

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-KSB

Annual Report Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

For the Fiscal Year Ended
December 31, 1998

Commission File No. 0-23047

SIGA Pharmaceuticals, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

13-3864870
(IRS Employer Id. No.)

420 Lexington Avenue, Suite 620
New York, NY
(Address of principal executive offices)

10170
(zip code)

Registrant's telephone number, including area code: (212) 672-9100

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

None
(Title of Class)

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

Common Stock, \$.0001 par value
(Title of Class)

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

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

As of March 25, 1999, the Registrant had outstanding 6,557,712 shares of Common Stock. The aggregate market value of the registrant's Common Stock on such date held by those persons deemed to be non-affiliates was approximately \$5,641,905.

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PART I

Item 1. Business

Introduction

SIGA Pharmaceuticals, Inc. (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 group A streptococcal pharyngitis or "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's Technologies

Vaccine Technologies: Mucosal Immunity and Vaccine Delivery

Using proprietary technology licensed from The Rockefeller University ("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 combine antigens from a wide range of infectious organisms, both viral and bacterial, with 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 gastrointestinal ("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 most antigens 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.

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, may 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 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 cause the outward manifestations of disease, in some cases through the production and release of toxin molecules. 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 nonspecific 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's scientific strategy is to inhibit the expression of bacterial surface proteins required for bacterial infectivity. The Company believes that this approach has 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's drug discovery strategy is to use 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.

In contrast to the above program, which focuses on gram-positive bacteria, the Company's pilicide program, based upon initial research performed at Washington University, focuses on a number of new and novel targets all of which impact on the ability of gram-negative bacteria to assemble adhesive pili on their surfaces. This research program is based upon the well-characterized interaction between a periplasmic protein -- a chaperone -- and the protein subunits required to form pili. In addition to describing the process by which chaperones and pili subunits interact, this program has developed the assay systems necessary to screen for potential therapeutic compounds, and has provided an initial basis for selecting novel antibiotics that work by interfering with the pili adhesion mechanism.

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

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 five to 10 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 (the "NIH") and the University of Maryland Center for Vaccine Development on the clinical development of this vaccine candidate. The NIH in cooperation with the Company filed an Investigational New Drug Application ("IND") with the United States Food and Drug Administration (the "FDA") in December 1997. The first stage of these clinical trials under this IND commenced at the University of Maryland in early 1999.

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, and is a major cause of tooth loss in the older population. In

addition, animal studies conducted at the University of Minnesota show that bacteria from the mouth which enter the blood stream via diseased gums can induce clotting which is the pivotal event in most heart attacks and strokes. Current treatments for periodontal disease 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 collaborative research agreement with the State University of New York at Buffalo School of Dental Medicine ("SUNY Buffalo") to develop a mucosal vaccine to prevent periodontal disease. The vaccine, as currently constructed, features a surface antigen, fimbriin 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, fimbriin-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.

STD Vaccine Candidates. One of the great challenges in vaccine research remains the development of effective vaccines to prevent sexually transmitted diseases (STDs). Three of the principal pathogens which are transmitted via this route are: chlamydia, the most common bacterial STD; 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 pathogens enters the host through the mucosa, the Company believes that induction of a vigorous mucosal response to viral or bacterial antigens may protect against acquisition of the initial infection. To test this hypothesis, the Company has expressed known immunodominant antigens from these three 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 Corporation on research toward the development of mucosal vaccines against HIV.

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. 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 anchor 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).

The Company has completed an early stage clinical evaluation of its mucosal vaccine delivery system based on the commensal bacteria *S. gordonii*. These clinical studies were designed to test the safety of the formulation, to monitor the extent and duration of colonization of the nasal and oral cavities, and to

determine if the delivery system could be eradicated at the end of the study with a regimen of conventional antibiotics. A total of 47 volunteers between the ages of 18 and 40 years completed the studies, in which *S. gordonii* was delivered to the nasal passage and oral cavity. The results of the studies indicated the delivery system was well-tolerated and that the delivery system spontaneously eradicated or was easily eradicated by conventional antibiotics. The current clinical studies at the University of Maryland are also designed to evaluate *S. gordonii* as a commensal bacterial vector for the Company's vaccine targeting strep throat.

Anti-Infectives

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.

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 should be readily cleared by the body's immune system.

Gram-Positive Antibiotic Technology. 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.

Gram-Negative Antibiotic Technology. The Company has entered into a set of technology transfer and related agreements with MedImmune, Inc. ("MedImmune"), Astra AB and The Washington University, St. Louis ("Washington University"), pursuant to which the Company has acquired rights to certain gram-negative antibiotic targets, products, screens and services developed at Washington University. The Company is using this technology 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.

Research carried out at Washington University 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 has been used in concert with molecular modeling techniques to identify potential structures that will bind to the conserved residues of the chaperone and usher proteins. With identification of these structures, natural and synthetic molecules that inhibit chaperone/usher function can 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.

Scientists at Washington University have elucidated the role of chaperones -- a family of periplasmic proteins -- in the formation of pili, which are essential for the virulence of certain gram-negative bacteria, such as E. coli or the Enterobacteriaceae (Salmonella, Shigella, Klebsiella, etc.). The elucidation of this pathway provides several targets for the development of novel anti-infectives: (i) blocking the interaction between chaperones and pilin subunits; (ii) interfering with chaperone-dependent folding of pilin subunits; or (iii) interfering with how pilin subunits exit from the bacteria's outer membrane (through the "usher" component). The chaperone-pilin complex has been examined using x-ray crystallography, and assays measuring the chaperone interactions have been established. The Company and Washington University are reviewing potential compounds which interfere with the chaperone-pilin interaction, as well as seeking alternative intervention sites in the pilus formation pathway.

Surface Protein Expression System

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.

The Company has commenced yield optimization and process validation of this system. This program is designed to transfer the method from a laboratory scale environment to a commercial production facility. The Company's business strategy is to license this technology on a non-exclusive basis for a broad range of applications.

Collaborative Research and Licenses

The Company sponsors research and development activities in laboratories at Rockefeller, Oregon State, SUNY Buffalo, and Washington University. The Company established a research and development facility in Corvallis, Oregon in June 1998. 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 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.

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. Pursuant to a separate research support agreement with Oregon State, the Company is providing funding for sponsored research through December 31, 1999, 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 NIH pursuant to which the NIH, with the cooperation of the Company, will conduct a clinical trial of the Company's strep throat vaccine candidate.

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, 1999 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 treatment of gram-positive bacterial infections. Pursuant to the agreement, Wyeth-Ayerst is providing funding for a joint research and development program, subject to certain milestones, through September 30, 1999 and is responsible for additional milestone payments.

Chiron. The Company has entered into a collaborative research agreement with Chiron regarding research toward the development of mucosal vaccines against HIV. The agreement expires on December 31, 1999. 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.

Washington University. The Company has entered into a research collaboration and worldwide license agreement with the Washington University pursuant to which the Company has obtained the right and license to make, use and sell antibiotic products based on gram-negative technology for all human and veterinary diagnostic and therapeutic uses. The license covers five pending United States patent applications and corresponding foreign patent applications. 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 agreed to provided funding to Washington University for sponsored research through February 6, 2000, with exclusive license rights to all inventions and discoveries resulting from this research.

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 six issued United States patents and one issued European patent. The Company has also licensed the rights to one allowed United States patent application, 17 pending United States patent applications as well as corresponding foreign patent applications.

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.

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.

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 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; there can be no assurance that any approvals will be granted on a timely basis, if at all.

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., ID Vaccines Ltd., Actinova PLC, 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

As of March 25, 1999 the Company had 19 full time employees. The Company's employees are not covered by a collective bargaining agreement and the Company considers its employee relations to be excellent.

