINST THE COMPANY FOR THE AMOUNT AS DEMANDED IN ANY SUMMONS,
COMPLAINT, OR OTHER PROCESS SO SERVED.

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If the foregoing correctly sets forth the understanding between you and the
Company, please so indicate in the space provided below for that purpose,
whereupon this letter shall constitute a binding agreement between us.

Very truly yours,

SIGA PHARMACEUTICALS, INC.

BY: _____
NAME:
TITLE:

ACCEPTED AS OF THE DATE FIRST ABOVE
WRITTEN IN NEW YORK, NEW YORK

SUNRISE SECURITIES CORP.

M.H. MEYERSON & CO.

BY SUNRISE SECURITIES CORP.

BY: _____
NAME:
TITLE:

FOR ITSELF AND ON BEHALF OF THE REPRESENTATIVES.

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SCHEDULE I
UNDERWRITERS

| Underwriter - ----- | Number of Shares to be Purchased ----- |
|---|--|
| Sunrise Securities Corp. M.H. Meyerson & Co. | |

Total

3,500,000
=====

July 31, 1997

Mr. David H. de Weese
Chairman, President and
Chief Executive Officer
Siga Pharmaceuticals, Inc.
666 Third Avenue
New York, NY 10017

Dear Mr. de Weese:

This will confirm our discussion regarding the retention of Loeb Partners Corporation ("Loeb") by Siga Pharmaceuticals, Inc. ("Siga") to act as "qualified independent underwriter" in accordance with Rule 2720 of the National Association of Securities Dealers, Inc. Rules of Conduct in connection with the proposed public offering (the "Offering") of Securities the "Securities") by Siga pursuant to the registration statement (File No. 333-23037) filed by Siga with the Securities and Exchange Commission on March 10, 1997, as amended through the effective date.

1. Delivery of Letter. Loeb shall deliver its letter, upon the request of

Siga and containing Loeb's recommendation as to the price at which the Shares should be distributed to the public in connection with the Offering. Such letter shall be in a form reasonably acceptable to Siga and Loeb.

2. Rule 2720 Requirements. Loeb hereby confirms (i) its status as a

"qualified independent underwriter" within the meaning of Section (b) (15) of Rule 2720 ("Rule 2720") of the National Association of Securities Dealers, Inc. Rules of Conduct and (ii) that it is not an Affiliate (as that term is defined in Section (b) (1) (A) of Rule 2720) of Siga or Sunrise Securities Corporation ("Sunrise").

3. Compensation of Loeb. Sunrise agrees to pay Loeb for its services

pursuant to this Agreement, a fee of \$25,000, payable, \$12,500 upon the signing of this letter and \$12,500 upon the delivery and acceptance of the letter referred to in Paragraph 1, above.

4. Reimbursement of Expenses. In addition to the fees discussed above,

Sunrise shall also reimburse Loeb for its out-of-pocket expenses (including fees and expenses of counsel) incurred in connection with this Agreement in the amount of \$5,000.00. Such expenses shall be reimbursed regardless of whether the Offering is completed.

5. Assistance of Siga. Siga shall make available, or shall cause to be

made available, to Loeb all information concerning the business, assets, operations and financial condition of Siga which Loeb reasonably requests in connection with the performance of Loeb's obligations hereunder. In addition, Siga shall use its best efforts to assist Loeb in arranging tours of principal facilities and meetings with management of Siga all where reasonably necessary in the opinion of Loeb to adequately perform its necessary due diligence.

6. Indemnification. Siga shall indemnify and hold harmless Loeb

(including any affiliated companies and their respective officers, directors, employees and controlling persons within the meaning of Section 15 of the Securities Act of 1933, as amended) against any and all claims, liabilities, losses or damages to the same extent as Siga is providing indemnification to Sunrise pursuant to the certain Underwriting Agreement to be dated August , 1997 (the "Underwriting Agreement") by and between Siga Pharmaceuticals, Inc., as one of the Representatives of the several underwriters and Sunrise relating to the Offering.

7. Receipt of Opinions and Comfort Letters. Loeb shall be included as an

addressee and shall receive, upon the effective date and the closing date, the
opinion(s) of counsel and accountant's "comfort letters" to be provided to
Sunrise pursuant to the Underwriting Agreement.

8. Receipt of Officer's Certificates. Loeb shall receive the officers'

and other certificates required to be delivered to Sunrise pursuant to the
Underwriting Agreement.

9. Entire Agreement. This Agreement embodies the entire agreement and

understanding between the parties hereto. If any provision of this Agreement is
determined to be invalid or unenforceable in any respect, such determination
will not affect such provision in any other respect or any other provision of
this Agreement, which will remain in full force and effect. This Agreement may
not be amended or otherwise modified or waived except by an instrument in
writing signed by the parties hereto.

