CIPHERGEN BIOSYSTEMS INC
Form 10-K405
April 01, 2002

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT UNDER SECTION 13 or 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

(Mark One)

ý **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 2001**

OR

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

Commission file number: 000-31617

CIPHERGEN BIOSYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**33-059-5156**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

Ciphergen Biosystems, Inc.
6611 Dumbarton Circle
Fremont, CA 94555
(510) 505-2100

(Address, including zip code, of registrant's principal executive offices and telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: none

Securities registered pursuant to Section 12(g) of the Act: Common Stock, $0.001 par value

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 ý No o

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. ý

The aggregate market value of voting stock held by non-affiliates of the Registrant was approximately $94.9 million as of March 15, 2002, based upon the closing price on the Nasdaq National Market reported for such date. This calculation does not reflect a determination that certain

persons are affiliates of the Registrant for any other purpose. The number of shares outstanding of the Registrant's common stock on March 15, 2002 was 27,059,738 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement for its 2002 Annual Meeting of Stockholders (the "Proxy Statement"), to be filed with the Securities and Exchange Commission, are incorporated by reference to Part III of this Form 10-K Report.

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PART I

We have made statements under the captions "Factors That May Affect Our Results," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Business" and in other sections of this Form 10-K that are forward-looking statements. You can identify these statements by forward-looking words such as "may," "will," "expect," "intend," "anticipate," "believe," "estimate," "plan," "could," "should" and "continue" or similar words. These forward-looking statements may also use different phrases. We have based these forward-looking statements on our current expectations and projections about future events. Examples of forward-looking statements include statements about: projections of our future results of operations or of our financial condition; deployment, capabilities and uses of our products; product development and product innovations; the importance of proteomics as a major focus of biology research; the ability of our products to enable proteomics research; the rapidly growing market for protein purification products; the expansion of our product portfolio; increasing the size of our sales and marketing organization; collaborations and partnerships; establishment of Biomarker Centers ; securing commercial rights to biomarkers discovered at our Biomarker Centers; expansion of our intellectual property portfolio; anticipated trends in our business; revenue growth; future sales volumes for consumables; increasing costs, including sales and marketing, research and development, and general and administrative costs; anticipated future losses; expected levels of capital expenditures; expansion of our business using the recently-acquired BioSepra business; increased manufacturing efficiencies and a corresponding decline in cost of revenue as a percentage of revenue; the development of improved products; the outcome of legal proceedings; the period of time for which our existing financial resources and interest income will be sufficient to enable us to maintain current and planned operations; and the market risk of our investments. These statements are subject to risks and uncertainties that could cause actual results to differ materially, including the risks set forth under the caption "Factors That May Affect Our Results" in this Form 10-K and the risks outlined in our other filings with the SEC. We believe it is important to communicate

our expectations to our investors. However, there may be events in the future that we are not able to accurately predict or that we do not fully control that could cause actual results to differ materially from those expressed or implied in our forward-looking statements.

ITEM 1. BUSINESS

Overview

We develop, manufacture and market our ProteinChip® Systems, which use patented Surface Enhanced Laser Desorption/Ionization ("SELDI") technology. The ProteinChip Systems enable protein discovery, characterization and assay development to provide researchers with a better understanding of biological functions at the protein level. Protein characterization is the determination of the detailed identity of a protein, including its sequence as predicted by the corresponding gene and any chemical modifications introduced after the protein is produced. Assay development is the simplification and optimization of a set of procedures to develop a method for detecting and quantifying a specific protein. Our ProteinChip Systems are novel, enabling tools in the emerging field of protein-based biology research, known as proteomics. While recent technological advances in DNA tools have substantially changed the field of genomics, the absence of enabling protein analysis tools has limited progress in proteomics research. Proteomics provides a direct approach to understanding the role of proteins in the biology of disease, monitoring disease progression and the therapeutic effects of drugs. We believe proteomics will be a major focus of biological research by enhancing the researcher's understanding of gene function and the molecular basis of disease. In May 1999, we commercially launched the ProteinChip Biology System. We currently market and sell the ProteinChip System family of proteomics research equipment, including: (i) the ProteinChip Biology System, a versatile system for protein analysis; (ii) the ProteinChip Biomarker System, a system including Biomarker Patterns Software for advanced protein expression profiling; (iii) the ProteinChip Tandem MS Interface for advanced identification work using tandem mass spectrometry; (iv) automation accessories such as the

Biomek® 2000 Workstation to facilitate sample handling and increase throughput; and (v) associated accessories. We also provide associated SELDI technology contract research services through our Biomarker Centers to foster further adoption of our products and technology as an industry standard and to generate revenue by obtaining some combination of fees and commercial rights related to biomarkers discovered in our Biomarker Centers in consideration for research services.

With the acquisition of the BioSepra process chromatography business from Invitrogen Corporation on July 31, 2001, Ciphergen has also entered the protein purification market. Located near Paris, France, BioSepra develops, manufactures and sells chromatography sorbents for large-scale purification of proteins. Ciphergen and BioSepra have been integrating their respective sales and marketing organizations, and have initiated a joint development program for a line of products to address process proteomics, an emerging market driven by pharmaceutical company demand to produce proteins for research, development and therapeutic manufacturing purposes. Ciphergen believes BioSepra's protein chromatography products, combined with Ciphergen's ProteinChip System, will create a novel approach to protein purification and address a significant bottleneck in the field of proteomics.

Ciphergen Biosystems, Inc. was originally incorporated in California on December 9, 1993 under the name Abiotic Systems. In March 1995, we changed our corporate name to Ciphergen Biosystems and in June 2000, we reincorporated in Delaware.

Industry Background

Genes are the hereditary coding system of living organisms. Genes encode proteins that are responsible for cellular functions. The study of genes and their functions has led to the discovery of new targets for drug development. The majority of drug targets are proteins, such as receptors, hormones and enzymes. Although genomics allows researchers to identify drug targets, it does not provide complete information on how these targets function within an organism. Industry sources estimate that within the human genome there are approximately 30,000 genes. The initial structure of a protein is determined by a single gene. The final structure of a protein is frequently altered by interactions with additional genes or proteins. These subsequent modifications result in hundreds of thousands of different proteins. In addition, proteins may interact with one another to form complex structures that are ultimately responsible for cellular functions.

Genomics allows researchers to establish the relationship between gene activity and disease. However, many diseases are manifested not at the genetic level, but at the protein level. The complete structure of modified proteins cannot be determined by reference to the encoding gene alone. Thus, while genomics provides some information about diseases, it does not provide a full understanding of disease processes.

The Relationship Between Proteins and Diseases

The entire genetic content of any organism, known as its genome, is encoded in strands of deoxyribonucleic acid, or DNA. Cells perform their normal biological functions through the genetic instructions encoded in their DNA, which results in the production of proteins. The process of producing proteins from DNA is known as gene expression or protein expression. Differences in living organisms result from variability in their genomes, which can affect the levels of gene expression. Each cell of the organism expresses only approximately 10% to 20% of the genome. The type of cell determines which genes are expressed and the amount of a particular protein produced. For example, liver cells produce different proteins from those produced by cells found in the heart, lungs, skin, etc. Proteins play a crucial role in virtually all biological processes, including transportation and storage of energy, immune protection, generation and transmission of nerve impulses and control of growth.

Diseases may be caused by a mutation of a gene that alters a protein directly or indirectly, or alters the gene's level of protein expression. These alterations interrupt the normal balance of proteins

and create disease symptoms. A protein biomarker is a protein that is present in a greater or lesser amount in a disease state versus a normal condition. By studying changes in protein biomarkers, researchers may identify diseases prior to the appearance of physical symptoms. Researchers identify proteins by their molecular weight. In addition, researchers can utilize protein biomarkers to identify new disease pathways to be used as drug targets. Disease pathways are groups of interacting proteins that lead to disease if any one or more of the proteins is altered. Historically, researchers discovered protein biomarkers as a byproduct of basic biological disease research. This has resulted in the validation by researchers of approximately 200 protein biomarkers that are being used in commercially available clinical diagnostic products. The development of new diagnostic products has been limited by the complexity of disease states, which may be caused or characterized by several or many interacting proteins. Diagnostic products that are limited to the detection of a single protein may lack the ability to detect more complex diseases, and thus produce results that are unacceptable for practical use. In recent years, the National Institutes of Health, or NIH, has recognized the importance of protein biomarkers in overcoming this problem and their usefulness in the development of new diagnostic and therapeutic products. The NIH has established a grant program (The Early Detection Research Network) to fund the discovery and clinical validation of new protein biomarkers.

Limitations of Available Technologies for Proteomics Research and Protein Purification

Efforts to understand biology and to improve the diagnosis, monitoring and treatment of diseases have been dramatically enhanced through advancements in modern genomic technologies. These new technologies have formed the basis for the development of new analytical tools, which are primarily directed at DNA and genomic analysis, but are not applicable to protein research or proteomics. These new tools have accelerated the ability to sequence and analyze the human genome. Historically, researchers used gel electrophoresis as a primary tool for sequencing DNA. Gel electrophoresis measures how far a DNA fragment migrates through the pores of gels in response to an applied electric field over a fixed time interval. Electrophoresis is a time-consuming, manual process that requires large amounts of pure DNA to be useful. The development of polymerase chain reaction, or PCR, allowed researchers to amplify, or produce multiple copies of a fragment of DNA. Researchers could then enhance the signal of trace amounts of DNA from an unprocessed biological sample, such as tissue or blood, to a level where measurement was possible. Successive advances in technologies have produced faster, automated sequencing machines and new, biochip-based technologies. These new technologies have dramatically improved the throughput and accuracy of DNA analysis. In addition, these new technologies have reduced costs by increasing automation and reducing necessary labor.

Although recent technological advances have benefited genomics, there have been fewer significant advances in proteomics. While DNA has been relatively simple to study because of its ease of detection and linear structure, protein analysis has been a far more difficult challenge. The goal of proteomics is to determine the structure and function of proteins. Researchers use techniques such as tagging, amplification and sequencing to analyze DNA, but researchers cannot use these techniques effectively to study proteins. These techniques can change the structure of proteins and may change their characteristics or function, which would limit researchers' ability to identify and analyze samples. In addition, these techniques do not allow researchers to monitor or study how proteins interact, or to identify which proteins interact together, to perform biological functions.

Currently, researchers perform proteomics research using gel electrophoresis and other protein purification and analysis products. These tools require substantial, labor-intensive sample preparation processes to enable researchers to produce enough purified proteins before identification and analysis can occur. In addition, these tools must be operated by researchers with substantial technical expertise. As a result, proteomics research has not advanced at a rate comparable to that of genomics. New tools are needed that are specifically designed to allow researchers to analyze proteins to enable protein biomarker discovery, to fully understand biological pathways and function, and ultimately to accelerate the discovery of new drugs and clinical diagnostics. Moreover, there is a bottleneck in the rapid

purification of proteins from either native biological sources or from "gene to protein," biologically-manufactured proteins. Scientists must obtain proteins of interest from such sources in large quantities for basic research studies, drug discovery and development. In addition, the increasing number of biological therapeutics and monoclonal antibodies in clinical trials and in pre-clinical development is creating a major shortage in production capacity for such products and an increased need to improve large scale purification methods. Thus, there is a rapidly growing market for protein purification products extending from benchtop research to large-scale manufacturing.

The Ciphergen Solution

We develop, manufacture and market our ProteinChip Systems using patented SELDI technology. The ProteinChip Systems enable protein biomarker discovery, characterization and assay development. Our ProteinChip Systems integrate the key steps of proteomics research on a single, miniaturized biochip. Our ProteinChip Systems incorporate patented Surface-Enhanced Laser Desorption/Ionization, or SELDI, technology on the surface of a consumable biochip, which allows researchers to capture and analyze proteins directly. Our ProteinChip Systems enable rapid, reproducible, on-chip protein expression and protein analysis from complex biological samples, such as whole blood, tissue or saliva, without separation, tagging and amplification processes and with minimal prior purification. SELDI enables protein detection and quantification by reducing signals from unwanted biomolecules that would otherwise obscure the measurement results.

We believe our ProteinChip Systems enable researchers to identify and quantify proteins by direct molecular weight detection and measurement. Researchers can add chemicals or enzymes at any step during the process to greatly enhance the detailed knowledge gained from a set of experiments. We believe the integration of these processes enables a researcher to rapidly discover, characterize and assay proteins directly from biological samples, providing a novel technique for protein discovery and analysis compared to currently available methods. We believe our ProteinChip Systems can enable protein research in the following areas:

Differential Protein Expression. Our ProteinChip Systems are designed to enable biology researchers to rapidly conduct studies in differential protein expression. Differential protein expression is the comparison of proteins expressed in different, usually related, biological samples, such as blood serum from a diseased individual and blood serum from an individual without that disease. The differences include both differences in the identities of the collection of proteins present in the samples, and differences in the amounts of a particular protein present in both samples. Proteins that are either present in one sample and absent in the other, or present at different relative levels in both samples, are potential protein biomarkers of the disease. Further research may validate the use of potential protein biomarkers for the diagnosis of the disease or as targets for the discovery of drugs to treat the disease. In addition, the information derived from our ProteinChip Systems enables scientists to compare genetic message information derived from DNA biochips, or miniaturized biochips containing DNA, to protein information, in order to better define protein function. Expression studies and protein discovery that previously were impossible to conduct or took months or years can be performed on our ProteinChip Systems in days or even hours. By quickly analyzing statistically significant numbers of samples, biomarker candidates can be validated. Researchers can use quantitative assays of proteins developed from differential protein expression to diagnose and monitor disease.

Protein Characterization. Once a potential protein biomarker is identified, a usual next step is the characterization of the protein. Protein characterization is the process of determining the identity of the protein and/or characterizing aspects of its physical structure. Using our ProteinChip Systems, biology researchers can purify a rare protein from a crude biological sample in hours, a process that required days or weeks with traditional methods. Researchers can then determine the identity of the protein. This process can involve, for example,

determining a fragment pattern for the protein (produced, for example, by treatment with enzymes) with our ProteinChip Systems, and comparing this pattern with fragment patterns of proteins identified in publicly available protein and genomic databases. Based on this comparison, the researcher may be able to identify the protein in the database that corresponds to the experimental protein. Identifying a protein can provide the researcher with information useful in understanding the biology of the sample being studied. Identifying the gene from which the protein originates can provide useful structural or processing information. Also, researchers can characterize aspects of the physical structure of a protein using our ProteinChip Systems to perform enzymatic-, chemical- or antibody-based tests or assays. Such assays may reveal, for example, whether the protein has been modified after production. Protein modification can indicate changes in protein function, which may be important to the particular disease under study.