Item 2. Properties

The Company's headquarters are located in New York, New York and its research and development facilities are located in Corvallis, Oregon. In New York, the Company leases approximately 5,200 square feet under a lease that expires in November 2002. In Corvallis, the Company leases approximately 10,000 square feet under a lease that expires in December 2005.

Item 3. Legal Proceedings

None.

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

At its stockholder meeting held on November 20, 1998, the stockholders of the Company elected the following persons as directors of the Company to hold office until the next annual meeting of the stockholders or until their successors are duly elected and qualified: Judson Cooper, Joshua Schein, Stephen C. Knight, Jeffrey Rubin and Adam Eilenberg (each received 4,594,480 votes for and 29,375 votes against). In addition, the stockholders of the Company voted to amend the Company's 1996 Incentive and Non-Qualified Stock Option Plan to increase the number of shares of Common Stock issuable under the plan from 333,333 to 833,333 (1,894,531 voted for, 48,500 voted against and 7,600 abstained).

Part II

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

Price Range of Common Stock

The Company's Common Stock commenced trading on the Nasdaq SmallCap Market on September 9, 1997 under the symbol "SGPH." The following table sets forth, for the periods indicated, the high and low sales prices for the Common Stock, as reported on the Nasdaq SmallCap Market.

	Price Range	
	High	Low
1997		
- - - - -	-----	-----
Third Quarter (from September 9, 1997)	\$6 1/8	\$ 5
Fourth Quarter	7	3 1/4
1998		
- - - - -		
First Quarter	4 7/8	4
Second Quarter	4 5/8	3 7/8
Third Quarter	4	15/32
Fourth Quarter	3	7/8

As of March 25, 1998, there were approximately 38 holders of record of the Common Stock. The Company believes that the number of beneficial owners is substantially greater than the number of record holders, because a large portion of the Common Stock is held of record in broker "street names."

The Company has paid no dividends on its Common Stock and does not expect to pay cash dividends in the foreseeable future. The Company is not under any contractual restriction as to its present or future ability to pay dividends. The Company currently intends to retain any future earnings to finance the growth and development of its business.

Sales of Unregistered Securities in 1998

In February 1998, the Company sold 335,530 shares of Common Stock to MedImmune, Inc. The sale was exempt from registration under the Securities Act of 1933, pursuant to Regulation D under the Act, as it was a transaction not involving a public offering.

Item 6. Management Discussion and Analysis

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

Overview

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, obtaining corporate relationships and raising capital. Since its inception through December 31, 1998, the Company has sustained cumulative net losses of \$11,015,480, including non-cash charges in the amount of \$1,457,458 for the write-off of research and development expenses associated with the acquisition of certain technology rights acquired from a third party in exchange for the Company's common stock. In addition, a non-cash charge of \$450,450 was incurred for stock option and warrant compensation expense. The Company's losses have resulted primarily from expenditures incurred in connection with research and development, patent preparation and prosecution and general and administrative expenses. From inception through December 31, 1998, research and development expenses amounted to \$4,536,745, patent preparation and prosecution expenses totaled \$937,277, general and administration expenses amounted to \$5,128,266. From inception through December 31, 1998 revenues from research and development agreements totaled \$1,125,000.

The Company expects to continue to incur substantial costs in the future resulting from ongoing research and development programs, manufacturing of products for use in clinical trials and pre-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, will continue to be substantial in the future. Accordingly, the Company expects to incur 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 commercial sale of any products. The Company's current product candidates are not expected to be commercially available for several years.

Results of Operations

Twelve Months ended December 31, 1998, December 31, 1997 and December 31, 1996

Revenues from research and development contracts were \$450,000 for the twelve months ended December 31, 1998 compared to \$675,000 for the same period of 1997, and no revenue for the twelve months ended December 31, 1996. The revenue was the result of payments made to the Company under an agreement entered into in July of 1997 with Wyeth-Ayerst, under which the Company receives certain payments for research and development activities sponsored by Wyeth-Ayerst. At the time the agreement was entered into in July of 1997, Wyeth-Ayerst made an up front payment of \$300,000. As a result of this payment, revenues for the twelve months ended December 31, 1998 were 33% less than revenues received for the same period of 1997. For the twelve months ended December 31, 1996, the Company's first full year of operations, there was no revenue.

Research and development expenses increased to \$2,927,755 for the twelve months ended December 31, 1998 from \$946,785 for the same period in 1997. The 209% increase in spending is consistent with the Company's plan to expand its research and development activities. The 1998 spending reflects the opening of the Company's research facility in Corvallis, Oregon in June, production of product for clinical trials and the clinical management expenses associated with those trials. The increase is also the result of

additional agreements to fund research and development with third parties in exchange for licenses to their technology. The Company also incurred a non-cash charge for the twelve months ended December 31, 1998 of \$1,457,458 for the write-off of in-process research and development associated with the acquisition of certain technology from MedImmune, Inc. in exchange for 335,530 shares of the Company's common stock. There were no such charges incurred in the prior years. The \$946,785 of research and development expenses for the twelve months ended December 31, 1997 reflect an increase of \$284,580 from the \$662,205 level incurred during the twelve months ended December 31, 1996. The 43% increase is largely the result of increased levels of funding for research and development performed by third parties under research agreements.

General and administrative expenses increased 79% in the twelve months ended December 31, 1998 to \$2,784,763 from \$1,554,686 for the twelve months ended December 31, 1997. The increase is due to an increase in staff, higher accounting and legal expenses associated with being a public company, and higher spending levels needed to support the Company's expanded research and development effort. The \$1,554,686 of general and administrative expenses incurred during the twelve months ended December 31, 1997 represents an increase of 97% from the \$787,817 of costs incurred for the twelve months ended December 31, 1996. This increase was primarily the result of expenses incurred to support the acquisition of patents and technology from third parties and initiation and expansion of the Company's research and development activities with those third parties. In addition, general and administrative costs increased from 1996 to 1997 as a result of the Company becoming a publicly traded enterprise.

Patent preparation expense of \$197,071 for the twelve months ended December 31, 1998 represents a decrease of 31% from the \$287,207 incurred for the twelve month period ending December 31, 1997. The decline reflects a redirection of the Company's activity away from technology and patent acquisition to the development of potential products from the patents and technology acquired by the Company in prior years. The Company's patent efforts are directed at supporting its existing technology and development of patents on technology developed directly by the Company. Patent preparation expenses for the twelve months ended December 31, 1996 were \$452,999, the \$287,207 of expense incurred for the same period of 1997 is a 37% decline from 1996. The decrease is spending reflects decreased activity in patent and technology acquisition in favor of increased spending for research and development of technology previously acquired.

Total operating loss for the twelve months ended December 31, 1998 was \$6,931,454 a 218% increase from the \$2,182,260 loss for the twelve months ended December 31, 1997. The increase in the operating loss is consistent with the Company's operating plan and reflects increased spending for research and development, both with third parties and at the Company's research facility. In addition, general and administrative cost have also increased to support the higher level of research activity. Of the \$4,524,194 increase in operating expenses in the 1998 period compared to the same period of 1997, \$1,457,458 or 31%, was the result of the one-time non-cash charge for the write-off of in-process research and development associated with the acquisition of certain technology from MedImmune. The operating loss of \$2,182,260 for the twelve months ended December 31, 1997 was \$88,222 lower than the \$2,270,482 operating loss incurred for the twelve months ended December 31, 1996. The 3.9% decrease in the operating loss was the result of a decrease in patent preparation fees, stock and warrant compensation and revenue from the Wyeth Ayerst agreement offsetting increases in research and development expenses and higher levels of general and administrative costs.

Interest income for the twelve months ended December 31, 1998 was \$379,788 compared to interest expense of \$12,378 for the prior year period. The change is the result of repayment of debt outstanding in the prior year period from the proceeds of the Company's initial public offering and the interest income earned on the investment of the proceeds from that offering in the twelve month period ended December 31, 1998. In the twelve months ended December 31, 1996 the Company had \$2,306 of interest income compared to the \$12,378 of interest expense incurred in the twelve months ended December 31, 1997.