10. Termination of Agreement. This Agreement may be terminated by either

party hereto at any time prior to the delivery and acceptance of the letter
pursuant to Paragraph 1 hereof. Notwithstanding such termination, the
compensation, expense reimbursement and indemnification provisions hereof shall
remain in full force and effect.

11. Governing Law. This Agreement shall be governed by, and construed in

accordance with, the laws of the State of New York without regard to principles
of conflicts of law.

If the foregoing correctly sets forth our understanding, please so indicate
by signing this Agreement below and returning an executed copy to us.

Accepted and Agreed:

Very truly yours,

SIGA PHARMACEUTICALS, INC.

LOEB PARTNERS CORPORATION

By: _____
DAVID H. de WEESE
CHAIRMAN OF THE BOARD

By: _____
WARREN D. BAGATELLE
MANAGING DIRECTOR

SUNRISE SECURITIES CORP.

By: _____
Name:
Title:

SIGA Pharmaceuticals, Inc.
Computation of Per Share Earnings

Exhibit 11

| | December 31, 1996 | | | December 31, 1995 | |
|---|-------------------|------------------|----------------------------------|-------------------|----------------------------------|
| | Shares | Days Outstanding | Weighted Avg. shares outstanding | Days Outstanding | Weighted Avg. shares outstanding |
| Shares to founders | 2,079,170 | 365 | 2,079,170 | 4 | 2,079,170 |
| Shares issued in March 1996 private placement | 1,038,008 | 308 | 875,908 | - | - |
| Shares issued in September 1996 private placement | 250,004 | 95 | 65,070 | - | - |
| Cheap stock consideration for shares issued in September 1996 private placement | 100,004(1) | 270 | 73,976 | 4 | 100,004 |
| Cheap stock consideration for stock options and warrants issued during 1996 | 319,407(2) | 365 | 319,407 | 4 | 319,407 |
| Weighted average shares outstanding | | | 3,413,531 | | 2,498,581 |
| Net loss for period | | | \$ (2,268,176) | | \$ (1,000) |
| Net loss per common share | | | \$ (0.66) | | - |

| | June 30, 1997 | | | June 30, 1996 | |
|---|---------------|------------------|----------------------------------|------------------|----------------------------------|
| | Shares | Days Outstanding | Weighted Avg. shares outstanding | Days Outstanding | Weighted Avg. shares outstanding |
| Shares to founders | 2,079,170 | 181 | 2,079,170 | 182 | 2,079,170 |
| Shares issued in March 1996 private placement | 1,038,008 | 181 | 1,038,008 | 125 | 712,918 |
| Shares issued in September 1996 private placement | 250,004 | 181 | 250,004 | - | - |
| Cheap stock consideration for shares issued in September 1996 private placement | 100,004 | - | - | 182 | 100,004 |
| Cheap stock consideration for stock options and warrants issued during 1996 | 319,407 | 181 | 319,407 | 182 | 319,407 |
| Weighted average shares outstanding | | | 3,686,589 | | 3,211,499 |
| Net loss for period | | | \$ (1,313,011) | | \$ (1,030,162) |
| Net loss per common share | | | \$ (0.36) | | \$ (0.32) |

| | | |
|-------|--|---------------------------|
| ----- | (1) Gross proceeds from private placement | \$750,000 |
| | Divided by assumed initial offering price per share | \$ 5.00 |
| | Calculated shares at offering price | ----- 150,000 |
| | Actual shares issued | 250,004 |
| | Cheap stock consideration | ----- 100,004 ===== |
| | | |
| | (2) Gross proceeds upon exercise of stock options and warrants | \$1,708,050 |
| | Divided by assumed initial offering price per share | \$ 5.00 |
| | Calculated shares at offering price | ----- 341,610 |
| | Actual shares issuable upon exercise of stock options and warrants | 661,017 |

Cheap stock consideration

319,407
=====

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the use in the Prospectus constituting part of this Registration Statement on Form SB-2 of our report dated March 3, 1997 relating to the financial statements of SIGA Pharmaceuticals, Inc., which appears in such Prospectus. We also consent to the reference to us under the heading "Experts" in such Prospectus.

PRICE WATERHOUSE LLP
New York, New York
August 5, 1997

CONSENT OF DONALD S. HOWARD

I hereby consent to the reference to me as a prospective director of SIGA Pharmaceuticals, Inc. under the heading "Directors, Executive Officers, Key Personnel and Consultants" in the Prospectus constituting part of this Registration Statement on Form SB-2.

/s/ DONALD S. HOWARD

Donald S. Howard
Atlantic Highlands, New Jersey
August 5, 1997