Quantitative Assay of Proteins and Protein Interactions. Once a protein biomarker has been identified and characterized, the researcher may want to develop assays based on the protein. One such assay is the routine detection of the protein and

determination of its amount in a sample. This is a quantitative assay. It is useful, for example, in diagnostic assays for the severity or stage of a disease. Another assay is a test of protein interactions between the biomarker and other proteins. This assay is useful in tests of the biological function of the protein that may be important for its role in disease. This assay is also useful in drug discovery to identify drug candidates that interfere with protein interaction. Our ProteinChip Systems enable the researcher to perform quantitative and protein interaction assays by selecting a limited number of chemical or biochemical surfaces and optimizing the conditions for a particular type of assay. We believe assay simplification will speed functional validation of discovered biomarkers for both diagnostic and drug discovery applications. Currently, researchers take many weeks or months to accomplish this process using conventional technologies. We believe our ProteinChip technology can reduce this process to days or even hours.

Novel, High-Speed Protein Purification and Production. Researchers seek rapid purification of proteins from either native biological sources or from "gene to protein," biologically manufactured proteins in order to conduct basic research. Drug developers need to obtain large quantities of proteins of interest for target discovery, validation and large-scale production of therapeutics. Ciphergen's ProteinChip Systems, through the application of gradient wash conditions to the chromatographic surfaces of these arrays which produces a step-wise elution of retained compounds, may allow "on-chip" optimization and purification of proteins in hours or days versus weeks or months using existing methodologies. The "on-chip" optimization method is akin to that accomplished while utilizing columns for liquid chromatography (LC) separations but the method allows for purification using only microliters of biological sample versus milliliters of biological sample, and it is thus particularly useful as "predictive protein chromatography" in large scale production. Ciphergen's new method of purity analysis is called ProteinChip Retentate Chromatography Mass Spectrometry (RC-MS). Moreover, with the acquisition of BioSepra, Ciphergen can also now offer BioSepra® sorbents and chromatography products and services in the application of "predictive protein chromatography" or scaling up of the "on-chip" optimization and purification process achieved using RC-MS.

Our Market Opportunity

There are several types of laboratories that perform proteomics research and development. We believe our ProteinChip System and BioSepra chromatography products can enable proteomics research in the following markets:

Basic Biology Research. Basic biology research laboratories focus on the study of general biological processes and the understanding of the molecular basis of disease. There are over

320,000 scientists from academic and government research institutions pursuing this research worldwide. Most of the techniques used by researchers in basic biology research to study proteins are labor intensive or have limited analytical capabilities. We believe that the ease of use and problem-solving versatility of our ProteinChip Systems may enable biologists to perform proteomics research at their workstations in the laboratory.

Clinical Research and Diagnostics. Clinical research is focused on associating clinical disease symptoms to changes in certain proteins in the disease state versus in the normal state. In doing so, researchers seek to identify biomarkers, many of which are proteins, that can be used to diagnose diseases early, assess treatment response and monitor treatment progress. Currently, physicians pursuing clinical research lack a flexible, integrated, standardized tool to perform protein biomarker discovery. We believe that our ProteinChip Systems may enable researchers to rapidly discover protein biomarkers and to develop these biomarkers into clinical diagnostic tests.

Pharmaceutical Drug Research and Development. A current bottleneck in drug research is secondary screening, during which drug lead candidates are validated by researchers using complex biological assays in which markers are used to assess biological responses to varying compounds, dose levels and conditions. Current assay systems often have poor specificity, are usually labor intensive and require substantial development time. In addition, over 50% of drug development failures now occur in toxicology, or the study of the negative or harmful effects of a drug, in which the availability of useful data is hampered by similar issues. We believe a lack of protein biomarkers currently limits the ability of researchers to adequately evaluate drug target function, cell pathway analysis and toxicological and therapeutic effects throughout the drug development process. We believe our ProteinChip Systems can substantially improve preclinical development and clinical trial effectiveness by greatly expanding the use of protein biomarkers.

Pharmaceutical Production Process. Another current bottleneck appears in drug development and production. The most popular current method for preparative separation of proteins is liquid chromatography (LC). In LC, solid sorbents, which have complementary physicochemical properties to proteins of interest, are employed for selective adsorption. To design an LC protein separation process is not a trivial operation, however, but rather a relatively long and systematic task built essentially on a trial and error approach. The application of our ProteinChip System the RC-MS method is a rapid alternative method that consumes minimal sample yet predicts optimal separation conditions for large scale LC purification of proteins from complex biological matrices. Furthermore, we can offer our BioSepra process development chromatography products and services in the actual large scale application of the preparative protein separation conditions as determined using our ProteinChip Systems.

Business Strategy

We intend to establish our ProteinChip Systems as the enabling technology platform for protein biomarker discovery and proteomics research in the basic biological research, clinical research and diagnostics, and pharmaceutical drug discovery and development process markets. Key elements of our strategy are to:

Accelerate Awareness and Acceptance of Our ProteinChip Systems. We intend to focus on expanding the installed base of our ProteinChip Systems with leading academic, government, pharmaceutical and clinical research laboratories to promote awareness and acceptance of our technology. In addition, we will support the use of our ProteinChip Systems through customer education and training as well as customer collaborations to increase the applications and use of our ProteinChip Arrays. Further, we intend to pursue commercialization of our products through

our own sales and marketing organizations in North America, Europe and China, and through distributors in other parts of the world, including through our joint venture with Sumitomo Corporation in Japan and through sales representatives covering Australia, Israel, Korea, Malaysia, New Zealand and Singapore.

Expand Product Development and Innovation. We intend to expand the scope of our product portfolio by continuously developing new products and applications based on our ProteinChip technology. We believe that by expanding the applications of our technology and products and increasing their functionality, we will promote the use and acceptance of our ProteinChip Systems by biology researchers. The ProteinChip products we are currently attempting to develop include next generation products to further automate and increase the throughput capacity of the protein analysis process, high performance proteomics systems and more compact versions of our proteomics systems that can be used by researchers in the laboratory.

Establish and Operate Biomarker Centers . Both directly and through partnerships, we intend to continue establishing and operating our Biomarker Centers, which provide SELDI technology-based research services. By performing contracted research projects and engaging in research collaborations, we intend not only to foster further adoption of our products and technology as an industry standard, but also to generate revenue by obtaining some combination of fees and commercial rights related to biomarkers discovered in our Biomarker Centers in consideration for research services. We believe that these biomarker discoveries, which may have diagnostic and/or therapeutic utility, could be our way of directly participating in predictive medicine. We believe that our Biomarker Centers may accelerate biomarker discovery and validation in both pharmaceutical drug discovery, toxicology and clinical trials, and in clinical research laboratories. We plan to deploy the prototypes of our next-generation ProteinChip Systems to maintain a technological advantage in our Biomarker Centers.

Expand into the Process Proteomics Market. We intend to leverage the use of RC-MS and ProteinChip Systems to promote BioSepra's business of chromatography sorbents for large scale purification of proteins. Ciphergen and BioSepra have been integrating sales and marketing, and have initiated a joint development program for a line of products to address process proteomics, an emerging market driven by pharmaceutical company demand to produce proteins for research, development and therapeutic manufacturing purposes.

Expand Our Intellectual Property Portfolio. We include many issued, allowed and pending patents on the SELDI technology, the ProteinChip Systems and BioSepra sorbents in our current patent portfolio and intend to expand this portfolio in several areas of technology related to our business, including applications of SELDI technology, biomarker discoveries and sorbent technology. We intend to continue to develop our proprietary technologies and proprietary infrastructure in support of our existing SELDI technology, ProteinChip Systems and BioSepra sorbents. For example, we intend to develop new surface chemistries for our ProteinChip Arrays, enhancements to our ProteinChip Readers and advances in our analysis and database ProteinChip Software, in order to broaden the range of applications and opportunities that researchers can address. We intend to continue to license and acquire technologies from others that complement our core capabilities and protect our proprietary technologies with patents and trade secrets.

Our ProteinChip Technology

Our ProteinChip technology is based on SELDI, which combines laser-based molecular weight detection with the use of a chemically or biochemically active biochip array surface constructed from proprietary-treated metal. Our ProteinChip technology enables researchers to apply a crude biological sample, such as whole blood or tissue, directly to the surface of a ProteinChip Array. These ProteinChip Arrays are designed to select desired proteins from the sample through affinity capture, which employs chemical processes or biochemical targets such as receptors, antibodies or DNA probes. Researchers then wash away the remainder of the unused sample with a variety of solutions with varying stringency conditions, depending on the type of test performed. This enhances the signal of the proteins of interest on the biochip by reducing signals from unwanted biomolecules that would otherwise obscure the measurement results. The purified sample proteins remain evenly distributed on the surface of the ProteinChip Array. This even distribution allows the researcher to accurately measure and quantify the proteins.

The researcher then places the ProteinChip Array in a specially developed laser-based, molecular weight detection analyzer, or ProteinChip Reader. The ProteinChip Reader uses a laser beam to release the retained proteins from the ProteinChip Array surface. The ProteinChip Reader accelerates the retained proteins and guides them through a flight tube under vacuum to a detector. The time of this flight is directly related to the exact molecular weight of each protein. This process allows the molecular weight of a sample protein to be determined by the researcher.

The researcher generates protein expression profiles by examining the samples collected with different affinity-based ProteinChip Arrays or different stringency washes, and collecting the information under the different conditions. Using our ProteinChip Systems, researchers can compare protein expression profiles from different samples, such as disease versus normal states and display differences in the proteins expressed. Proteins that are differently expressed in the disease versus normal state may be new, potentially relevant protein biomarkers. Researchers can then process proteins of interest on-chip to:

obtain sequence identification;

detect secondary modifications of proteins;

identify protein interactions; and

quantitatively measure protein concentrations.

Our ProteinChip Systems

In May 1999, we commercially launched the ProteinChip System, Series PBS II, which we now refer to as the ProteinChip Biology System. It consists of consumable ProteinChip Arrays containing chemical or biochemical binding sites on a biochip, a ProteinChip Reader to read the ProteinChip Arrays, and our proprietary ProteinChip Software to analyze and manage protein-based information.

In December 2001, we announced the introduction of the new ProteinChip Biomarker System which incorporates Biomarker Patterns Software and ready-to-use profiling kits. The system is designed for advanced protein expression profiling and serves as a versatile clinical proteomics platform for scientists in clinical disease and toxicological research, pharmaceutical research and development, and clinical diagnostics.

Each of the ProteinChip Biology System and the ProteinChip Biomarker System is comprised of some combination of the following components: ProteinChip Arrays, a ProteinChip Reader, ProteinChip Software and Biomarker Patterns Software.

Our *ProteinChip Arrays* are typically used by researchers for protein expression profiling, characterization and quantitative protein interaction applications. Our ProteinChip Arrays consist of a metal surface with multiple sample spots. We treat these spots with our proprietary coatings that are designed to capture certain families of proteins. We can apply single coatings to several spots or we can simply apply multiple types of coatings to spots on one ProteinChip Array to create a variety of selectivity conditions. We offer two standard types of ProteinChip Arrays. One type has ready-to-use chemical surfaces. This type is particularly useful in performing differential protein expression. The other type has pre-activated surfaces that customers use to make their own customized biochemical surfaces. This type is particularly useful in protein interaction studies. We are not required to customize our ProteinChip Arrays to meet client specifications. Researchers use both types of ProteinChip Arrays to perform protein identification and characterization.

Our *ProteinChip Reader* is a laser-based, molecular weight detection system designed for use with our ProteinChip Arrays. We designed our ProteinChip Reader to be used in the laboratory by basic biology researchers. Our ProteinChip Reader consists of a nitrogen laser, high-speed digital electronics, a vacuum system and a standard personal computer with our proprietary ProteinChip Software for system control and data analysis.

Our *ProteinChip Software* is designed to facilitate system operation by biology researchers with no experience in molecular detection systems and minimal experience in protein analysis. The software allows fully automated operation of the ProteinChip Systems with graphic data presentation and analysis readouts in familiar formats for the biologist, such as those displayed by gel electrophoresis systems. Our ProteinChip Software enables differential protein expression analysis by automatically comparing protein profiles and highlighting differences in protein expression. Our ProteinChip Software provides researchers with Internet access for rapid database searches, which facilitates protein identification. Furthermore, our ProteinChip Software allows researchers to perform quantitative protein interaction assays.

Our *Biomarker Patterns Software* is designed to automate pattern recognition-based statistical analysis methods to correlate protein expression patterns from clinical samples with disease phenotypes. This multivariate data analysis software solution addresses a key component of the biomarker discovery process. A major benefit of the ProteinChip platform is in the discovery and correlation of multiple biomarkers in a population of samples to rapidly validate clinical, toxicological and cell pathway pathology. As was the case in the development of DNA array technology, the flood of data produced by the instrument makes informatics tools critical to interpreting the results. The new software package combined with an updated "Biomarker Wizard" module in the core ProteinChip Software package automatically identifies multiple protein peaks that correlate with phenotype differences between samples.

Our *ProteinChip Tandem MS Interface* was introduced in May 2001. The ProteinChip Tandem MS Interface can be affixed to a tandem mass spectrometer (either a QSTAR mass spectrometer or a Q-Tof mass spectrometer) and thereby allow a researcher to gather data regarding a biological sample using both ProteinChip Arrays and tandem mass spectrometry. The ProteinChip Tandem MS Interface allows for biochip-based identification studies, epitope and phosphorylation mapping and protein interaction analyses with a tandem mass spectrometer.

Available exclusively through Ciphergen, we began to sell a customized version of Beckman Coulter's Biomek 2000 Workstation in late 2001. The Biomek 2000 is a device that automates liquid handling when used in combination with Ciphergen's 96- and 192-well ProteinChip Array processors. Sample throughput can be increased by five-fold or more while improving reproducibility using this robotic accessory. In addition, the Biomek 2000 can be used to perform sample fractionation procedures prior to chip binding, thus increasing the number of proteins detected from each sample.