Net loss per common share for the twelve months ended December 31, 1998 was \$0.99 compared to \$0.52 for the same twelve months of 1997. The 90% increase in loss per share is the result of lower revenues and higher levels of spending as described above, partially offset by the 55% increase in the weighted average number of shares outstanding from the Initial Public Offering and the issuance of 335,530 shares to MedImmune. Excluding the one-time charge of \$1,457,458 for the write-off of in-process research and development that resulted from the agreement with MedImmune, the loss per share was \$0.77 per share, a 48% increase over the loss incurred in 1997. The net loss per share of \$0.52 for the twelve months ended December 31, 1997 was \$0.14 per share less than the net loss of \$0.66 per share incurred in the twelve months ended December 31, 1996. The reduction in the loss per share was primarily the result of the increase in the weighted number of shares in the twelve month period of 1997 and a small reduction in the operating loss.

Liquidity and Capital Resources

As of December 31, 1998 the Company had \$4,966,873 in cash and cash equivalents and \$4,322,819 of net working capital. In July, August and September of 1998 the Company sold certain laboratory equipment, computer equipment and furniture to a third party, for \$493,329, \$385,423 and \$260,333, respectively, under sale/leaseback arrangements. The leases have a term of 42 months and require minimum monthly payments of \$13,171, \$10,290 and \$6,950, respectively. The Company has an option to purchase the equipment for Fair Market Value (defined in the agreement as 15% of original cost) at the end of the lease. In July of 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. If certain milestones are met, 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. Through December 31, 1998 the Company has received a total of \$1,125,000 from Wyeth-Ayerst.

The Company anticipates that its current resources will be sufficient to finance the Company's currently anticipated needs for operating and capital expenditures through at least the first quarter of 2000. In addition, the Company will attempt to generate additional working capital through a combination of collaborative agreements, strategic alliances, research grants and equity financings. However, no assurance can be provided that additional capital will be obtained through these sources.

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 the ability of the Company to establish collaborative arrangements with other organizations.

The Year 2000

The Company has completed its assessment of the potential impact of the year 2000 on the ability of the Company's computerized information systems to accurately process information that may be date sensitive. Any of the Company's programs that recognize a date using "00" as the year 1900 rather than the year 2000 could result in errors or systems failures. The Company currently believes that the costs of addressing this issue will not have a material adverse impact on the Company's financial position. The Company has not been able to complete an assessment of any year 2000 issues that may effect third parties, including the Company's current and prospective suppliers. The Company plans to devote all resources required to resolve any significant third-party year 2000 compliance problems in a timely manner. Any year 2000 compliance problems of the Company, its customers or vendors could have a material adverse effect on the Company's business, results of operations and financial condition.

Item 7. Financial Statements and Supplementary Data

The information called for by this Item 7 is included following the "Index to Financial Statements" contained in this Annual Report on Form 10-KSB.

Item 8. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

PART III

Item 9. Directors and Executive Officers of the Registrant

The directors, officers and key employees of the Company are as follows:

Name - ----	Age ---	Position -----
Joshua D. Schein, Ph.D.	38	Chief Executive Officer, Secretary and Director
Judson A. Cooper	40	Chairman of the Board, Executive Vice President
Thomas N. Konatich	53	Chief Financial Officer and Treasurer
Dennis E. Hruby, Ph.D.	47	Vice President of Research
Adam D. Eilenberg	42	Director
Stephen C. Knight, M.D.	38	Director
Jeffrey Rubin	31	Director

Joshua D. Schein, Ph.D. has served as Chief Executive Officer of the Company since August 1998 and as acting Chief Executive Officer from April 1998 to August 1998. Dr. Schein has also served as Secretary and a Director of the Company since December 1995. Dr. Schein served as Chief Financial Officer of the Company from December 1995 until April 1998. From December 1995 to June 1998, Dr. Schein was a Director of DepoMed, Inc. a publicly traded biotechnology company. From January 1996 to August 1998, Dr. Schein was an executive officer and a director of Virologix Corporation, a private biotechnology company. From June 1996 to September 1998, Dr. Schein was an executive officer and a director of Callisto Pharmaceuticals, Inc. Dr. Schein is currently a director of both Virologix and Callisto. From 1994 to 1995, Dr. Schein served as a Vice President of Investment Banking at Josephthal, Lyon and Ross, Incorporated, an investment banking firm. From 1991 to 1994, Dr. Schein was a Vice President at D. Blech & Company, Incorporated, a merchant and investment banking firm focused on 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") and Prism Ventures LLC ("Prism"), privately held limited liability companies.

Judson A. Cooper has served as Chairman of the Board of Directors of the Company since August 1998 and as acting Chairman of the Board from April 1998 to August 1998. Mr. Cooper has also served as Director of the Company since December 1995 and Executive Vice President since November 1996. From December 1995 until November 1996 Mr. Cooper served as President. From August 1995 to June 1998, Mr. Cooper was a Director of DepoMed, Inc., a publicly traded biotechnology company. From January 1996 to August 1998, Mr. Cooper was an executive officer and a director of Virologix Corporation, a private biotechnology company. From June 1996 to September 1998, Mr. Cooper was an executive officer and a director of Callisto Pharmaceuticals, Inc. Mr. Cooper is currently a director of both Virologix and Callisto. Mr. Cooper has 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 Ventures LLC ("CSO") and Prism Ventures LLC ("Prism"), privately held limited liability companies.

Thomas N. Konatich has served as Chief Financial Officer and Treasurer of the Company since April 1, 1998. From November 1996 through March 1998, Mr. Konatich served as Chief Financial Officer and a Director of Innapharma, Inc., a privately held pharmaceutical development company. From 1993 through November 1996, Mr. Konatich served as Vice President and Chief Financial Officer of Seragen, Inc., a publicly traded biopharmaceutical development company. From 1988 to 1993, he was Treasurer of Ohmicron Corporation, a venture capital firm. Mr. Konatich has an MBA from the Columbia Graduate School of Business.

Dennis F. 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.

Adam D. Eilenberg has been a director of the Company since November 1998. Mr. Eilenberg is a member of the law firm, Ehrenreich Eilenberg Krause and Zivian LLP, which serves as general corporate and securities counsel to the Company. From 1987 to 1994, Mr. Eilenberg was first associated with and then a partner of Heller Horowitz & Felt, P.C., and from 1981 to 1986 was associated with the New York law firm then known as Kramer, Levin, Nessin, Kamin & Frankel. Mr. Eilenberg's firm represents several other privately held biotechnology and high technology companies in which Messrs. Cooper and Schein hold significant or controlling interests, as well as Pharmos Corporation, a public drug development company in which Dr. Stephen C. Knight, a director of the Company, is a director. Mr. Eilenberg received his law degree in 1980 from Harvard University.

Stephen C. Knight, M.D., a director of the Company since November 1998, is Chief Financial Officer and Senior Vice President of Financial Business Development at Epix Medical, Inc. Prior to joining Epix Medical in July 1996, Dr. Knight was a Senior Consultant at Arthur D. Little, Inc. While at Arthur D. Little, Dr. Knight specialized in mergers and acquisitions, strategic planning, and valuation in the pharmaceutical industry. Dr. Knight has performed medical research at the National Institutes of Health, AT&T Bell Laboratories, and Yale and Columbia Universities. Dr. Knight received an M.D. from Yale University School of Medicine and a Master's Degree from the Yale School of Organization and Management.