Finally, we offer a number of related accessories, such as bioprocessors, reagents, spin columns and assorted kits designed for proteomics research.

Biomarker Centers

Our Biomarker Centers, which provide SELDI technology-based research services, and which we are operating directly and through partnerships and client relationships, foster further adoption of our products and technology as an industry standard and generate revenue by obtaining some combination of fees and commercial rights related to biomarkers discovered in our Biomarker Centers in consideration for research services. We intend to discover and characterize new protein biomarkers and patterns of biomarkers from biological samples provided by our future collaborators. We believe that our Biomarker Centers may accelerate biomarker and biomarker pattern discovery and validation in pharmaceutical drug discovery, toxicology and clinical trials, and in clinical research laboratories. We intend to deploy the prototypes of each next-generation ProteinChip System and other specialized equipment and software to maintain a technological advantage in our Biomarker Centers. In addition, we intend to obtain commercial rights related to biomarkers discovered in our Biomarker Centers.

We believe that biomarkers and their use in diagnostics are patentable. The Biomarker Centers have established revenue and license generating project contracts with the MD Anderson Cancer Center, the Prostate Cancer Center at Eastern Virginia Medical School, The Johns Hopkins Medical School, five other academic and government institutions, four commercial biotechnology companies and five pharmaceutical companies. These project contracts specify the types of samples that will be analyzed, outline the work to be done and specify a fee and license rights for the project. The centers are also performing discovery and validation work in a number of collaborations aimed at diagnostic and therapeutic products. We have commercialization rights under all of these collaborations.

Our Biomarker Centers perform agreed-upon analyses on customer samples in order to either discover biomarkers and biomarker patterns for a variety of differential classification and predictive purposes, or sequence particular proteins to obtain a probability of match between known and unknown proteins (positive identification), or a determination that the protein has not been previously identified. The terms of a project contract include our quotation of a fee for a specified analysis plan on a defined sample set. We cannot currently estimate the commercial significance of rights to biomarkers that we may acquire. Their value depends on the significance of the discovery made. We intend to be the primary licensee for medical uses of biomarkers discovered under our project contracts. We expect that our Biomarker Centers will extend the analysis capabilities of our customers, thereby increasing awareness of the range of our technologies and thereby increasing sales of our ProteinChip Systems.

While most of our Biomarker Center contracts are fee-for-services arrangements, we also have a funded research and development agreement with the Israel-U.S. Binational Industrial Research and Development Foundation ("BIRD"), which is funding research we are undertaking with Mindsense Biosystems, Ltd., using our SELDI technology to discover potential biomarkers for the diagnosis and monitoring of major depression. Revenue from the BIRD grant is expected to total $450,000 over three years, beginning December 1, 2000. Through December 31, 2001, we had recognized $129,000 of revenue related to the BIRD grant.

We have leased facilities for our Biomarker Centers in Copenhagen, Denmark, in Malvern, Pennsylvania, and as part of our headquarters facility in Fremont, California. We have hired managerial and scientific staff for these facilities and will evaluate the establishment of additional Biomarker Centers in the future.

In communications with us, Molecular Analytical Systems ("MAS") has asserted that the sublicense agreements to the SELDI technology do not extend to our providing services in proteomics

to customers as we currently do, which is part of our Biomarker Center strategy. (See "Legal Proceedings.") We believe that the sublicense agreements do grant us the right to provide services in this manner, and we plan to continue pursuing our Biomarker Center strategy as we attempt to resolve our dispute with MAS. However, if, as a result of litigation, it should be determined that these activities at our Biomarker Centers are beyond the scope of the sublicense agreements, we may be required to cease operation of the Biomarker Centers or significantly alter their activities.

BioSepra and Process Proteomics Business

Ciphergen's BioSepra Process Division has core technical competencies in the area of composite (organic and inorganic) material and biological separation sciences. For over 25 years, they have focused this expertise on the development and use of chromatographic sorbents for large scale manufacturing of natural and recombinant proteins, vaccines and antibodies. BioSepra's composite chromatography sorbents combine very rigid and stable base materials with high binding efficiency hydrogels to yield products that are physically strong and chemically stable with high binding capacity and excellent separation properties. These unique composite sorbents enable biopharmaceutical manufacturers to produce biological drugs fast, reduce operational costs and improve product quality. The broad technology base on which these sorbents are based also allows functionalization for a wide variety of applications.

Among the most recent and promising technologies within the BioSepra Process Division product offering are industrial sorbents based on the use of dual-mode and mixed-mode interactions and "affinity" ligands. The application of these technologies makes it possible to develop unique separation mechanisms which can give customers highly efficient alternatives to traditional methods. Promising new technologies for antibody purification and expanded bed chromatography for the capture of target molecules from unclarified feed streams are also being developed.

Ciphergen's BioSepra Process Division has a wide range of products suitable for biopharmaceutical production. Many of BioSepra's sorbent brands such as SPHEROSIL®, SPHERODEX®, TRISACRYL®, ULTROGEL®, HYPERD® and HYPERCEL® are currently used in the clinical production of biopharmaceuticals, including full scale manufacturing of FDA-registered products in both North America and Europe.

With the acquisition of BioSepra, Ciphergen has also been able to combine chromatography development expertise with SELDI-based ProteinChip technology to begin a new approach to protein purification called "Process Proteomics". This new approach combines the previously separate operations of purification optimization and protein analysis. This single-step, on-chip approach offers the potential to dramatically accelerate and simplify purification development and analysis.

Sales and Marketing

We have developed a direct sales force worldwide. Our sales process involves on-site applications problem-solving, scientific publications, product demonstrations, seminars, exhibits, conventions and meetings, word of mouth, direct mail, advertising and the Internet. We have designed our sales process to increase market awareness of our ProteinChip Systems and promote acceptance of our technology as an industry standard.

Our sales force includes program managers, who all have sales experience, and field research scientists, most of whom have Ph.D. degrees in biology or biochemistry. Generally each program manager works with a team of two to four field scientists. The primary responsibility of the program manager is to manage sales efforts. The primary responsibility of the field research scientist is to provide solutions to biological problems for our customers and sales prospects through applications development, scientific seminars, joint scientific publications with customers and product

demonstrations. In addition, the field research scientists serve as our primary field representatives for after-sales customer service and technical support. We have 16 program managers, including two employed by our joint venture in Japan. We also have 46 field research scientists, including five employed by our joint venture in Japan.

We formed Ciphergen Biosystems, K.K. in Japan in January 1999, as a joint venture with Sumitomo Corporation to distribute our products in Japan. Sumitomo has a majority ownership in the joint venture, with transfer of majority ownership to us to be accomplished, at our option, on a pre-determined formula basis as early as 2002. It is our current intention to exercise our option at this first opportunity, increasing our ownership from 30% to 70% at a cost of approximately $380,000. The joint venture currently has nine employees, consisting of five field research scientists, two program managers and two administrative and support personnel. The joint venture agreement is for ten years from January 1999. We originally invested $315,000 for 30% of Ciphergen Biosystems, K.K. In March 1999, we signed a distribution and marketing agreement granting Ciphergen Biosystems, K.K. the exclusive right to distribute our products in Japan for ten years, and we were paid $315,000 by Ciphergen Biosystems, K.K.

We have also established relationships with sales representatives who cover Australia, Israel, Korea, Malaysia, New Zealand and Singapore.

Our sales and marketing organization as of December 31, 2001, including Ciphergen Biosystems, K.K., consisted of 94 employees, 52 of whom have Ph.D. or M.D. degrees. We intend to continue increasing the size of our sales and marketing organization in North America, Europe, China and Japan over the next 12 months.

Existing Customers

The following is a partial list of our customers, several of which have multiple ProteinChip Systems.

Pharmaceutical and Biotechnology	Academic and Government
Abbott Laboratories	Aaron Diamond AIDS Research Center
Abgenix	Beth Israel Deaconess Hospital
Amgen	Brigham and Women's Hospital
AstraZeneca	British Columbia Cancer Agency
Aventis	Burnham Institute
BASF	Carnegie Institute of Washington
Bayer	Chiba University
Biogen	Cornell Medical School
Bristol-Myers Squibb	Dana Farber Cancer Center
Boehringer Ingelheim	Duke Medical School
Cantab Pharmaceuticals	Emory University
Centocor	Harvard School of Public Health
Cephalon	Imperial Cancer Research Foundation
Creative Biomolecules	Imperial College Prion Unit
DSM Biologics	International Medical Center-Japan
Eli Lilly	Johns Hopkins Medical School
Genentech	Keio University
Genetics Institute	Lawrence Livermore National Laboratories
GlaxoSmithKline	Massachusetts General Hospital
Hisamitsu Pharmaceuticals	Massachusetts Institute of Technology
Human Genome Sciences	MD Anderson Cancer Center
Janssen Pharmaceutica	Medical Research Council (Cambridge)
Matritech	Mount Sinai Medical School
MediGene	Nagoya University
Merck	National Cancer Center-Japan
Monsanto	National Cancer Institute, National Institutes of Health
Neurogenetics	National Institute of Allergy and Infectious Diseases
Novartis	Osaka University
Novo Nordisk	Pasteur Institute
Orion Pharmaceuticals	Riken Brain Science Institute
Pfizer	Rockefeller University
Pharmacia	Royal Free Hospital School of Medicine
Procter & Gamble	St. Mary's Hospital Medical School
Purdue Pharmaceuticals	Stanford University
Quest Diagnostics	Tufts University
Roche	Tulane University Medical Center
Schering-Plough	University of Arizona
Sumitomo Pharmaceuticals	University of California, Los Angeles
Syn-X Pharma	University of Durham
Takeda Chemical	University of Maryland
Tanabe Pharmaceuticals	University of Massachusetts
Wyeth Ayerst	University of Notre Dame
Yamanouchi Pharmaceuticals	University of Southern California
Zeneca Agrochemicals	Virginia Prostate Center
	Wright State University

Chiba University, Takeda Chemical, Sumitomo Pharmaceuticals, Hisamitsu Pharmaceuticals, International Medical Center-Japan, Keio University, Nagoya University, National Cancer Center-Japan, Osaka University, Riken Brain Science Institute, Tanabe Pharmaceuticals and Yamanouchi Pharmaceuticals are customers of our Japanese distributor, Ciphergen Biosystems, K.K. This distributor

accounted for 11% and 5% of our revenue in 2000 and 2001, respectively. No other customer accounted for more than 10% of our revenue in 2000 or 2001.

Research and Development

Our ProteinChip System is a single technology platform, which we believe can be easily optimized for use in multiple markets. This flexibility allows us to rapidly introduce new applications and products from one field to other fields. We have ongoing technology development programs for our ProteinChip Arrays, materials, surface chemistries, high-density biochip formats and manufacturing processes. In applied research, we are developing new applications in differential protein expression, quantitative protein interaction assays and protein characterization. Our research and development efforts related to our ProteinChip Readers includes research in the automation of sample introduction, high-sensitivity detection, improvement in system resolution and quantitation. In addition, we are developing new SELDI-based accessories for high resolution, tandem mass spectrometry, whose capabilities will further enhance our ProteinChip Systems. We have also worked on improvements to the ProteinChip Tandem MS Interface to increase sensitivity significantly when compared to other laser desorption/ionization ("LDI") Qq-TOF devices. Also, we have introduced new matrices for LDI Qq-TOF analysis to extend the utility of this approach.

The acquisition of Biosepra and its related technologies have further allowed us to pursue new chemistry developments. Our research and development efforts have included demonstrations that proteins obtained on our ProteinChip Arrays with certain coatings and biochip surfaces resemble the ones isolated using beads. We seek to promote and improve the prediction of ion exchange separation chromatography conditions using our ProteinChip Systems. We are also working on new developments associating beads and biochips, not only for prefractionation, by also for initiation of protein-protein interaction applications.

In addition to pursuing research and development related to our research tools business, through our Biomarker Centers we are attempting to discover and validate protein biomarkers that may have diagnostic and/or therapeutic utility. These activities are more fully discussed in "Biomarker Centers" above.

Manufacturing

We manufacture our ProteinChip Readers and Arrays in our Fremont, California facility. We rely upon suppliers for certain components of our ProteinChip Systems, including Stanford Research Systems, which also performs specified design services for certain components of our ProteinChip Readers. We perform final assembly and quality control on our ProteinChip Readers at our facility. We purchase extruded aluminum for our ProteinChip Arrays from a third-party supplier. External vendors etch and base coat our ProteinChip Arrays. We apply all chemistries to the ProteinChip Arrays and perform final quality control at our facility. We outsource the manufacture of ProteinChip Tandem MS Interfaces to a contract manufacturer in Reno, Nevada. We develop software for our ProteinChip Systems in-house, and provide multivariate data analysis software through an OEM arrangement with Salford Systems. We supply a robotic accessory for sample processing through an OEM arrangement with Beckman Coulter. We intend to continue and may expand the subcontracting portions of our manufacturing processes when we think it best leverages the suppliers' manufacturing expertise, reduces costs or improves our ability to meet customer demand.

Through our wholly-owned subsidiary BioSepra, we manufacture chromatography sorbents at our facility just outside Paris, France which was built in 1999 and specifically designed for the development and manufacture of sorbents. We procure raw materials from well-established chemical suppliers and from subcontractors for some unique materials. The production is performed according to an ISO 9001-certified quality system following the spirit of cGMP §820 standards that we continuously improve

in response to our customers' recommendations. Manufacturing and quality control are performed according to verified and approved standard operating procedures and the release of each lot is done after a quality assurance review. Plant audits are routinely provided to the QA/QC groups of the world's largest pharmaceutical manufacturers. We intend to continually work toward increasing the volume manufactured and better absorbing our overhead costs.

Intellectual Property

Ciphergen's intellectual property includes a portfolio of owned, co-owned or licensed patents and patent applications. This portfolio increased significantly with Ciphergen's acquisition of BioSepra in July 2001. As of December 31, 2001, our patent portfolio included 27 issued United States patents, 49 pending United States patent applications and numerous pending patent applications and issued patents outside the United States. These patents and patent applications are directed to several areas of technology important to Ciphergen's business including our core SELDI technology and its applications, protein biochips, sorbents, instrumentation, software and biomarkers.

We derive our rights to the core SELDI technology through royalty-bearing sublicenses that Molecular Analytical Systems, Inc. ("MAS") granted to our wholly owned subsidiaries, IllumeSys Pacific, Inc. and Ciphergen Technologies, Inc., and through agreements for the purchase by Ciphergen of IllumeSys Pacific and Ciphergen Technologies stock. MAS holds an exclusive license to certain patents from the owner, Baylor College of Medicine. The MAS sublicenses provide Ciphergen with the exclusive right to practice the Baylor patents and to use all or any part of

the Baylor Patents and certain technology developed by Baylor and by MAS to make, use, sell, offer for sale, and import any instrumentation, device or non-drug consumable, including any information product or any service resulting from such use, for use by customers in the life science, drug discovery and clinical diagnostics laboratory markets worldwide, for laboratory-based products or services for the consumer market, and for purely internal use to develop, make and sell any drug or drug related information. We are obligated to pay MAS a royalty equal to 2% of net revenues that we generate related to each sublicense for four years from the date of first commercial sale, with an annual maximum royalty payment of $500,000 per sublicense. The date of first commercial sale under the sublicense to IllumeSys Pacific was April 1997 and we completed our royalty obligations under that agreement in April 2001. We have the exclusive right to any improvements we make to the SELDI technology and we have filed patent applications on several such improvements.

We are presently engaged in litigation with MAS, LumiCyte, Inc., and T. William Hutchens over the scope of our rights under the MAS sublicenses. In June 2000, MAS claimed that the operation of our Biomarker Centers and use of certain software constituted a material breach of the terms of the MAS sublicenses. MAS also threatened to terminate the sublicenses if the alleged breaches were not cured. We believe that we have not committed any material breach of the sublicense agreements. In July 2000, we filed suit against MAS asking the court, among other things, for a declaration of our exclusive rights to use the licensed technology. The specific facts and the status of this dispute with MAS are more fully described in the Factors That May Affect Our Results and Legal Proceedings sections hereof.

We also hold licenses or options to license biomarkers developed using SELDI technology, the use of these biomarkers and related intellectual property. The institutions and companies from which we hold such licenses or options to license include, among others, Eastern Virginia Medical School, The Johns Hopkins University, The National Institute for Allergies and Infectious Diseases, Pfizer Inc., Aaron Diamond AIDS Research Center and Mindsense Biosystems LTD. Ciphergen's intellectual property portfolio also includes copyrights on our ProteinChip Software. We have a license to improve and sell Biomarker Patterns Software from Salford Systems. Ciphergen's intellectual property portfolio also includes registered U.S. trademarks for, among other things, the name "Ciphergen," the dragonfly logo and the ProteinChip mark.

Competition

Although we believe that we are currently the only company selling and delivering products with an integrated separations and molecular weight detection biochip platform for proteomics research, we expect to encounter intense competition from a number of companies that offer competing products using alternative technologies. We anticipate that competition will come primarily from companies providing products that incorporate established technologies, such as gel electrophoresis, liquid chromatography and mass spectrometry.

In order to compete effectively, we will need to demonstrate the advantages of our ProteinChip Systems over alternative technologies and products. We will also need to demonstrate the potential economic value of our ProteinChip products relative to these alternative technologies and products. Some of the companies that provide these products include the Applied Biosystems division of Applera, the Micromass division of Waters Corporation, Amersham Biosciences, Bio-Rad Laboratories, Bruker Daltonics, Perkin-Elmer, ThermoQuest Corporation and several smaller reagent and equipment companies. Our future success will depend in large part on our ability to establish and maintain a competitive position with respect to these and future technologies.

We offer proteomics services through our Biomarker Centers. Our Biomarker Centers may compete with companies in the proteomics services area. We expect an increasing number of companies to provide proteomics services in the future.

Our BioSepra chromatography business faces competition from established suppliers, most notably Amersham Biosciences but also including Bio-Rad Laboratories, Merck, Millipore, Tosoh and others. Amersham Biosciences is the market leader with a large market share and presence in the production of all U.S. Food and Drug Administration (FDA) recombinant drugs approved to date. Amersham Biosciences has a wide selection of products, manufacturing economics of scale and a highly trained sales force. Our future success will depend on winning over suppliers with superior or specialized process proteomics methods and products.

In many instances, our competitors have or will have substantially greater financial, technical, research, and other resources and larger, more established marketing, sales, distribution, and service organizations than we do. Moreover, competitors may have greater name recognition than we do, and may offer discounts as a competitive tactic. Our competitors may succeed in developing or marketing technologies or products that are more effective or commercially attractive than our products, or that would render our technologies and products obsolete. Also, we may not have the financial resources, technical expertise or marketing, distribution or support capabilities to compete successfully in the future.

Environmental Matters and Laser Regulations

International, federal, state and local requirements relating to the discharge of substances into the environment, the disposal of hazardous wastes, and the sale and use of lasers as part of our ProteinChip Readers may have an impact on our manufacturing operations and sales. We believe that we are in material compliance with applicable environmental and laser and radiological health laws and regulations. To date, compliance with regulatory requirements concerning environmental matters and lasers has been accomplished without material effect on our liquidity or capital resources.

Employees

As of December 31, 2001, we had 229 full-time employees worldwide, including 87 in sales and marketing, 70 in research and development, 40 in manufacturing and 32 in administration. Forty-nine of these employees are employed at BioSepra. Ninety one of our employees have M.D. degrees or Ph.D. degrees in chemistry, biology or biochemistry, and many are experts in software and engineering.

We have also engaged an additional 20 individuals as independent contractors. Ciphergen Biosystems, K.K. in Japan employs nine people. Additionally, they engage three individuals as independent contractors. None of our U.S. employees are covered by a collective bargaining agreement, though many of our European employees are covered under national labor agreements. We believe that our relations with our employees are good. Ciphergen's success will depend in large part on our ability to attract and retain skilled and experienced employees.

ITEM 2. PROPERTIES

We currently lease a 61,000 square foot facility in Fremont, California. The lease for this facility expires in July 2008. Approximately 8,000 square feet of the facility is being subleased by us to an unrelated company for a 12-month term which expires in March 2003, under a sublease which can be cancelled by either party upon 90 days notice. Our subsidiary, BioSepra S.A., leases a 44,000 square foot facility in Cergy-St. Christophe, near Paris, France. The lease expires in May 2011. In addition, we lease a sales office and Biomarker Center in Copenhagen, Denmark; that lease expires in March 2003. We also lease a Biomarker Center facility in Malvern, Pennsylvania; that lease expires in September, 2005. We also lease sales offices in Beijing, China and Goettingen, Germany which expire in November 2002 and January 2005, respectively, and have a month to month lease for a sales office near London.

ITEM 3. LEGAL PROCEEDINGS

We are currently party to three legal proceedings.

(1) *Ciphergen Biosystems, Inc., Ciphergen Technologies, Inc. and IllumeSys Pacific, Inc. v. Molecular Analytical Systems, Inc., LumiCyte, Inc. and T. William Hutchens.* On July 12, 2000, we filed a lawsuit in the Superior Court of the State of California against Molecular Analytical Systems, Inc. ("MAS") and LumiCyte, Inc. ("LumiCyte") requesting a declaration of our rights, including that Ciphergen has the right to sell information and service products, and requesting a preliminary injunction preventing MAS from terminating the sublicense agreements. In October 2000, we made additional claims against MAS and LumiCyte, and added T. William Hutchens as an individual defendant. Hutchens is the Chief Executive Officer of both MAS and LumiCyte, as well as a former officer and director of Ciphergen. He is presently the beneficial owner of less than 10% of Ciphergen's outstanding common stock. Ciphergen's action seeks, among other things, damages and injunctive relief against defendants for unfair competition, misappropriation of trade secrets, and breach of contract, as well as an injunction precluding defendants from operating in Ciphergen's licensed markets. In October 2000, MAS and LumiCyte filed a cross-complaint against Ciphergen, Ciphergen Technologies, Inc. and IllumeSys Pacific, Inc., the three plaintiffs which filed the underlying lawsuit against MAS and LumiCyte described above. The cross-complaint alleges claims for breach of contract, intentional interference with prospective economic advantage, unfair competition, misappropriation of trade secrets and declaratory relief regarding the rights of the parties under the two technology transfer sublicense agreements between MAS and Ciphergen. The cross-complaint also seeks to terminate the sublicense agreements, to obtain injunctive relief, to prevent use of alleged trade secrets of MAS, and damages. Ciphergen and MAS have entered into an agreement that provides that MAS' license termination notices are suspended pending the conclusion of this lawsuit. In May, 2001, we amended our complaint and brought additional claims against MAS, LumiCyte and Hutchens.

(2) *Molecular Analytical Systems, Inc. v. Ciphergen Biosystems.* The proceeding was filed December 9, 1999 in the United States Trademark and Appeal Board. We applied for registration of the term "SELDI" as a trademark. MAS has opposed registration of the trademark and is seeking to have the trademark registered in its name instead. The Trademark and Appeal Board has suspended the proceeding until resolution of the lawsuit described above.

(3) On July 27, 2001, we served a demand for arbitration on T. William Hutchens under the July 28, 1998 Stock Exchange Agreement among Ciphergen, Ciphergen Technologies, Inc., Hutchens and others. The demand for arbitration asserts that Hutchens, who was a selling shareholder of Ciphergen Technologies, made representations and warranties to Ciphergen about the conduct of Ciphergen Technologies' business and its ownership of assets that are contrary to certain claims asserted in the cross-complaint filed by MAS and LumiCyte and, therefore, that he must pay Ciphergen's attorneys fees and indemnify Ciphergen for any losses it might incur resulting from filing of the cross-claims, regardless of their merit. The parties have agreed to stay the arbitration until the earlier of August 1, 2002, or the resolution of any of several of plaintiffs' and cross-complainants' causes of action.

Although the ultimate outcome of these matters is not presently determinable, management believes that the resolution of all such pending matters will not have a material adverse effect on our consolidated financial position, results of operations or cash flows. However, should the outcome of these matters be unfavorable to us, the impact could be material to our consolidated financial position, results of operations or cash flows.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

There were no matters submitted to a vote of the security holders during the fourth quarter of 2001.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our common stock has been quoted on the Nasdaq National Market under the symbol "CIPH" since the effective date of our initial public offering ("IPO") on September 28, 2000. Prior to this time, there was no public market for our stock. The closing price for our common stock on March 15, 2002 was $6.80 per share. The following table sets forth the high and low sales prices per share of our common stock as reported on the Nasdaq National Market for the periods indicated.

	Sale Price	
	High	Low
Fiscal 2000:		
Fourth Quarter	$ 39.44	$ 9.50
Fiscal 2001:		
First Quarter	13.50	3.75
Second Quarter	8.00	4.15
Third Quarter	6.66	2.06
Fourth Quarter	8.05	2.66

We currently expect to retain future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. As of March 15, 2002, there were approximately 2,871 holders of our common stock.

Recent Sales of Unregistered Securities

During 2001, a total of 51,600 common shares were issued pursuant to a joint development agreement with Stanford Research Systems. The issuance of these securities were deemed to be exempt from registration, in reliance upon Section 4(2) of the Securities Act of 1933, as a transaction by an issuer not involving a public offering. Appropriate legends were affixed to the securities issued.

ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following tables reflect selected summary consolidated financial data for each of the last five fiscal years. This data should be read in conjunction with the consolidated financial statements and notes thereto, and with Item 7, "Management's Discussion and Analysis of Results of Operations and Financial Condition" in this Form 10-K.

	Years Ended December 31,				
	2001	2000	1999	1998	1997
	(in thousands, except per share data)				
Statement of Operations Data:					
Revenue:					
Products	$ 15,742	$ 7,358	$ 3,963	$ 2,300	$ 1,136
Product revenue from related parties	1,192	1,064	882	625	
Services	2,115	513	165	8	147
Total revenue	19,049	8,935	5,010	2,933	1,283
Cost of revenue:					
Products	5,516	2,774	1,354	843	1,002
Product revenue from related parties	434	587	306	225	
Services	664	119	48		
Total cost of revenue	6,614	3,480	1,708	1,068	1,002
Gross profit	12,435	5,455	3,302	1,865	281
Operating expenses:					
Research and development	12,895	7,475	3,139	4,733	3,249
Sales and marketing	14,301	9,001	4,989	2,662	1,315
General and administrative	13,020	11,322	2,799	2,100	1,332
Amortization of intangible assets	650	318	365	279	164
Write-off of acquired in-process technology	1,000				
Total operating expenses	41,866	28,116	11,292	9,774	6,060
Loss from operations	(29,431)	(22,661)	(7,990)	(7,909)	(5,779)
Interest and other income (expense), net	3,762	2,357	(56)	(143)	(226)
Loss before provision for income taxes	(25,669)	(20,304)	(8,046)	(8,052)	(6,005)
Provision for income taxes	143				
Net loss	(25,812)	(20,304)	(8,046)	(8,052)	(6,005)
Dividend related to beneficial conversion feature of preferred stock		(27,228)			
Net loss attributable to common stockholders	$ (25,812)	$ (47,532)	$ (8,046)	$ (8,052)	$ (6,005)

	Years Ended December 31,				
Basic and diluted net loss per share attributable to common stockholders (1)	$ (0.97)	$ (4.09)	$ (1.26)	$ (1.62)	$ (2.07)
Weighted average shares used in computing basic and diluted net loss per share attributable to common stockholders (1)	26,512	11,635	6,397	4,970	2,903

	As of December 31,				
	2001	2000	1999	1998	1997
	(in thousands)				
Balance Sheet Data:					
Cash, cash equivalents and investments in securities	$ 77,124	$ 107,633	$ 2,799	$ 7,002	$ 416
Working capital	70,890	108,020	1,533	6,616	(1,958)
Total assets	106,816	118,948	6,844	11,144	2,869
Long-term debt and capital lease obligations, including current portion	2,610	840	970	862	2,417
Convertible preferred stock and warrants			25,694	24,619	10,425
Total stockholders' equity (deficit)	93,229	113,152	(22,938)	(16,275)	(11,375)

(1) The share and per share data shown above have been restated to reflect Ciphergen's 0.43-for-one reverse stock split, effective September 28, 2000.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

We develop, manufacture and sell our ProteinChip® Systems, which use patented Surface Enhanced Laser Desorption/Ionization ("SELDI") technology. The ProteinChip Systems consist of consumable ProteinChip Arrays, a ProteinChip Reader and ProteinChip Software. We market and sell our products primarily to research biologists in pharmaceutical and biotechnology companies, and academic and government research laboratories. As part of our early product design effort, in February 1995 we signed an agreement with Stanford Research Systems, a California-based manufacturer of electronic test equipment to assist us. In April 1997, we acquired IllumeSys Pacific, Inc., which holds specific rights to the SELDI technology for the life science research market. Our first designed and manufactured system, the ProteinChip System, Series PBS I, was available for shipment in the third quarter of 1997, and we discontinued selling an earlier prototype system supplied by a U.K. manufacturer. In July 1998, we acquired Ciphergen Technologies, Inc., which holds specific rights to the SELDI technology in other life science markets. During 1999, we initiated an expanded marketing program and in May began shipping the ProteinChip System, Series PBS II, the current version of which is now referred to as the ProteinChip Biology System.