Jeffrey Rubin has been a director of the Company since November 1998. Mr. Rubin is Principal and Managing Director of The Whitestone Group, an asset management and investment banking firm he formed in January 1998. From 1994 to 1997, Mr. Rubin was founder and a director of the Fastcast Corporation, a company specializing in optical technologies. From 1989 to 1994, Mr. Rubin was a Vice President of American European Corporation, an import/export company. Mr. Rubin received a Bachelor of Arts degree in 1989 from the University of Michigan.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934 (the "Exchange Act") requires the Company's officers and directors, and persons who own more than ten percent of a registered class of the Company's equity securities, to file reports of ownership and changes in ownership with the Securities and Exchange Commission. Officers, directors and greater than ten-percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) reports that they file.

Based solely upon review of the copies of such reports furnished to the Company and written representations from certain of the Company's executive officers and directors that no other such reports were required, the Company believes that during 1998 all Section 16(a) filing requirements applicable to its officers, directors and greater than ten-percent beneficial owners were complied with on a timely basis.

Item 10. Executive Compensation

The following table summarizes the total compensation of the Chief Executive Officer of the Company for 1998 and the two previous years, as well as all other executive officers of the Company who received compensation in excess of \$100,000 for 1998.

Summary Compensation Table

Name/ Principal Position	Annual Compensation				Long Term Compensation	
	Year	Salary	Bonuses	Other Annual Compensation(1)	Stock Underlying Options/Warrants	All Other Compensation
Joshua D.Schein, Ph.D., Chief Executive Officer Director	1998	\$170,940	--	--	16,667	--
	1997	154,616	--	--	16,667	--
	1996	153,116	--	--	16,667	--
Judson A. Cooper, Executive Vice President and Chairman	1998	170,939	--	--	16,667	--
	1997	154,616	--	--	16,667	--
	1996	153,116	--	--	16,667	--
Walter Flamenbaum(2), President	1998	183,843	--	--	100,000(2)	--
Dennis E. Hruby, Ph.D., Vice President Research	1998	167,148	--	--	40,000	--
	1997	78,549	--	27,366	10,000	--
	1996	50,000	--	--	--	--
Thomas N. Konatich, Vice President & Chief Financial Officer	1998	120,172	--	--	--	--
David H. de Weese (3) Chief Executive Officer	1998	77,050(3)	--	--	--	--
	1997	231,923	--	--	477,683(3)	--
	1996	21,635	--	--	16,667(3)	--

- (1) Other than as indicated, no person received more than the lesser of \$50,000 or 10% of total annual salary and bonus.
- (2) Mr. Flamenbaum resigned from the Company in September 1998. His 100,000 options were cancelled at that time.
- (3) Mr. de Weese resigned from the Company in April 1998. Mr. de Weese retained warrants to purchase 230,508 shares of Common Stock at \$3.00 per share. His remaining warrants and options were cancelled.

The following tables set forth information with respect to the named executive officers concerning the grant, repricing and exercise of options during the last fiscal year and unexercised options held as of the end of the fiscal year.

Option Grants for the Year Ended December 31, 1998

Name	Common Stock Underlying Options Granted	% of Total Options Granted to Employees	Exercise Price Per Share	Expiration Date
-----	-----	-----	-----	-----
Joshua D. Schein	16,667	6.5%	\$4.00	4/15/08
Judson A. Cooper	16,667	6.5%	\$4.00	4/15/08
Dennis E. Hruby	40,000	15.6%	\$4.63	4/1/08
Thomas Konatich	95,000	37.0%	\$4.44	4/1/08

Aggregated Option Exercises for the Year Ended December 31, 1998 and Option Values as of December 31, 1998:

Name	Shares Acquired on Exercise	Value Realized	Number of Securities Underlying Unexercised Options at December 31, 1997		Value of Unexercised In-the-Money Options(1)	
			Exercisable	Unexercisable	Exercisable	Unexercisable
-----	-----	-----	-----	-----	-----	-----
Joshua D Schein, Ph.D	--	--	50,001	--	0	--
Judson A Cooper	--	--	50,001	--	0	--
Dennis E Hruby	--	--	10,000	40,000	0	0
Thomas Konatich	--	--	0	95,000	--	0
-----	-----	-----	-----	-----	-----	-----

(1) Based upon the closing price on December 31, 1998 as reported on the Nasdaq SmallCap Market and the exercise price per option.

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.

The Plan is 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, as amended, provides for the granting of options to purchase 833,333 shares of Common Stock, of which 540,561 options were outstanding as of December 31, 1998,

Employment Contracts and Directors Compensation

Dr. Joshua Schein, Chief Executive Officer of the Company, has an employment agreement with the Company which expires in December 2000 and is cancelable by the Company only for cause, as defined in the agreement. Dr. Schein 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, 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.

Judson Cooper, Chairman of the Board of Directors of the Company, has an employment agreement with the Company which expires in December 2000 and is cancelable by the Company only for cause, as defined in the agreement. Mr. Cooper 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. 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.

Thomas Konatich, Chief Financial Officer of the Company, has an employment agreement with the Company that expires on April 1, 2000 and is cancelable by the Company only for cause, as defined in the agreement. Mr. Konatich receives an annual base salary of \$170,000 and received options to purchase 95,000 shares of Common Stock, at \$4.44 on April 1, 1998. The options vest on a pro rata basis on the first, second, third and fourth anniversaries of the agreement. Mr. Konatich is also eligible to receive additional stock options and bonuses at the discretion of the Board of Directors.

Dr. Dennis Hruby, Vice President of Research of the Company, has an employment agreement with the Company which expires on January 1, 2000 and is cancelable by the Company only for cause, as defined in the agreement. Dr. Hruby received options to purchase 40,000 shares of Common Stock at an exercise price of \$4.63 per share. The options become exercisable on a pro rata basis on the first, second, third and fourth anniversaries of the agreement. Dr. Hruby is eligible to receive additional stock options and bonuses at the discretion of the Board of Directors.

Directors' Compensation.

In 1998, outside Directors earned \$1,500 for each Board meeting attended.

Item 11. Security Ownership of Certain Beneficial Owners and Management

The following table sets forth certain information with respect to the beneficial ownership of the Company's Common Stock as of March 25, 1998, by (i) each person who was known by the Company to own beneficially more than 5% of any class of the Company's Common Stock, (ii) each of the Company's Directors, and (iii) all current Directors and executive officers of the Company as a group. Except as otherwise noted, each person listed below has sole voting and dispositive power with respect to the shares listed next to such person's name.

Name and Address of Beneficial Owner(1) - - - - -	Amount of Beneficial Ownership(2) - - - - -	Percentage of Total - - - - -
Judson Cooper(3)	519,117	7.9%
Joshua D. Schein, Ph.D.(4)	511,017	7.7%
Steven M. Oliveira 129 Post Road East Westport, CT 06880	421,516	6.4%
Richard B. Stone 135 East 57th St., 11th FL New York, NY 10022	470,665	7.2%
MedImmune, Inc. 35 West Watkins Mill Road Gaithersburg, MD 20878	333,530	5.1%
Stephen Knight 71 Rogers Street Cambridge, MA 02142	0	*
Jeffrey Rubin 111 Deer Run Roslyn, NY 11577	0	*
Adam Eilenberg 11 E. 44th Street New York, NY 10017	0	*
All Officers and Directors as a Group (seven persons)	1,090,134	16.5%

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

(1) Unless otherwise indicated the address of each beneficial owner identified 420 Lexington Avenue, Suite 620, New York, NY 10170.

(2) Unless otherwise indicated, each person has sole investment and voting power with respect to the shares indicated. For purposes of this table, a person or group of persons is deemed to have "beneficial ownership" of any shares as of a given date which such person has the right to acquire within 60 days after such date. For purposes of computing the percentage of outstanding shares held by each person or group of persons named above on a given date, any security which such person or persons has the right to acquire within 60 days after such date is deemed to be outstanding for the purpose of computing the

percentage ownership of such person or persons, but is not deemed to be outstanding for the purpose of computing the percentage ownership of any other person.

(3) Includes currently exercisable options to purchase 50,001 shares of Common Stock.

(4) Includes currently exercisable options to purchase 50,001 shares of Common Stock.

Item 12. Certain Relationships and Related Transactions

Effective January 15, 1998, the Company entered into a consulting agreement with Prism Ventures LLC pursuant to which Prism has agreed to provide certain business services to the Company, including business development, operations and other advisory services, licensing, strategic alliances, merger and acquisition activity, financings and other corporate transactions. Pursuant to the terms of the agreement, Prism receives an annual fee of \$150,000 and 16,667 stock options per year. The agreement expires on January 15, 2001, and is cancelable by the Company only for cause as defined in the agreement. Mr. Cooper and Dr. Schein are the members of Prism. In October of 1998, the Company and Prism agreed to suspend the agreement for as long as the two principals are employed by the Company under the provisions of their amended employment agreements. During 1998, Prism was paid \$112,500 pursuant to the agreement.

PART IV

Item 13. Exhibits, Financial Statement Schedules and Reports on Form 8-K

(a) Financial Statements and Exhibits

(1) FINANCIAL STATEMENTS

Report of Independent Accountants

Balance Sheet at December 31, 1997 and 1998

Statement of Operations for the years ended December 31, 1997 and 1998, and for the period from inception through December 31, 1998

Statement of Changes in Stockholders' Equity for the period from inception through December 31, 1998

Statement of Cash Flows for the years ended December 31, 1997 and 1998, and for the period from inception through December 31, 1998

Notes to Financial Statements

(2) FINANCIAL STATEMENT SCHEDULES

All financial statement schedules are omitted because they are not applicable or the required information is shown in the financial statements or note thereto.

(3) EXHIBITS; EXECUTIVE COMPENSATION PLANS

Exhibits

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3 Articles of Incorporation and By-Laws

3(a) Articles of Incorporation of the Company (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).

3(b) Bylaws of the Company (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).

4 Instruments defining the rights of holders

4(a) Form of Common Stock Certificate (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).

4(b) 1996 Incentive and Non-Qualified Stock Option Plan ++(Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).

4(c) Warrant Agreement dated as of September 15, 1996 between the Company and Vincent A. Fischetti (1) (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).

- 4(d) Warrant Agreement dated as of November 18, 1996 between the Company and David de Weese (1) (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 4(e) Form of Bridge Loan Letter Agreement for Bridge Investors (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 4(f) Form of Promissory Note for Bridge Investors (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 4(g) Form of Warrant Agreement for Bridge Investors (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 4(h) Form of Registration Rights Agreement for Bridge Investors (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 4(i) Stock Purchase Agreement between the Company and MedImmune, Inc., dated as of February 10, 1998. (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).
- 4(j) Registration Rights Agreement between the Company and MedImmune, Inc., dated as of February 10, 1998. (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).

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) (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(b) Research Agreement between the Company and Emory University, dated as of January 31, 1996(2) (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(c) Research Support Agreement between the Company and Oregon State University, dated as of January 31, 1996(2) (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(d) Employment Agreement between the Company and Dr. Joshua D. Schein, dated as of January 1, 1996(1) ++ (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 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) ++ (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(f) Employment Agreement between the Company and Dr. Kevin F. Jones, dated as of January 1, 1996 ++ (Incorporated by reference to Form SB-2 Registration Statement of the Company dated

March 10, 1997 (No. 333-23037)).

- 10(g) Employment Agreement between the Company and David de Weese, dated as of November 18, 1996(1) ++ (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(h) Consulting Agreement between the Company and CSO Ventures LLC, dated as of January 1, 1996 (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(i) Consulting Agreement between the Company and Dr. Vincent A. Fischetti, dated as of January 1, 1996 (Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(j) Consulting Agreement between the Company and Dr. Dennis Hruby, dated as of January 1, 1996 Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(k) Letter Agreement between the Company and Dr. Vincent A. Fischetti, dated as of March 1, 1996 Incorporated by reference to Form SB-2 Registration Statement of the Company dated March 10, 1997 (No. 333-23037)).
- 10(l) Employment Agreement between the Company and Dr. Dennis Hruby, dated as of April 1, 1997 ++ (Incorporated by reference to Amendment No. 1 to Form SB-2 Registration Statement of the Company dated July 11, 1997 (No. 333-23037)).
- 10(m) Clinical Trials Agreement between the Company and National Institute of Allergy and Infectious Diseases, dated as of July 1, 1997 (Incorporated by reference to Amendment No. 1 to Form SB-2 Registration Statement of the Company dated July 11, 1997 (No. 333-23037)).
- 10(n) Research Agreement between the Company and The Research Foundation of State University of New York, dated as of July 1, 1997(2) (Incorporated by reference to Amendment No. 1 to Form SB-2 Registration Statement of the Company dated July 11, 1997 (No. 333-23037)).
- 10(o) Collaborative Research and License Agreement between the Company and American Home Products Corporation, dated as of July 1, 1997(2) (Incorporated by reference to Amendment No. 3 to Form SB-2 Registration Statement of the Company dated September 2, 1997 (No. 333-23037)).
- 10(p) Collaborative Evaluation Agreement between the Company and Chiron Corporation, dated as of July 1, 1997 (Incorporated by reference to Amendment No. 1 to Form SB-2 Registration Statement of the Company dated July 11, 1997 (No. 333-23037)).
- 10(q) Consulting Agreement between the Company and Dr. Scott Hultgren, dated as of July 9, 1997 (Incorporated by reference to Amendment No. 1 to Form SB-2 Registration Statement of the Company dated July 11, 1997 (No. 333-23037)).
- 10(r) Letter of Intent between the Company and MedImmune, Inc., dated as of July 10, 1997 (Incorporated by reference to Amendment No. 1 to Form SB-2 Registration Statement of the Company dated July 11, 1997 (No. 333-23037)).
- 10(s) Research Collaboration and License Agreement between the Company and The Washington

University, dated as of February 6, 1998 (2)+. (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).

- 10(t) Technology Transfer Agreement between the Company and MedImmune, Inc., dated as of February 10, 1998.+ (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).
- 10(u) Employment Agreement between the Company and Dr. Dennis Hruby, dated as of January 1, 1998.+ (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).
- 10(v) Employment Agreement between the Company and Dr. Walter Flamenbaum, dated as of February 1, 1998.++ (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).
- 10(w) Employment Agreement between the Company and Thomas Konatich, dated as of April 1, 1998.++ (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).
- 10(x) Consulting Agreement between the Company and Prism Ventures LLC, dated as of January 15, 1998. (Incorporated by reference to the Company's Annual Report on Form 10-KSB for the year ended December 31, 1997).

27 Financial Data Schedule*

- - - - -

- 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 a * and filed separately with the SEC pursuant to a request for Confidential Treatment.
- * Filed herewith
- + Filed without exhibits and schedules (to be provided supplementally upon request of the Commission).
- ++ This document is a management contract or compensatory plan or arrangement

(b) Reports on Form 8-K

No reports on Form 8-K were filed by the registrant during the fourth quarter of 1998.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SIGA PHARMACEUTICALS, INC.

Date: March 30, 1999

By: /s/ Joshua D. Schein

 Joshua D. Schein
 Chief Executive
 Officer (Principal Executive Officer)

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

Signatures - -----	Title -----	Date ----
/s/ Thomas Konatich - ----- Thomas Konatich	Chief Financial Officer (Principal Accounting and Financial Officer)	March 30, 1999
/s/ Judson A. Cooper - ----- Judson Cooper	Chairman of the Board	March 30, 1999
- ----- Jeffrey Rubin	Director	
- ----- Stephen Knight	Director	
/s/ Adam D. Eilenberg - ----- Adam D. Eilenberg	Director	March 30, 1999
/s/ Joshua Schein - ----- Joshua Schein	Director	March 30, 1999

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, 1998 and 1997, and the results of its operations for the years ended December 31, 1998 and 1997, and for the period from inception through December 31, 1998, 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 audits 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 audits provide a reasonable basis for the opinion expressed above.