In 1999, we invested $315,000 for 30% ownership of Ciphergen Biosystems, K.K., a joint venture we established with Sumitomo Corporation to distribute our products in Japan. We have the right to purchase an additional 40% ownership based on a predetermined formula as early as 2002. It is our current intention to exercise our option at this first opportunity at a cost of approximately $380,000. Until we exercise this right, Sumitomo Corporation has agreed to arrange all working capital for Ciphergen Biosystems, K.K. and receives payments from Ciphergen Biosystems, K.K. equal to 20% of the list price of our products sold by Ciphergen Biosystems, K.K. in exchange for providing support services to Ciphergen Biosystems, K.K.

During 2000, we began offering research services and established Biomarker Centers in Fremont, California; Copenhagen, Denmark; and Malvern, Pennsylvania.

In 2001 we introduced the ProteinChip Biomarker System which utilizes sophisticated third party software which automates pattern recognition-based statistical analysis methods to correlate protein expression patterns from clinical samples with disease phenotypes. We also began selling the Biomek 2000 workstation, a robotic accessory which is manufactured by Beckman Coulter and which has been optimized for use with our ProteinChip Biomarker System to increase sample throughput and reproducibility. In addition, we expanded our product offering with a SELDI ProteinChip interface to high-end tandem mass spectrometers, which we developed and which is manufactured for us by a third party manufacturing company in Reno, Nevada.

On July 31, 2001, Ciphergen acquired the BioSepra process chromatography business from Invitrogen Corporation for $12.0 million in cash and the assumption of approximately $2.2 million in debt. BioSepra S.A., headquartered near Paris, France, has 49 employees who develop, manufacture and market products for the large scale process chromatography market. We have been integrating the BioSepra business into our sales and marketing organization, and have initiated a joint development program for a line of products to address process proteomics, an emerging market driven by pharmaceutical company demand to produce proteins for research, development and therapeutic manufacturing purposes.

Since 1997, we have used our resources primarily to develop and expand our proprietary ProteinChip Systems and establish a marketing and sales organization for commercialization of our products. In addition, we have used our resources to establish Biomarker Centers to provide research services to our clients and to foster further adoption of our products and technology. We also acquired

the BioSepra process chromatography business from which we plan to develop a chromatography-based protein purification business which expands our current proteomics products business. Since our inception we have incurred significant losses and as of December 31, 2001, we had an accumulated deficit of $74.7 million.

Our sales are currently driven by the need for better tools to perform protein discovery, characterization, purification, identification and assay development. Revenue from the sale of our ProteinChip Systems, consumable ProteinChip Arrays, and chromatography sorbents is recognized at the time of shipment, provided no significant obligations remain and collections of the receivables are deemed probable. We generally offer our customers a one-year warranty on ProteinChip Systems. We recognize revenue from ongoing maintenance contracts ratably over the period of the contracts, which is generally 12 months. Currently, most of the units of our ProteinChip System placed in the field generate a recurring revenue stream from the sale of consumables. We expect the volume of consumables purchased to increase over time as customers become increasingly familiar with the technology and adopt our ProteinChip Systems for a broader range of proteomics research programs. Revenue from Biomarker Center research contracts generally is recognized based upon the achievement of milestones.

Our expenses, excluding stock-based compensation, have consisted primarily of costs incurred in manufacturing our ProteinChip Systems, including materials, labor and overhead costs, marketing and sales activities, research and development programs, and general and administrative costs associated with our operations. We expect our cost of revenue to increase in the future as we sell additional units of our ProteinChip System, Arrays and chromatography sorbents, but to decrease as a percent of total revenue as we gain efficiencies from spreading our fixed costs over a greater number of units. We expect our selling expenses to increase as we continue to commercialize our products and expand our sales force. We expect our research and development expenses to increase in the future as we continue to develop and improve products, and as we fund efforts at our Biomarker Centers to discover, validate and patent biomarkers that may have diagnostic and/or therapeutic utility. Expansion of our facilities and the addition of new facilities will also add to our expenses. As a result, we expect to incur losses for the foreseeable future. Our current products do not provide sufficient revenue for us to become profitable. To become profitable, we will need to increase unit sales of our ProteinChip Systems, consumable ProteinChip Arrays and sorbents.

In July 2000, we began an eight-year lease of a 30,000 square foot facility in Fremont, California. The lease was subsequently amended to add another 31,000 square feet, of which we currently sublease 8,000 square feet to an unrelated company. The building houses most of our California-based employees, as well as a Biomarker Center. We expect to incur facilities costs of approximately $3.2 million per year in connection with this building. This includes approximately 5% of the Fremont space which is used for a Biomarker Center, for which we expect to incur approximately $160,000 in facilities costs per year. In the first quarter of 2000, we also established our Scandinavian headquarters for sales and service and a Biomarker Center in Copenhagen, Denmark, with annual facilities costs of approximately $80,000. In the fourth quarter of 2000, we leased a Biomarker Center facility near Philadelphia, Pennsylvania, with annual facilities costs of approximately $70,000. In the fourth quarter of 2001, we leased a sales office in Beijing, China, with annual facilities costs of approximately $20,000. In the first quarter of 2002, we leased a sales office in Goettingen, Germany, with annual facilities costs of less than $10,000. We also have a sales office in Surrey, United Kingdom, with annual facilities costs of approximately $100,000. Our new BioSepra Process Division is housed in a leased facility located in Cergy-St. Christophe, just north of Paris, France. The facility is approximately 44,000 square feet and was custom designed for development and manufacturing of chromatography sorbents. The capitalized lease expires in 2011, at which time the property can be acquired for a nominal amount. Annual lease payments are approximately $200,000.

We have a limited history of operations and we anticipate that our quarterly results of operations will fluctuate for the foreseeable future due to several factors, including market acceptance of current and new products, the length of the sales cycle and timing of significant orders, the timing and results of our research and development efforts, the introduction of new products by our competitors and possible patent or license issues. Our limited operating history makes accurate prediction of future results of operations difficult or impossible.

Deferred stock compensation for options granted to employees is the difference between the fair value of our common stock on the date such options were granted and their exercise price. Deferred stock compensation for options granted to consultants has been determined in accordance with Statement of Financial Accounting Standards No. 123 as the fair value of the equity instruments issued. Deferred stock compensation for options granted to consultants is periodically remeasured as the underlying options vest in accordance with Emerging Issues Task Force Bulletin No. 96-18.

Critical Accounting Policies and Estimates

Ciphergen's discussion and analysis of its financial condition and results of operations are based upon Ciphergen's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires Ciphergen to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, Ciphergen evaluates its estimates, including those related to bad debts, inventories, investments, intangible assets, income taxes, warranty obligations, contingencies and litigation. Ciphergen bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Ciphergen believes the following critical accounting policies affect its more significant judgments and estimates used in the preparation of its consolidated financial statements. (See Note 1 of the Notes of Consolidated Financial Statements.)

Revenue Recognition

We derive our revenue from primarily two sources: (i) product revenue, which includes hardware, consumables and software licenses, and (ii) services and support revenue which includes Biomarker Center services, maintenance, training and consulting revenue. As described below, significant management judgments and estimates must be made and used in connection with the revenue recognized in any accounting period. Material differences in the amount and timing of our revenue for any period might result if our management made different judgments or utilized different estimates.

We recognize revenue from the sales of systems, consumables and software licenses when:

persuasive evidence of an agreement exists,

the price is fixed and determinable,

the product has been delivered,

no significant obligations remain, and

collection of the receivables are deemed probable.

Delivery generally occurs when the product is delivered to a common carrier.

Revenue from Biomarker Center research contracts generally is recognized based upon the achievement of milestones described in the contracts. Revenue from up-front payments is deferred and

recognized ratably over the expected life of the contract. Payments for maintenance services are usually prepaid, and the revenue is deferred and recognized ratably over the contract term, which is generally 12 months. Our training is billed based on published course fees and consulting services are billed based on daily rates. We generally recognize revenue as these services are performed.

At the time of the transaction, we assess whether the price is fixed and determinable and whether or not collection is reasonably assured. We assess whether the price is fixed and determinable based on the payment terms associated with the transaction. If a significant portion of the payment is due after our normal payment terms, which are 30 to 90 days from invoice date, we treat the price as not being fixed and determinable. In these cases, we recognize revenue for the extended portions of the payment as they become due. We assess collection based on a number of factors, including past transaction history with the customer and the credit-worthiness of the customer. We do not request collateral from our customers. If we determine that collection of a payment is not reasonably assured, we defer the revenue until the time collection becomes reasonably assured, which is generally upon receipt of cash.

For all sales, except for small amounts of consumables, we use a binding purchase order as evidence of an arrangement. Sales through our distributors are evidenced by a master agreement governing the relationship together with binding purchase orders on a transaction by transaction basis.

For arrangements with multiple elements (for example, undelivered software maintenance and support), we allocate revenue to each component of the arrangement using the fair values of the elements. Fair values for ongoing maintenance are based upon separate sales of renewals to other customers. Fair value of services, such as training or consulting, is based upon separate sales by us of those services to other customers. We defer revenue attributable to any undelivered elements and subsequently recognize the revenue as those goods or services are delivered.

Allowance for Doubtful Accounts

We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. If the financial condition of Ciphergen's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances would be required.

Inventory Reserves

We write down our inventory for estimated obsolescence or unmarketable inventory equal to the difference between the cost of inventory and the estimated market value based upon assumptions about future demand, market conditions and the release of new products that will supercede older ones. If actual market conditions are less favorable than those projected by management, additional inventory write-downs may be required.

Deferred Taxes

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. While we have considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for the valuation allowance, in the event we were to determine that Ciphergen would be able to realize its deferred tax assets in the future in excess of its net recorded amount, an adjustment to the deferred tax asset would increase income in the period such determination was made. Likewise, should we determine that Ciphergen would not be able to realize all or part of its net deferred tax asset in the future, an adjustment to the deferred tax asset would be charged to income in the period such determination was made.

Results of Operations

Comparison of Years Ended December 31, 2001, 2000, and 1999

Revenue

Product revenue was $16.9 million in 2001, $8.4 million in 2000 and $4.8 million in 1999. The increase in product revenue from 2000 to 2001, which was $8.5 million or 101%, was due to a number of factors including the acquisition of BioSepra, which added $2.6 million in revenue, and increased unit sales of ProteinChip Systems and Arrays. The increase in product revenue from 1999 to 2000, which was $3.6 million or 74%, was largely driven by increased unit sales of ProteinChip Systems and Arrays.

Service revenue was $2.1 million in 2001, $513,000 in 2000 and $165,000 in 1999. The increase in service revenue from 2000 to 2001 was $1.6 million or 312%. The majority of this increase was driven by increased revenue from collaboration services handled through our Biomarker Centers, as well as an increase in our revenue from maintenance contracts. The increase from 1999 to 2000 was $348,000 or 211%. This increase was a result of the introduction of our Biomarker Center collaboration services and increased numbers of maintenance contracts as our installed base of ProteinChip Biology Systems grew.

Cost of Revenue

Cost of product revenue was $6.0 million in 2001, $3.4 million in 2000 and $1.7 million in 1999. From 2000 to 2001, cost of product revenue increased $2.6 million or 77%. This increase resulted from an increase in unit sales of our ProteinChip Systems and Arrays, as well as an additional $1.3 million of cost of product revenue due to the acquisition of BioSepra. From 2000 to 2001, cost of product revenue as a percentage of product revenue decreased from 40% to 35%. This improvement was largely due to manufacturing efficiencies as unit volumes of our ProteinChip Systems and Arrays increased, partially offset by the inclusion of BioSepra, which had a higher cost of revenue as a percentage of revenue. From 1999 to 2000, the cost of product revenue increased $1.7 million or 102%. This increase was primarily due to an increase in unit sales of our ProteinChip Systems and Arrays. From 1999 to 2000, cost of product revenue as a percentage of product revenue increased from 34% to 40%, due to an increase in staffing required for increased production levels, as well as from increased deferred stock compensation expense. Stock-based compensation expense in cost of product revenue was $232,000 in 2001, $269,000 in 2000 and $39,000 in 1999.

Cost of service revenue was $664,000 in 2001, $119,000 in 2000 and $48,000 in 1999. From 2000 to 2001, cost of service revenue increased $545,000 or 458%. This increase was due to increased collaboration expenses at our Biomarker Centers and increased field service costs to provide service for a greater number of maintenance contracts. Cost of service revenue as a percentage of service revenue increased from 23% to 31% due to an increase in staffing needed to expand the capacities and capabilities of our Biomarker Centers and field service force. The increase from 1999 to 2000 was $71,000, or 148%. This increase was a driven by increased collaboration expenses at our Biomarker Centers. Cost of service revenue as a percentage of service revenue decreased from 29% to 23%. This was due to efficiencies of production as the centers became operational.