PricewaterhouseCoopers LLP
New York, New York
February 24, 1999

SIGA Pharmaceuticals, Inc.
(A development stage company)
Balance Sheet

	December 31,	
	1998	1997
	-----	-----
Assets		
Current assets		
Cash and cash equivalents	\$ 4,966,873	\$ 10,674,104
Accounts receivable	--	150,000
Prepaid sponsored research	--	11,684
Prepaid expenses and other current assets	134,969	43,698
	-----	-----
Total current assets	5,101,842	10,879,486
Equipment, net	1,696,404	29,814
Investments	132,220	--
Other assets	147,002	142,841
	-----	-----
Total assets	\$ 7,077,468	\$ 11,052,141
	-----	-----
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 266,371	\$ 224,623
Accrued expenses	143,364	240,985
Current portion of capital lease obligations	369,288	--
	-----	-----
Total liabilities	779,023	465,608
Capital lease obligations, net of current portion	650,659	
Commitments and contingencies		
(Notes 6, 7, 8, 9 and 10)	--	--
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, 6,577,712 and 6,242,182 shares issued and outstanding at December 31, 1998 and December 31, 1997 respectively)	658	624
Additional paid-in capital	16,697,424	15,049,723
Unrealized losses on available for sale securities	(34,816)	--
Deficit accumulated during the development stage	(11,015,480)	(4,463,814)
	-----	-----
Total stockholders' equity (deficit)	5,647,786	10,586,533
	-----	-----
Total liabilities and stockholders' equity	\$ 7,077,468	\$ 11,052,141
	-----	-----

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

SIGA Pharmaceuticals, Inc.
(A development stage company)
Statement of Operations

	Year Ended December 31, 1998	December 31, 1997	December 28, 1995 (Inception) to December 31, 1998
Revenue			
Research and development contracts	\$ 450,000	\$ 675,000	\$ 1,125,000
Operating expenses			
General and administrative (including amounts to related parties of \$465,734 and \$429,231 for the years ended December 31, 1998 and 1997, respectively)	2,784,763	1,554,686	5,128,266
Research and development (including amounts to related parties of \$81,570 and \$77,831 for the years ended December 31, 1998 and 1997, respectively)	2,927,755	946,785	4,536,745
Acquisition of in-process research and development	1,457,458	--	1,457,458
Patent preparation fees	197,071	287,207	937,277
Stock option and warrant compensation	14,407	68,582	450,450
	-----	-----	-----
Total operating expenses	7,381,454	2,857,260	12,510,196
	-----	-----	-----
Operating loss	(6,931,454)	(2,182,260)	(11,385,196)
Interest income/(expense)	379,788	(12,378)	369,716
	-----	-----	-----
Net loss	(6,551,666)	(2,194,638)	(11,015,480)
Other comprehensive loss			
Unrealized losses on available for sale securities	(34,816)	--	(34,816)
	-----	-----	-----
Comprehensive loss	\$ (6,586,482)	\$ (2,194,638)	\$ (11,050,296)
	-----	-----	-----
Basic and diluted loss per share	\$ (.99)	\$ (.52)	
	-----	-----	
Weighted average common shares outstanding used for basic and diluted loss per share	6,540,022	4,217,044	
	-----	-----	

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

SIGA Pharmaceuticals, Inc.
(A development stage company)
Statement of Changes in Stockholders' Equity

	Shares	Par Value	Additional Paid-in Capital	Stock Subscriptions Outstanding	Deficit Accumulated During the Development Stage	Unrealized losses on available for sale securities	Total Stock- holders' Equity (Deficit)
Issuance of common stock at inception	2,079,170	\$ 208	\$ 1,040	\$ (1,248)		\$ --	
Net loss	--	--	--	--	\$ (1,000)	--	\$ (1,000)
	-----	-----	-----	-----	-----	-----	-----
Balances 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)
	-----	-----	-----	-----	-----	-----	-----
Balances at December 31, 1996	3,367,182	337	2,668,819		(2,269,176)	--	399,980
Net proceeds from issuance and sale of common stock	2,875,000	287	12,179,322			--	12,179,609
Issuance of warrants with bridge notes			133,000			--	133,000
Stock option and warrant compensation	--	--	68,582	--	--	--	68,582
Net loss	--	--	--	--	(2,194,638)	--	(2,194,638)
	-----	-----	-----	-----	-----	-----	-----
Balance at December 31, 1997	6,242,182	624	15,049,723	--	(4,463,814)	--	10,586,533
Issuance of common stock to acquire third party's rights to certain technology	335,530	34	1,457,424	--			1,457,458
Issuance of compensatory options and warrants			175,870			--	175,870
Stock option and warrant compensation			14,407			--	14,407
Unrealized losses on available for sale securities						(34,816)	(34,816)
Net loss	--	--	--	--	(6,551,666)	--	(6,551,666)
	-----	-----	-----	-----	-----	-----	-----
Balance at December 31, 1998	6,577,712	\$ 658	\$16,697,424	\$ --	\$(11,015,480)	\$(34,816)	\$ 5,647,786
	-----	-----	-----	-----	-----	-----	-----

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

SIGA Pharmaceuticals, Inc.
(A development stage company)
Statement of Cash Flows

	Year Ended December 31,		December 28, 1995 (Inception) to December 31, 1998
	1998	1997	
Cash flows from operating activities			
Net loss	\$ (6,551,666)	\$ (2,194,638)	\$(11,015,480)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation	211,520	9,212	227,981
Stock option and warrant compensation	190,277	68,582	626,320
Amortization of debt discount	--	133,000	133,000
Write-off in-process research and development	1,457,458	--	1,457,458
Changes in assets and liabilities			
Prepaid sponsored research	11,684	389,322	--
Accounts receivable	150,000	(150,000)	--
Other current assets	(91,271)	(43,698)	(134,969)
Accounts payable and accrued expenses	(55,873)	284,670	409,735
Other assets	(4,161)	(142,232)	(147,002)
	-----	-----	-----
Net cash used in operating activities	(4,682,032)	(1,645,782)	(8,442,957)
	-----	-----	-----
Cash flows from investing activities			
Capital expenditures	(1,878,110)	(17,601)	(1,924,385)
Purchase of minority interest	(167,036)	--	(167,036)
	-----	-----	-----
Net cash used in investing activities	(2,045,146)	(17,601)	(2,091,421)
	-----	-----	-----
Cash flows from financing activities			
Net proceeds from issuance of common stock	--	12,179,609	14,480,056
Receipt of stock subscriptions outstanding	--	--	1,248
Deferred offering costs	--	115,688	--
Proceeds from bridge notes	--	1,000,000	1,000,000
Repayment of bridge notes	--	(1,000,000)	(1,000,000)
Proceeds from sale and leaseback of equipment	1,139,085	--	1,139,085
Principal payments on capital lease obligations	(119,138)	--	(119,138)
	-----	-----	-----
Net cash provided from financing activities	1,019,947	12,295,297	15,501,251
	-----	-----	-----
Net increase (decrease) in cash and cash equivalents	(5,707,231)	10,631,914	4,966,873
Cash and cash equivalents, beginning of period	10,674,104	42,190	--
	-----	-----	-----
Cash and cash equivalents, end of period	\$ 4,966,873	\$ 10,674,104	\$ 4,966,873
	-----	-----	-----

There were no cash payments for interest or income taxes for the periods ended December 31, 1998 and 1997.

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

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. In 1998 the Company opened its research facility in the State of Oregon, reducing the Company's dependency on third parties to conduct research on its behalf.