Operating Expenses

Research and Development

Research and development expenses were $12.9 million in 2001, $7.5 million in 2000, and $3.1 million in 1999. From 2000 to 2001, research and development expenses increased $5.4 million or 73%. This increase was due in part to a 47% increase in staffing, exclusive of the BioSepra acquisition, thereby increasing payroll costs approximately $2.5 million. The cost of materials and supplies used in

our labs, as well as expensed equipment and depreciation on capital equipment, increased $1.3 million as we devoted more resources to new and ongoing projects. Collaboration fees associated with our Biomarker Center collaborations, such as the one we have with the Johns Hopkins Medical School, increased approximately $1.1 million, while facilities costs attributable to research and development increased about $0.6 million. The acquisition of BioSepra added roughly $0.5 million to our research and development expenses. Stock-based compensation expense in research and development expenses decreased by $1.1 million. Four non-cash milestone payments to Stanford Research Systems in the form of stock grants totaling $268,000 were made in 2001. From 1999 to 2000, research and development expenses increased $4.3 million or 138%. This increase was largely due to a $1.1 million increase in salary expense related to increased staffing, an increase of $0.9 million in facilities costs, an increase of $0.4 million in outside services, and a $1.8 million increase in stock-based compensation expense. Two non-cash milestone payments to Stanford Research Systems in the form of stock grants totaling $521,000 were made in 2000. Stock-based compensation expense in research and development expenses was $851,000 in 2001 (including the $268,000 in milestone payments described above), $2.0 million in 2000 (including the $521,000 in milestone payments described above), and $206,000 in 1999. We expect research and development expenses to increase in 2002 as we develop new instruments, chip surfaces and sorbents, and as we increase activities through our Biomarker Centers to discover, validate and patent biomarkers.

Sales and Marketing

Sales and marketing expenses were $14.3 million in 2001, $9.0 million in 2000, and $5.0 million in 1999. From 2000 to 2001, sales and marketing expenses increased $5.3 million or 59%. This increase was largely driven by payroll and related costs from an increase in the sales and marketing staff of 81% and an increase in promotional activities as new products such as the ProteinChip Biomarker System, Tandem MS Interface and Biomarker Patterns Software were introduced. These increases were partially offset by a decline in stock-based compensation expense of $0.5 million from 2000 to 2001. From 1999 to 2000, sales and marketing expenses increased $4.0 million or 80%. This was principally due to more than doubling the sales and marketing staff and increasing promotional activities to further develop public awareness of our ProteinChip System. In addition, stock-based compensation expense increased $0.9 million from 1999 to 2000. Stock-based compensation expense in sales and marketing expenses was $919,000 in 2001, $1.4 million in 2000, and $476,000 in 1999. We expect sales and marketing expenses to increase in 2002 as we continue to grow our sales force and increase our promotional activities.

General and Administrative

General and administrative expenses were $13.0 million in 2001, $11.3 million in 2000, and $2.8 million in 1999. From 2000 to 2001, general and administrative expenses increased $1.7 million or 15%. The majority of the increase was due to an increase in legal and patent fees of $2.1 million. In addition, compensation and recruiting expenses increased $1.0 million as the administrative staff grew 53%, exclusive of the BioSepra acquisition. The BioSepra acquisition added $0.1 million to our general and administrative expenses. Costs related to being a public company, such as investor and public relations, increased $0.9 million. Facilities costs attributable to administration increased $0.3 million, while costs associated with the recruiting of new staff increased $0.3 million. These were partially offset by a decline in stock-based compensation of $3.3 million. From 1999 to 2000, general and administrative expenses increased $8.5 million or 305%. The majority of this increase was due to an increase in stock-based compensation expense of $5.6 million. Additionally, compensation expense increased $1.3 million as the general and administrative staff more than doubled to provide the infrastructure necessary to support the increased activity of the company, and legal fees increased $1.0 million. Stock-based compensation expense in general and administrative expenses totaled $2.9 million in 2001, $6.2 million in 2000, and $623,000 in 1999. We expect general and administrative expenses to increase in 2002 as we add necessary infrastructure to support increased activity levels.

Write-Off of Acquired In-Process Technology

In connection with the purchase of BioSepra, we recorded a $1.0 million charge to acquired in-process technology. The amount was determined by identifying research projects for which technological feasibility had not been established and no alternative future uses existed. The value of the projects identified to be in progress was determined by estimating the future cash flows of the product, then discounting the net cash flows back to their present value at a discount rate consistent with the inherent risk of the particular project. The net cash flows from the identified in-process projects are expected to commence at various times from 2002 to 2004 and include estimates of research and development costs needed to bring the project from its current state of development to a point of commercial feasibility. The cash flows are based on expected future revenues, cost of revenues, selling, general and administrative costs, research and development costs needed to maintain the project throughout its life cycle, and applicable income taxes for the projects. The discount rates used in the present value calculations were derived from the weighted-average cost of capital of BioSepra and adjusted upward to reflect additional risks inherent in the development life cycle of the particular project. Such discount rates ranged between 19% and 25% for all projects. Development of the technologies remains a substantial risk to us due to factors including the remaining effort to achieve technological feasibility, rapidly changing customer markets and competitive threats from other companies.

Interest and Other Income (Expense), net

Interest income was $4.1 million in 2001, $2.6 million in 2000, and $245,000 in 1999. The increase from 2000 to 2001 was due to larger average investment balances resulting from the proceeds of the initial public offering in September 2000. The increase from 1999 to 2000 was due primarily to larger average investment balances resulting from the proceeds related to the Series E preferred stock offering in March 2000 and proceeds from the initial public offering in September 2000.

Interest expense was $150,000 in 2001, $170,000 in 2000, and $179,000 in 1999. The decrease from 2000 to 2001 was due to declining debt balances in 2001 prior to the addition of the debt acquired with BioSepra. The decrease from 1999 to 2000 was primarily due to a decrease in average debt balances.

Other income (expense) was ($201,000) in 2001, $27,000 in 2000, and $37,000 in 1999. The majority of the decrease of $228,000 from 2000 to 2001 was due to Delaware franchise tax as a result of reincorporating in that state. In 1999, we received a $315,000 prepayment from Ciphergen Biosystems, K.K. for support and service, which is being recognized over the ten-year life of the agreement.

We recorded our 30% share of the loss incurred by Ciphergen Biosystems, K.K., totaling $12,000 in 2001, $144,000 in 2000 and $159,000 in 1999, as equity in net loss of joint venture. Our share of the net loss for Ciphergen Biosystems, K.K. was an additional $142,000 for 2001, but we are limited to our cost basis for recording losses from this joint venture.

Income Taxes

We have incurred net losses since inception and consequently are not subject to corporate income taxes in the United States to the extent of our tax loss carryforwards. We are subject to various minimal taxes in a number of the other countries in which we operate. At December 31, 2001 we had net operating loss carryforwards of approximately $48.1 million for federal and $23.5 million for state tax purposes. If not utilized, these carryforwards will begin to expire beginning in 2009 for federal purposes and 2002 for state purposes. We have research credit carryforwards of approximately $1.4 million and $1.2 million for federal and state tax purposes, respectively. If not utilized, the federal carryforwards will expire in various amounts beginning in 2009. The California credit can be carried forward indefinitely. The utilization of net operating loss carryforwards to reduce future income taxes

will depend on our ability to generate sufficient taxable income prior to the expiration of the net operating loss carryforwards. In addition, the maximum annual use of the net operating loss carryforwards may be limited in situations where changes occur in our stock ownership.

Liquidity and Capital Resources

From inception through December 31, 2001 we have financed our operations principally with $37.5 million from the sales of products and services to customers, and with equity financings totaling $157.0 million. This includes the $101.2 million initial public offering in September 2000 and the $29.0 million Series E Preferred Stock financing in March 2000. We had cash balances of $48.3 million with an additional $28.8 million in available-for-sale securities investments, and working capital of $70.9 million at December 31, 2001. Long-term debt and capital lease obligations at December 31, 2001 were $2.6 million. This increase is attributable to the acquisition of BioSepra and the assumption of $2.3 million in debt.

Net cash used in operating activities was $14.6 million in 2001, which was primarily the result of net losses in operations. We expect net cash used in operating activities to increase in 2002 as we continue to expand our operating activities. We currently believe that current cash resources will be sufficient to meet our anticipated financial needs for at least the next two years.

Net cash used in investing activities was $45.0 million in 2001, which consisted of $4.1 million for capital equipment purchases, $28.6 million for the purchase of short and long term investments, and $12.3 million for the acquisition of BioSepra. We expect to acquire additional capital equipment on an ongoing basis as we add staff, increase capacity and improve capabilities. We anticipate capital expenditures of approximately $5.0 to $6.0 million in 2002. Also, it is our current intention to exercise our option to acquire an additional 40% of Ciphergen Biosystems K.K. in 2002 at a price of approximately $380,000. In addition, at that point we will become responsible for repaying the debt of Ciphergen Biosystems K.K., which is estimated to be approximately $2.8 million.

Net cash provided by financing activities was $250,000 in 2001, largely as a result of proceeds from the issuance of common stock and exercise of stock options.

Ciphergen currently expects to fund expenditures for capital requirements as well as liquidity needs from a combination of available cash and marketable securities balances, as well as internally generated funds. We may be required to raise additional capital through a variety of sources, including the public equity market, private financings, collaborative arrangements and debt. If additional capital is raised through the issuance of equity or securities convertible into equity, our stockholders may experience dilution, and such securities may have rights, preferences or privileges senior to those of the holders of the common stock. Additional financing may not be available to us on favorable terms, if at all. If we are unable to obtain financing, or to obtain it on acceptable terms, we may be unable to execute our business plan.

The following summarizes Ciphergen's contractual obligations at December 31, 2001, and the effect such obligations are expected to have on its liquidity and cash flow in future periods.

Total	Less than 1 Year	1-3 Years	4-5 Years	Beyond 5 Years
		(in thousands)		

	Total	Less than 1 Year	1-3 Years	4-5 Years	Beyond 5 Years
Contractual obligations:					
Long-term debt	$ 117	$ 117	$	$	$
Capital lease obligations	2,665	468	786	506	905
Non-cancelable operating lease obligations	20,784	2,990	9,359	6,499	1,936
Total contractual cash obligations	$ 23,566	$ 3,575	$ 10,145	$ 7,005	$ 2,841

Ciphergen is in compliance with all covenants or other requirements set forth in its credit agreements.

Recent Accounting Pronouncements

In July 2001, the Financial Accounting Standards Board (FASB) issued Statements No. 141 and 142 (FAS 141 and FAS 142), "Business Combinations" and "Goodwill and Other Intangible Assets", respectively. FAS 141 eliminated pooling-of-interests accounting prospectively. It also provides guidance on purchase accounting related to the recognition of intangible assets and accounting for negative goodwill. FAS 142 changed the accounting for goodwill from an amortization method to an impairment-only approach. Under FAS 142, goodwill will be tested annually and whenever events or circumstances occur indicating that goodwill might be impaired. FAS 141 and FAS 142 were effective for all business combinations completed after June 30, 2001. Upon adoption of FAS 142, amortization of goodwill recorded for business combinations consummated prior to July 1, 2001 ceased, and intangible assets acquired prior to July 1, 2001 that did not meet the criteria for recognition under FAS 141 were reclassified to goodwill. Companies are required to adopt FAS 142 for fiscal years beginning after December 15, 2001, but early adoption is permitted in certain circumstances. We will adopt FAS 142 on the first day of fiscal 2002 (January 1, 2002). In connection with the adoption of FAS 142, we will be required to perform a transitional goodwill impairment assessment. The implementation of these standards is not expected to have a material impact on our results of operations or financial position.

In August 2001, the FASB issued Statement No. 143 (FAS 143), "Accounting for Asset Retirement Obligations," which is effective for fiscal years beginning after June 15, 2002. FAS 143 addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The Statement applies to all entities. It applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development, and/or the normal operation of a long-lived asset except for certain obligations of lessees. Ciphergen does not expect the adoption of FAS 143 will have a significant impact on its results of operations or financial position.

In October 2001, the FASB issued Statement No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." FAS 144 addresses financial accounting and reporting for the impairment of long-lived assets and for long-lived assets to be disposed of. FAS 144 was effective for fiscal years beginning after December 15, 2001. Ciphergen will adopt the provisions of FAS 144 on January 1, 2002 and does not expect that such adoption will have a material effect on its financial statements.

FACTORS THAT MAY AFFECT OUR RESULTS

We expect to continue to incur net losses in the foreseeable future. If we are unable to significantly increase our revenues, we may never achieve profitability.

From our inception in December 1993, through December 31, 2001, we have generated cumulative revenue of approximately $37.5 million and have incurred net losses of approximately $74.7 million. We have experienced significant operating losses each year since our inception and expect these losses to continue for the next several years. For example, we experienced net losses of approximately $25.8 million in 2001, $20.3 million in 2000 and $8.0 million in 1999. Our losses have resulted principally from costs incurred in research and development, sales and marketing, and general and administrative costs associated with our operations. These costs have exceeded our revenue, which, to date, has been generated principally from product sales. We expect to incur additional operating losses and these losses may be substantial as a result of

increases in expenses for manufacturing, marketing and sales, research and product development, and general and administrative costs. We may never achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis.

If we are unable to establish the utility of our products, our products and services will not achieve market acceptance.

The commercial success of our ProteinChip Systems will depend upon validating their utility for important biological applications and increasing their market acceptance by researchers in pharmaceutical and biotechnology companies, academic and government research centers and clinical reference laboratories. If the effectiveness of our ProteinChip Systems in providing commercially useful protein information proves to be not equal to or better than current technologies, it could seriously undermine market acceptance of our products and reduce the likelihood that we will ever achieve profitability.

If we are unable to attract clients for our Biomarker Centers, we may not be successful in furthering adoption of our products and technology and achieving profitability.

An element of our business strategy is to establish Biomarker Centers in part through partnerships with academic and government research centers, and pharmaceutical and biotechnology companies. Although we are currently in negotiation with potential partners and clients, to date we have entered into only a few such arrangements. Failure to enter into additional arrangements could limit adoption of our products and prevent us from achieving profitability.

If we fail to successfully develop and commercialize our products, our revenue will not increase and we will not achieve profitability.

We began full commercialization of our products in May 1999. Our success will depend on our ability to continue to develop and expand commercial sales of our ProteinChip Systems, including our ProteinChip Arrays. We may encounter difficulties in producing our ProteinChip Systems or we may not be able to produce it economically, we may fail to achieve expected performance levels, or we may have to set a price for it that is unacceptable to our customers. We may not be able to successfully develop and commercialize our ProteinChip Systems or any other products on a timely basis, achieve anticipated performance levels, gain industry acceptance of such products or develop a profitable business. We may not be able to successfully develop a profitable chromatography-based protein purification business.

If we are unable to maintain our licensed rights to the SELDI technology, we may lose the right to produce ProteinChip Systems and products based on the SELDI technology and the right to provide services and information related thereto.

Our commercial success depends on our ability to maintain our sublicenses to the SELDI technology. In July 2000, in response to MAS' claims that we had materially breached the sublicense agreements and its threat to terminate the sublicense agreements, we filed a lawsuit against MAS and LumiCyte requesting a declaration of our rights, including that we have the right to sell information and service products, and requesting a preliminary injunction preventing MAS from terminating the sublicense agreements. In October 2000, we made additional claims against MAS and LumiCyte and added Dr. T. William Hutchens as an individual defendant. Hutchens is the Chief Executive Officer of both MAS and LumiCyte, as well as a former officer and director of Ciphergen. He is presently the beneficial owner of less than 10% of the Company's outstanding common stock. In October, 2000, MAS and Lumicyte filed cross-claims against Cipergen and its subsidiaries. In May, 2000, we amended our complaint and brought additional claims against MAS, LumiCyte, and Hutchens. We believe that our causes of action have merit and we intend to pursue the litigation aggressively. Although we believe that the resolution of the litigation will not harm our ability to continue to pursue our business and strategy, litigation is unpredictable and we may not prevail. The court may determine that LumiCyte or others possess exclusive rights to provide information products and service products that we have offered or may seek to offer as part of our business. The sublicense agreements referred to above provide for termination in the event of material breach. Therefore, if we do not prevail in our cause of action, and if the court determines that we have materially breached the sublicense agreements, there is a risk that the sublicense agreements could be terminated. Substantially all of our revenue is derived from products relying on technology covered by the sublicense agreements. If the agreements were terminated and we were unable to obtain a license to these rights, we would be precluded from selling any SELDI-based products within the scope of the Baylor patents, we would no longer generate revenue from the sale of these products and we would have to revise our business direction and strategy. See "Legal Proceedings."

If we are unsuccessful in obtaining a federal registration for the SELDI trademark and we are successfully sued for trademark infringement, we may be required to license the mark or change the name of our technology and incur associated costs.

MAS has opposed our trademark application for the SELDI mark on the basis of alleged earlier use of SELDI. The outcome of that opposition remains pending. As a result, we may not be successful in obtaining a federal registration for the mark and may be sued by MAS for

trademark infringement based on MAS' claimed prior use rights to the SELDI mark. If MAS is successful, we will have to license rights to the mark or not use the name, and we will be subjected to costs and damages.

The Company may not be able to realize the benefits of its recent acquisition of BioSepra. Our business could be adversely affected as a result of the acquisition.

We acquired the BioSepra process chromatography business from Invitrogen Corporation on July 31, 2001. This transaction may not be as beneficial to Ciphergen as it expects. We may encounter risks to our business during the integration of BioSepra including:

- difficulties in assimilation of acquired personnel, operations, technologies or products in a timely and non-disruptive manner;
- difficulty of integrating a foreign business;
- unanticipated costs associated with the acquisition;
- diversion of management's attention from other business concerns;

- adverse effects on existing business relationships with BioSepra's customers; and
- inability to retain key employees of BioSepra after the acquisition.

Even with the investment of significant time and resources, the acquisition may not produce the revenues, earnings or business synergies that Ciphergen anticipates. While the market is large and growing for chromatographic processes, BioSepra business prospects may remain with the entrenched suppliers they currently use. BioSepra will need to develop new processes and look to replace entrenched suppliers by offering superior products. Customers having to separate proteins have traditionally been slow to adopt new technologies, even when those new technologies offer considerable advantages over existing, proven approaches. Even if BioSepra chromatography products and services are more efficient and of higher quality than alternatives, conservative customers may favor established products and companies. If we fail to integrate the acquired business effectively or if key employees of that business leave, the anticipated benefits of the acquisition would be jeopardized. The time, capital, management and other resources spent on an acquisition that fails to meet our expectations could cause our business and financial condition to be materially and adversely affected. In addition, acquisitions can involve non-recurring charges and amortization of significant amounts of intangible assets that could adversely affect our results of operations.

If we are unable to reduce our lengthy sales cycle, our ability to become profitable will be harmed.

Our ability to obtain customers for our products depends in significant part upon the perception that our products and services can help enable protein biomarker discovery, characterization and assay development. From the time we make initial contact with a potential customer until we receive a binding purchase order typically takes between a few weeks to a year or more. Our sales effort requires the effective demonstration of the benefits of our products and may require significant training, sometimes of many different departments within a potential customer. These departments might include research and development personnel and key management. In addition, we may be required to negotiate agreements containing terms unique to each customer. We may expend substantial funds and management effort and may not be able to successfully sell our products or services in a short enough time to achieve profitability.

We may need to raise additional capital in the future, and if we are unable to secure adequate funds on terms acceptable to us, we may be unable to execute our business plan.

We currently believe that current cash resources will be sufficient to meet our anticipated financial needs for at least the next two years. However, we may need to raise additional capital sooner in order to develop new or enhanced products or services, increase our Biomarker Center activities undertaken for our own account, or acquire complementary products, businesses or technologies to respond to competitive pressures. If we are unable to obtain financing, or to obtain it on acceptable terms, we may be unable to successfully execute our business plan.

If we are unable to provide our customers with software that enables the integration and analysis of large volumes of data, the acceptance and use of our products may be limited.

The successful commercial research application of our products requires that they enable researchers to process and analyze large volumes of data and to integrate the results into other phases of their research. The nature of our software enables a level of integration and analysis that is adequate for many projects. However, if we do not continue to develop and improve the capabilities of our ProteinChip Software to perform more complex analyses of customer samples and to meet increasing customer expectations, our products may not gain market acceptance, we may lose our current customers and we may be unable to develop a profitable business.

If we do not effectively manage growth, management attention could be diverted and our ability to increase revenues and profitability could be harmed.

We are rapidly and significantly expanding our operations, which is placing a significant strain on our financial, managerial and operational resources. For example, we have recently increased our worldwide sales force and other personnel significantly, with plans for further expansion, and have established additional Biomarker Centers with plans to expand their scope of activity. These changes could divert management attention or otherwise disrupt our operations. In order to achieve and manage this growth effectively, we must continue to improve and expand our operational and financial management capabilities and resources. Moreover, we will need to effectively train, integrate, motivate and retain our employees. Our failure to manage our growth effectively could damage our ability to increase revenue and become profitable.

Because our business is highly dependent on key executives and scientists, our inability to recruit and retain these people could hinder our business expansion plans.

Ciphergen is highly dependent on its executive officers and its senior scientists and engineers. Our product development and marketing efforts will be delayed or curtailed if we lose the services of any of these people. To expand our research, product development and sales efforts, we need additional people skilled in areas such as bioinformatics, biochemistry, information services, manufacturing, sales, marketing and technical support. Competition for qualified employees is intense. We will not be able to expand our business if we are unable to hire, train and retain a sufficient number of qualified employees.

If we are unable to successfully expand our limited manufacturing capacity for ProteinChip Readers and Arrays, we may encounter manufacturing and quality control problems as we increase our efforts.

We currently have only one manufacturing facility at which we produce limited quantities of our ProteinChip Arrays and ProteinChip Readers. Some aspects of our manufacturing processes may not be easily scalable to allow for production of our ProteinChip Arrays or ProteinChip Readers in larger volumes, resulting in higher than anticipated material, labor and overhead costs per unit. As a result, manufacturing and quality control problems may arise as we increase our level of production. We may not be able to increase our manufacturing capacity in a timely and cost-effective manner and we may experience delays in manufacturing new products. If we are unable to consistently manufacture our ProteinChip Arrays and ProteinChip Readers on a timely basis because of these or other factors, we will not be able to meet anticipated demand. As a result, we may lose sales and fail to generate increased revenue and become profitable.

We face intense competition in our current and potential markets and if our competitors develop new technologies or products, our products may not achieve market acceptance and may fail to capture market share.

Competition in our existing and potential markets is intense and we expect it to increase. Currently, our principal competition comes from other technologies that are used to perform many of the same functions for which we market our ProteinChip System. The major technologies that compete with our ProteinChip System are liquid chromatography-mass spectrometry and 2D-gel electrophoresis-mass spectrometry. In the life science research market, protein research tools and services are currently provided by a number of companies. In the large scale chromatography market, there are several larger direct competitors. In many instances, Ciphergen's competitors may have substantially greater financial, technical, research and other resources and larger, more established marketing sales distribution and service organizations. Additionally, our potential customers may internally develop competing technologies. If we fail to compete effectively with these technologies and products, or if competitors develop significant improvements in protein detection systems or develop

systems that are easier to use, our products may not achieve market acceptance and our sales may decrease.

If the government grants a license to the SELDI technology to others, it may harm our business.

Some of the inventions covered by the sublicense agreements were developed under a grant from an agency of the U.S. government and therefore the government has a paid-up nonexclusive nontransferable license to those inventions and the right in limited circumstances to grant a license to others on reasonable terms. If the government exercises those rights our business could be harmed.

If a competitor infringes our proprietary rights, we may lose any competitive advantage we may have as a result of diversion of management time, enforcement costs and the loss of the exclusivity of our proprietary rights.

Our commercial success depends in part on our ability to maintain and enforce our proprietary rights. We rely on a combination of patents, trademarks, copyrights and trade secrets to protect our technology and brand. In addition to our licensed SELDI technology, we also have submitted patent applications directed to subsequent technological improvements and application of the SELDI technology. Our patent applications may not result in additional patents.

If competitors engage in activities that infringe our proprietary rights, our management's focus will be diverted and we may incur significant costs in asserting our rights. We may not be successful in asserting our proprietary rights, which could result in our patents being held invalid or a court holding that the competitor is not infringing, either of which would harm our competitive position. We cannot be sure that competitors will not design around our patented technology.

We also rely upon the skills, knowledge and experience of our technical personnel. To help protect our rights, we require all employees and consultants to enter into confidentiality agreements that prohibit the disclosure of confidential information. These agreements may not provide adequate protection for our trade secrets, know-how or other proprietary information in the event of any unauthorized use or disclosure.

If others successfully assert their proprietary rights against us, we may be precluded from making and selling our products or we may be required to obtain licenses to use their technology.

Our success also depends on avoiding infringing on the proprietary technologies of others. We are aware of third parties whose business involves the use of mass spectrometry for the analysis of proteins and DNA, and third parties whose business involves providing chromatography sorbents and media. Certain of these parties have issued patents or pending patent applications on technology that they might assert against us. If they successfully make such assertions, we may be required to obtain licenses to use that technology and such licenses may not be available on commercially reasonable terms, if at all. We may incur substantial costs defending ourselves in lawsuits against charges of patent infringement or other unlawful use of another's proprietary technology. Any such lawsuit may not be decided in our favor, and if we are found liable, we may be subject to monetary damages or injunction against using their technology.

We rely on single-source suppliers for many components of our ProteinChip Systems and if we are unable to obtain components we would be harmed and our operating results would suffer.

We depend on many single-source suppliers for the necessary materials and components required to assemble our products. Because of limited quantities of products manufactured at this stage of our development it is not economically feasible to qualify and maintain alternate vendors for most components of our ProteinChip Readers and Arrays. We have occasionally experienced delays in receiving components resulting in manufacturing delays. If we are unable to procure the necessary

materials and components from our current vendors, we will have to arrange new sources of supply and our materials and components shipments could be delayed, harming our ability to assemble and manufacture our ProteinChip Readers and Arrays, and our ability to sustain or increase revenue could be harmed. As a result, our costs could increase and our profitability could be harmed.

If there are reductions in research funding, the ability of our existing and prospective research customers to purchase our products could be seriously harmed.

A significant portion of our products for research use is likely to be sold to universities, government research laboratories, private foundations and other institutions where funding is dependent upon grants from government agencies, such as the National Institutes of Health. Government funding for research and development has fluctuated significantly in the past due to changes in congressional appropriations.

Research funding by the government may be significantly reduced in the future. Any such reduction may seriously harm the ability of our existing and prospective research customers to purchase our products or reduce the number of ProteinChip Arrays used. Limitations in funding for commercial, academic and biotechnology and pharmaceutical companies that are the potential customers for our ProteinChip Systems and Arrays and cost containment pressures for biomedical research may limit our ability to sell our products.

Consolidation in the pharmaceutical and biotechnology industries may reduce the size of our target market and cause a decrease in our revenue.

Consolidation in the pharmaceutical and biotechnology industries is generally expected to occur. Planned or future consolidation among our current and potential customers could decrease or slow sales of our technology and reduce the markets our products target. Any such consolidation could limit the market for our products and seriously harm our ability to achieve or sustain profitability.

Our stock price has been highly volatile, and your investment could suffer a decline in value.

The trading price of our common stock has been highly volatile and could continue to be subject to wide fluctuations in price in response to various factors, many of which are beyond our control, including:

actual or anticipated variations in quarterly operating results;

failure to achieve, or changes in, financial estimates by securities analysts;

announcements of new products or services or technological innovations by us or our competitors;

conditions or trends in the pharmaceutical, biotechnology and life science industries;

announcements by us of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

additions or departures of key personnel;

sales of our common stock; and

developments regarding our patents or other intellectual property or that of our competitors.

In addition, the stock market in general, and the Nasdaq National Market and the market for technology companies in particular, have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Further, there has been particular volatility in the market prices of securities of life science companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market price

of a company's securities, securities class action litigation has often been instituted. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources.

There may not be an active, liquid trading market for our common stock.

There is no guarantee that an active trading market for our common stock will be maintained on the Nasdaq Stock Market's National Market. You may not be able to sell your shares quickly or at the latest market price if trading in our stock is not active.

Anti-takeover provisions in our charter, bylaws and Stockholder Rights Plan and under Delaware law could make a third party acquisition of us difficult.

Our certificate of incorporation, bylaws and Stockholder Rights Plan contain provisions that could make it more difficult for a third party to acquire us, even if doing so might be deemed beneficial by our stockholders. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock. We are also subject to certain provisions of Delaware law that could delay, deter or prevent a change in control of us.