Basis of presentation

The Company's activities since inception have consisted primarily of sponsoring and performing 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.

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 of \$11,015,480 and expects to incur additional losses to perform further research and development activities. These conditions raise substantial doubts 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 meet its obligations as they become due, and obtain additional funding to support its future operations. Management is actively pursuing various options, which include additional financing. Management believes that its funds are sufficient to support its operations in the next twelve months and that sufficient funding will be available to meet its planned business objectives. The financial statements do not include any adjustments relating to the recoverability of the carrying amount of recorded assets and liabilities that might result from 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.

Investments

The Company accounts for investments under the provisions of Statement of Financial Accounting Standards No. 115, Accounting for Certain Investments in Debt and Equity Securities, ("SFAS 115"). At December 31, 1998 the Company classified its investment in marketable securities as available for sale and reported them at fair market value, with the unrealized holding gains and losses, net of tax effect, reported as a separate component of stockholders' equity.

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 seven years.

Revenue recognition

Revenue from research and development collaborative contracts are recognized based upon the provisions of the agreements.

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.

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

Effective December 31, 1997 the Company adopted 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). Basis 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.

At December 31, 1998 and 1997, outstanding options to purchase 540,561 and 117,076 shares of common stock respectively, with exercise prices ranging from \$1.50 to \$5.50 have been excluded from the computation of diluted loss per share as they are antidilutive. Outstanding warrants to purchase 734,724 and 949,016 shares of common stock, at December 31, 1998 and 1997, respectively, with exercise prices ranging from \$1.50 to \$8.25 were also antidilutive and excluded from the computation of diluted loss per share.

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.

Concentration of Credit Risk

The Company has cash in bank accounts that exceed the FDIC insured limits. The Company has not experienced any losses on its cash accounts. No allowance has been provided for potential credit losses because management believes that any such losses would be minimal.

Accounting for stock based compensation

The Company adopted Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation" (SFAS 123). As provided by SFAS 123, the Company has elected to continue to account for its stock-based compensation programs according to the provisions of Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees." Accordingly, compensation expense has been recognized to the extent of employee or director services rendered based on the intrinsic value of compensatory options or shares granted under the plans. The Company has adopted the disclosure provisions required by SFAS 123.

New accounting pronouncements

On June 1998 the Financial Accounting Standards Board issued Statement of Financial Accounting Standards number 133, "Accounting for Derivative Instruments and Hedging Activities" ("FAS 133"). FAS 133 is effective for all financial statements of all fiscal years beginning after June 15, 1999. FAS 133 requires that an entity recognizes all derivatives as either assets or liabilities in the statement of financial position and measure those instruments at fair value. The accounting for changes in the fair value of derivatives (i.e., gains and losses) depends on the intended use of the derivative and the resulting designations. The adoption of FAS 133 is not expected to have a material impact on the Company's financial statements.

Effective January 1, 1998 the Company adopted Financial Accounting Standard No. 130, "Reporting Comprehensive Income" ("FAS 130"), which required the presentation of the components of comprehensive income in the company's financial statement for reporting periods beginning subsequent to December 15, 1997. Comprehensive income is defined as the change in the company's equity during a financial reporting period from transactions and other circumstances from non-owner sources (including cumulative translation adjustments, minimum pension liabilities and unrealized gains/losses on available for sale securities).

Effective January 1, 1998 the Company adopted Financial Accounting Standards No. 131, "disclosure about Segments of an enterprise and Related Information" ("FAS 131"), which requires disclosure of information about operating segments in annual financial statements for reporting period beginning subsequent to December 15, 1997. Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The adoption of FAS 131 did not have a material impact on the Company's financial statements.

3. Equipment

Equipment consisted of the following at December 31, 1998 and 1997

	December 31,	
	1998	1997
Laboratory equipment	\$ 865,053	\$ --
Leasehold improvements	618,315	--
Computer equipment	159,380	45,768
Furniture & fixture	291,637	507
	-----	-----
	1,934,385	46,275
Less - Accumulated depreciation	(237,981)	(16,461)
	-----	-----
Equipment, net	\$ 1,696,404	\$ 29,814
	-----	-----

At December 31, 1998 laboratory equipment, computer equipment and furniture includes approximately \$730,500, \$117,000 and \$291,600, respectively, of equipment acquired under capital leases. Accumulated depreciation related to such equipment approximated \$100,000, \$275,000 and \$24,200, respectively, for laboratory equipment, computer equipment and furniture.

4. Stockholders' Equity

In September and October 1997, The Company completed an initial public offering of 2,875,000 shares of its common stock at an offering price of \$5.00 per share. The Company realized gross proceeds of \$14,375,000 and net proceeds, after deducting underwriting discounts and commissions, and other offering expenses payable by the Company, of \$12,179,609.

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. In October 1998, the Company increased the number of options to purchase the Company's common shares available for grant under the plan to 833,333. 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 before its initial public offering in September 1997, was determined by a committee of the Board of Directors. The committee was comprised entirely of employees who receive stock options under the Plan.

Transactions under the Plan are summarized as follows:

	Number of Shares	Weighted Average Exercise Price
Outstanding at December 31, 1995	--	--
Granted	50,001	\$2.00
Outstanding at December 31, 1996	50,001	2.00
Granted	67,060	5.03
Outstanding at December 31, 1997	117,061	3.74
Granted	556,834	3.98
Forfeited	(133,334)	4.14
Total outstanding at December 31, 1998	540,561	\$3.88
Options available for future grant	292,772	
Weighted average fair value of options granted during 1997	\$ 2.18	
Weighted average fair value of options granted during 1998	\$ 2.45	

The following table summarizes information about options outstanding at December 31, 1998:

Exercise Price	Options Outstanding			Options Exercisable	
	Number Outstanding at December 31, 1998	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number Exercisable at December 31, 1998	Weighted Average Exercise Price
\$ 1.50	33,334	7.00	\$ 1.50	33,334	\$ 1.50
2.00-4.66	306,834	9.46	3.41	46,334	4.14
5.00-5.50	200,393	5.56	5.01	120,393	5.01
	540,561			200,061	

In May 1998, the Company granted a consultant options to purchase 5,000 shares of the Company's common stock, at an exercise price of \$4.25. The Company recognized non-cash compensation expense of \$15,655 for the year ended December 31, 1998 based upon the fair value of such options on the date of the grant.

On June 1998 the Company granted a consultant options to purchase 150,000 shares of the Company's common stock at an exercise price of \$5.00 per share. 50,000 options vested

immediately, and the remaining 100,000 vest pro rata over a period of ten quarters. The Company recognized non-cash compensation expense of \$102,340 for the year ended December 31, 1998 based upon the fair value of the options on the date of the grant.

In November 1996, the Company entered into an employment agreement with its former 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 10). These warrants expire on November 18, 2006. Upon termination of the employment agreement on April 21, 1998, 230,508 warrants were surrendered to the Company.

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 years ended December 31, 1998 and 1997, compensation expense of \$14,407 and \$57,627, respectively, has been recognized for warrants issued to employees. During the year ended December 31, 1997 the Company recognized compensation expense of \$3,452 for options issued pursuant to its stock-based compensation plan. Compensation expense was 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 SFAS 123 the Company's net loss and loss per share have been increased by approximately \$199,000, or \$.03 per share for the year ended December 31, 1998, and approximately \$146,000, or \$0.3 per share for the year ended December 31, 1997.

In connection with the issuance of bridge notes (the "Bridge Notes") in the aggregate principal amount of \$1,000,000 in January and February 1997, the Company issued the holders of the Bridge Notes five-year warrants to purchase an aggregate of 100,000 shares of common stock at an exercise price of \$5.00 per share, pursuant to warrant agreements entered into by the Company and the investors. The warrants are not exercisable until September 1998. The fair value of the warrants, in the amount of \$133,000, issued by the Company in connection with the bridge financing, was recorded as debt discount and was amortized over the six month term of the Bridge Notes.

In September 1997, the Company issued two of its directors warrants to purchase an aggregate of 3,000 shares of its common stock, at an exercise price of \$5.00 per share. The warrants are exercisable on the first and second anniversaries of the agreements, on a pro rata basis. The Company has recognized non-cash compensation expense of \$7,503 for the year ended December 31, 1997, based upon the fair value of such warrants on the date of grant.

In September 1997, in connection with the Company's IPO, the Company issued the underwriters warrants to purchase 225,000 shares of common stock at an exercise price of \$8.25 per share. All the warrants, which have a term of five years, are exercisable at December 31, 1998.

In January 1998 the Company issued warrants to purchase 16,216 shares of the Company's common stock, at an exercise price of \$4.60 per share. The Company recognized non-cash compensation expense of \$57,875 for the year ended December 31, 1998 based upon the fair value of such warrants on the date the grant.

The fair value of the options and warrants granted to employees and consultants during 1998 and 1997 ranged from \$.81 to \$3.47 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 5.06% to 6.26% based on the date of the respective grant, (c) no forfeitures, (d) an expected life of three to five years and (e) a volatility factor of 0% prior to the date of initial filing of the Company's IPO, 65% for the remainder of 1997 and 100% for 1998.

5. Income Taxes

The Company has incurred losses since inception which have generated net operating loss carryforwards of approximately \$5,800,000 and \$2,000,000, respectively, at December 31, 1998 and 1997 for federal and state income tax purposes. These carryforwards are available to offset future taxable income and expire in 2011 and 2013 for federal income tax purposes. As a result of a previous change in stock ownership, the annual utilization of the net operating loss carryforwards is subject to limitation.

The net operating loss carryforwards and temporary differences, arising primarily from deferred research and development expenses, and noncash compensation expense, result in a noncurrent deferred tax asset at December 31, 1998 and December 31, 1997 of approximately \$4,343,000 and \$1,662,000 respectively. In consideration of the Company's accumulated losses and the uncertainty of its ability to utilize this deferred tax asset in the future, the Company has recorded a valuation allowance of an equal amount on such date to fully offset the deferred tax asset.

For the year ended December 31, 1998 and December 31, 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 entered into a consulting agreement, which expired on January 15, 1998, with CSO Ventures LLC ("CSO") under which CSO provided the Company with business development, operations and other advisory services. Pursuant to the agreement CSO was paid an annual consulting fee of \$120,000. Two Executive Vice Presidents of the Company are principals of CSO. During the year ended December 31, 1997 the Company incurred expense of \$120,000 pursuant to the agreement.

In 1998 the Company entered into a two year consulting agreement, expiring January 15, 2000, with Prism Ventures LLC ("Prism") under which Prism is to provide the Company business development, operations and other advisory services. Pursuant to the agreement Prism is to receive an annual consulting fee of \$150,000 and an annual stock option grant to purchase 16,667 of the Company's common shares. The Chief Executive Officer and Chairman of the Company are principals of Prism. In October 1998 the Company and Prism agreed to suspend the agreement for as long as the two principals are employed by the Company under the provisions of their amended employment agreements. During the year ended December 31, 1998, the Company incurred expense of \$112,500 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 \$81,570 and \$77,831 for the years ended December 31, 1998 and 1997, respectively.

Employment agreements

The Company had employment agreements, expiring in December, Chief Executive Officer and Chairman ("EVPS"), who are principal shareholders of the Company, CSO and Prism, under which the EVPS were each 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.

In September 1998 the Company and the EVPS entered into amended employment agreements commencing October 1, 1998 and expiring on December 31, 2000. Under the amended agreements, the EVPS are each to be paid an annual minimum compensation of \$225,000, and to be granted a minimum of 16,666 options to purchase shares of the Company's common stock per

annum. In addition, one EVP was appointed as the Company's Chairman and the other was appointed as the Chief Executive Officer. The Company incurred \$352,002 and \$309,231 of expense for the years ended December 31, 1998 and 1997, respectively, pursuant to these agreements.

7. Technology Purchase Agreement

In February 1998, the Company entered into an agreement with a third party pursuant to which the Company acquired the third party's right to certain technology, intellectual property and related rights in the field of gram negative antibiotics in exchange for 335,530 share of the Company's common stock. Research and development expense related to this agreement amounted to \$1,457,458 for the year ended December 31, 1998.

8. Collaborative Research and License Agreement

In July 1997, the Company entered into a collaborative research and license agreement with a 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 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 \$3,250,000 for the second product developed from a single compound derived from the licensed technologies. Such milestone payments are contingent upon the Company making project milestones set forth in the agreement, and, accordingly, if the Company is unable to make such milestones, the Company will not receive such milestone payments. During 1998 and 1997, the Company recognized \$450,000 and \$675,000, respectively, in revenue related to this agreement.

9. License and Research Support Agreements

In February 1998, the Company entered into a research collaboration and license agreement with a third party. 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 technology, in exchange for royalty payments equal to a certain percentage of net sales of products incorporating the licensed technology, and certain milestone payments. In addition, the Company agreed to sponsor further research by the third party for the development of the licensed technologies in the amounts of approximately \$187,000, \$387,000 and \$403,000, for the years ending December 31, 1998, 1999 and 2000. The Company incurred sponsored research expense of approximately \$187,000 during the year ended December 31, 1998.

In October 1997, the Company entered into an agreement with a third party for the sale and assignment of certain patent rights to the Company. In exchange for the patent rights, the Company agreed to pay \$50,000 upon the signing of the agreement and up to \$400,000 upon the achievement of certain milestones specified in the agreement. The Company has also granted the third party a royalty free license to use and sell products derived from the patent rights in certain countries. In addition, the Company has agreed to reimburse the third party, up to \$50,000, for patent expenses incurred prior to the execution of this agreement. For the year ended December 31, 1997, the Company has recorded \$100,000 of patent expense related to this agreement. The Company did not incur any expenses under this agreement during 1998.

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 agreement expired in January 1998, however, the Company has continued its relationship with the third party under similar terms. Sponsored research related to this third party amounted to \$362,500 and \$360,000 for the years ended December 31, 1997 and 1998, respectively. 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 \$183,322 for the years ended December 31, 1996 and 1997, respectively.

10. Commitments and Contingencies

Employment agreement

In November 1996, the Company entered into an employment agreement, expiring in November 1999, with its former 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). During the years ended December 31, 1998 and December 31, 1997, the Company incurred \$77,050 and \$231,923, respectively of expense pursuant to the agreement. The agreement was terminated on April 21, 1998.

Operating lease commitments

The Company leases certain facilities and office space under operating leases. Minimum future rental commitments under operating leases having noncancelable lease terms in excess of one year are as follows:

Year ended December 31,	
1999	228,990
2000	231,789
2001	234,672
2002	237,640
2003 and thereafter	201,851

	\$ 1,134,942

Capital lease commitments

In July, August and September 1998, the Company sold certain laboratory equipment, computer equipment and furniture to a third party for \$493,329, \$385,422 and \$260,333, respectively, under sale-leaseback agreements. The leases have term of 42 months and require minimum monthly payments of \$13,171, \$10,290 and \$6,950, respectively. The Company has an option to purchase the equipment at 15% of the original cost at the end of the lease term. Future minimum lease payments for assets under capital leases at December 31, 1998 are as follows:

Year ended December 31,	
1999	364,933
2000	364,933
2001	364,933
2002	34,480

Total minimum lease payments	1,129,279
Less: amounts representing interest	109,332

Present value of future minimum lease payments	1,019,947

Less: current portion of capital lease obligations	\$ 369,388

Capital lease obligations, net of current portion	\$ 650,659

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3,452,916

0

550,057

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(4,663,347)

(0.15)

(0.15)