The rights issued pursuant to our Stockholder Rights Plan will become exercisable the tenth day after a person or group announces acquisition of 15% or more of our common stock or announces commencement of a tender or exchange offer the consummation of which would result in ownership by the person or group of 15% or more of our common stock. If the rights become exercisable, the holders of the rights (other than the person acquiring 15% or more of our common stock) will be entitled to acquire in exchange for the rights' exercise price, shares of our common stock or shares of any company in which we are merged, with a value equal to twice the rights' exercise price.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISKS

We maintain investment portfolio holdings of various issuers, types and maturities. These securities are classified as available-for-sale, and consequently are recorded on the balance sheet at fair value with unrealized gains and losses reported as a separate component of accumulated other comprehensive income (loss). These securities are not leveraged and are held for purposes other than trading.

The following discussion about our market risk involves forward-looking statements. We are exposed to market risk related mainly to changes in interest rates. We do not invest in derivative financial instruments.

Interest Rate Sensitivity

The fair value of our investments in marketable securities at December 31, 2001 was $28.8 million, with a weighted-average maturity of 210 days and a weighted-average interest rate of 3.75%.

The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive from our investments without significantly increasing risk. We ensure the safety and preservation of our invested principal funds by limiting default risks, market risk and reinvestment risk. To achieve these objectives, we maintain our portfolio of cash equivalents, short-term investments and long-term investments in a variety of securities, including commercial paper, money market funds, government and non-government debt securities, and, by policy, restrict our exposure to any single corporate issuer by imposing concentration limits. We mitigate default risk by investing in high credit-quality securities.

Some of the securities that we invest in may have market risk. That means that a change in prevailing interest rates may cause the fair value of the principal amount of an investment to fluctuate.

For example, if we hold a security that was issued with a fixed interest rate at the then-prevailing rate and the prevailing rate rises, the fair value of the principal amount of our investment will probably decline. To minimize the exposure due to adverse shifts in interest rates, we maintain investments at an average maturity of less than one year, with no individual security investment maturing in more than two years.

Our exposure to market risk for changes in interest rates relates primarily to the increase or decrease in the amount of interest income we can earn on our available funds for investment. Our long-term debt and capital lease agreements are at fixed interest rates. We do not plan to use derivative financial instruments in our investment portfolio.

Foreign Currency Exchange Risk

Most of our revenue is realized in U.S. dollars. However, a portion of our revenue from chromatography sorbents is realized in foreign currencies, predominantly in Europe. In addition, all the revenue of our Japanese joint venture is realized in Japanese yen. As a result, our financial results could be affected by factors such as changes in foreign currency exchange rates or weak economic conditions in foreign markets. Because most of our revenue is currently denominated in U.S. dollars, an increase in the value of the U.S. dollar relative to foreign currencies could make our products less competitive in foreign markets.

Our subsidiaries' accounts are translated from the local currency to the U.S. dollar using the current exchange rate in effect at the balance sheet date for balance sheet accounts, and using the average exchange rate during the period for revenue and expense accounts. The effects of translation are recorded as a separate component of stockholders' equity. The net tangible assets of our non-U.S. operations, excluding intercompany debt, were $7.1 million at December 31, 2001.

Although we will continue to monitor our exposure to currency fluctuations, we cannot provide assurance that exchange rate fluctuations will not harm our business in the future. We currently do not use derivative financial instruments to mitigate this exposure. We have not taken any action to reduce our exposure to changes in foreign currency exchange rates, such as options or futures contracts, with respect to transactions with our European subsidiaries or transactions with our European customers.

Euro the New European Currency

The countries of the European Union have adopted a single currency, the "euro." The euro came into existence on January 1, 2000, and during the three-year transition period following its introduction, countries were allowed to transact business both in the euro and in their own currencies at fixed exchange rates. On January 1, 2002, the euro became the only currency in Economic and Monetary Union countries. A significant portion of our business is conducted in Europe. The adoption of the euro did not have a material effect on our business, results of operations, financial position or liquidity.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Stockholders of Ciphergen Biosystems, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of stockholders' equity (deficit) and of cash flows present fairly, in all material respects, the financial position of Ciphergen Biosystems, Inc. and its subsidiaries at December 31, 2001 and 2000, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2001 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audits 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 our opinion.

PRICEWATERHOUSECOOPERS LLP

San Jose, California
February 1, 2002

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CIPHERGEN BIOSYSTEMS, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	December 31,	
	2001	**2000**
ASSETS		
Current assets:		
Cash and cash equivalents	$ 48,319	$ 107,633
Short-term investments	21,273	
Accounts receivable, net of allowance for doubtful accounts of $324 and $160, respectively	5,524	2,949
Accounts receivable from related parties	128	75
Inventories, net	3,889	1,322
Prepaid expenses and other current assets	2,158	969
Total current assets	81,291	112,948
Property and equipment, net	10,228	4,687
Long-term investments	7,532	
Goodwill and other intangible assets, net	6,709	379
Notes receivable from related parties	384	304
Other long-term assets	672	630
Total assets	$ 106,816	$ 118,948
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 3,069	$ 906
Accounts payable to related party	147	13
Accrued liabilities	4,636	2,877
Deferred revenue	1,975	579
Deferred revenue from related parties	47	137
Current portion of capital lease obligations	410	234
Current portion of long-term debt	117	182
Total current liabilities	10,401	4,928
Deferred revenue	173	128
Deferred revenue from related parties	272	221
Capital lease obligations, net of current portion	2,083	307
Long-term debt, net of current portion		117
Other long term liabilities	658	95
Total liabilities	13,587	5,796
Commitments and contingencies (Note 7)		
Stockholders' equity:		

	December 31,	
Common stock, $0.001 par value		
Authorized: 80,000,000 shares at December 31, 2001 and 2000		
Issued and outstanding: 27,056,872 shares and 26,783,731 shares at December 31, 2001 and 2000, respectively	27	27
Additional paid-in capital	175,333	175,694
Notes receivable from stockholders	(1,294)	(1,294)
Deferred stock compensation	(6,327)	(12,362)
Accumulated other comprehensive income (loss)	191	(24)
Accumulated deficit	(74,701)	(48,889)
Total stockholders' equity	93,229	113,152
Total liabilities and stockholders' equity	$ 106,816	$ 118,948

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

CIPHERGEN BIOSYSTEMS, INC.
CONDOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Years Ended December 31,		
	2001	2000	1999
Revenue:			
Products	$ 15,742	$ 7,358	$ 3,963
Product revenue from related parties	1,192	1,064	882
Services	2,115	513	165
Total revenue	19,049	8,935	5,010
Cost of revenue:			
Products	5,516	2,774	1,354
Product revenue from related parties	434	587	306
Services	664	119	48
Total cost of revenue	6,614	3,480	1,708
Gross profit	12,435	5,455	3,302
Operating expenses:			
Research and development	12,895	7,475	3,139
Sales and marketing	14,301	9,001	4,989

	Years Ended December 31,		
General and administrative	13,020	11,322	2,799
Amortization of intangible assets	650	318	365
Write-off of acquired in-process technology	1,000		
Total operating expenses	41,866	28,116	11,292
Loss from operations	(29,431)	(22,661)	(7,990)
Interest income	4,125	2,644	245
Interest expense	(150)	(170)	(179)
Other income (expense), net	(201)	27	37
Equity in net loss of joint venture	(12)	(144)	(159)
Loss before provision for income taxes	(25,669)	(20,304)	(8,046)
Provision for income taxes	143		
Net loss	(25,812)	(20,304)	(8,046)
Dividend related to beneficial conversion feature of preferred stock		(27,228)	
Net loss attributable to common stockholders	$ (25,812)	$ (47,532)	$ (8,046)
Net loss per share attributable to common stockholders:			
Basic and diluted	$ (0.97)	$ (4.09)	$ (1.26)
Shares used in computing net loss per share attributable to common stockholders	26,512	11,635	6,397

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

CIPHERGEN BIOSYSTEMS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)
(in thousands)

	Common Stock		Additional Paid-In Capital	Notes Receivable From Stockholders	Deferred Stock Compensation	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Shares	Amount						
Balances, January 1, 1999	6,861	$ 6	$ 5,952	$ (386)	$ (1,308)	$	$ (20,539)	$ (16,275)
Net loss							(8,046)	(8,046)
Issuances of common stock for services	12		14					14
Issuance of common stock for cash and notes receivable	339		366	(341)				25
Repurchase of common stock	(359)		(239)	239				
Deferred stock compensation			3,723		(3,723)			
					1,344			1,344

	Common Stock			Notes Receivable From Stockholders	Amortization of deferred stock compensation	Accumulated Other Comprehensive Income (Loss)		
Balances, December 31, 1999	6,853	6	9,816	(488)	(3,687		(28,585)	(22,938)
Comprehensive loss:					)			
Net loss							(20,304)	(20,304)
Foreign currency translation adjustment						(24)		(24)
Total comprehensive loss								(20,328)
Issuances of common stock for services	15		174					174
Stock options exercised	637	1	1,344	(891)				454
Repayment of stockholder notes				65				65
Repurchase of common stock	(18)		(21)	20				(1)
Deferred stock compensation			17,985		(17,985)			
Amortization of deferred stock compensation					9,310			9,310
Issuance of preferred stock and warrants with beneficial conversion feature			27,228					27,228
Dividend related to beneficial conversion feature of preferred stock.			(27,228)					(27,228)
Conversion of preferred stock and warrants to common stock and warrants	12,972	14	53,967					53,981
Issuance of common stock, net of offering costs	6,325	6	92,429					92,435
Balances, December 31, 2000	26,784	27	175,694	(1,294)	(12,362)	(24)	(48,889)	113,152
Comprehensive Loss:								
Net loss							(25,812)	(25,812)
Unrealized gain on marketable securities						204		204
Foreign currency translation adjustment						11		11
Total comprehensive loss								(25,597)
Issuances of common stock for services	51		268					268
Stock options exercised	118		183					183
Purchase of common stock under employee stock purchase plan	114		604					604
Repurchase of common stock	(10)		(28)					(28)
Deferred stock compensation			(1,388)		1,388			

	Common Stock			Notes Receivable From Stockholders		Accumulated Other Comprehensive Income (Loss)		
Amortization of deferred stock compensation					4,647			4,647
Balances, December 31, 2001	27,057	$ 27	$ 175,333	$ (1,294)	$ (6,327)	$ 191	$ (74,701)	$ 93,229

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

CIPHERGEN BIOSYSTEMS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Years Ended December 31,		
	2001	2000	1999
Cash flows from operating activities:			
Net loss	$ (25,812)	$ (20,304)	$ (8,046)
Adjustments to reconcile net loss to cash used in operating activities:			
Depreciation and amortization	2,723	1,297	945
Write-off of acquired in-process technology	1,000		
Stock issued for services	268	553	14
Amortization of deferred stock compensation and accelerated vesting of stock options	4,647	9,310	1,344
Amortization of debt discount		4	19
Equity in net loss of joint venture	12	144	159
Loss on disposal of fixed assets	5	48	164
Changes in operating assets and liabilities, net of assets acquired and liabilities assumed in business combination:			
Accounts receivable, net	(1,196)	(2,269)	12
Accounts receivable from related parties	(53)	243	62
Inventories, net	(168)	(407)	8
Prepaids and other current assets	(507)	(647)	(91)
Other long-term assets	(53)	(596)	(22)
Accounts payable and accrued liabilities	2,474	2,124	467
Accounts payable to related party	134	(29)	(327)
Deferred revenue	1,440	501	81
Deferred revenue from related parties	(39)	(28)	134
Other long-term liabilities	565	95	
Net cash used in operating activities	(14,560)	(9,961)	(5,077)
Cash flows from investing activities:			
Purchase of property and equipment	(4,070)	(4,604)	(602)
Acquisition of BioSepra, net of cash acquired	(12,257)		
Purchase of marketable securities	(36,937)		
Maturities of marketable securities	8,336		
Issuance of notes receivable to related parties	(80)	(43)	(19)
Investment in joint venture			(315)

	Years Ended December 31,		
Net cash used in investing activities	(45,008)	(4,647)	(936)
Cash flows from financing activities:			
Proceeds from issuance of common stock, net of issuance costs		92,435	
Repurchase of common stock	(28)	(1)	
Proceeds from exercise of stock options and warrants	183	1,460	95
Issuance of common stock under employee stock purchase plan	604		
Repayment of stockholder notes		65	
Proceeds from issuance of preferred stock, net of issuance costs		26,902	1,019
Principal payments on capital lease obligations	(326)	(200)	(70)
Proceeds from long-term debt			467
Repayments of long-term debt	(183)	(370)	(526)
Borrowings under line of credit		285	2,554
Repayments under line of credit		(1,110)	(1,729)
Net cash provided by financing activities	250	119,466	1,810
Effect of exchange rate changes	4	(24)	
Net increase (decrease) in cash and cash equivalents	(59,314)	104,834	(4,203)
Cash and cash equivalents, beginning of year	107,633	2,799	7,002
Cash and cash equivalents, end of year	$ 48,319	$ 107,633	$ 2,799
Supplemental cash flow information:			
Cash paid for interest	$ 161	$ 143	$ 140
Cash paid for income taxes			
Supplemental schedule of non-cash investing and financing activities:			
Acquisition of property and equipment under capital leases		436	218
Common stock issued in exchange for notes receivable from stockholders		891	327
Repurchase of common stock for cancellation of notes receivable		20	239
Dividend related to beneficial conversion feature of preferred stock		27,228	
Issuance of warrants in connection with Series E financing		214	
Additions to (reductions in) deferred stock compensation	(1,388)	17,985	3,723
Transfer of fixed assets to inventory	301	193	
Conversion of preferred stock and warrants to common stock and warrants		53,981	

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

CIPHERGEN BIOSYSTEMS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

The Company

Ciphergen Biosystems, Inc. (the "Company" or "Ciphergen"), which was reincorporated in the State of Delaware on June 21, 2000, develops, manufactures and sells ProteinChip Systems, which consist of consumable ProteinChip Arrays, ProteinChip Readers and ProteinChip Software for life science researchers. These products are sold primarily to biologists at pharmaceutical and biotechnology companies, and academic and government research laboratories. The Company also provides research services and, with its acquisition of the BioSepra chromatography business (Note 4), has entered the protein purification market.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America and include the accounts of the Company and its wholly-owned subsidiaries. All intercompany transactions have been eliminated in consolidation.

The Company reports its minority ownership interest in Ciphergen Biosystems, K.K., a joint venture in Japan, using the equity method of accounting. Intercompany profits have been eliminated in the consolidated financial statements.

Use of Estimates

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

Certain Risks and Uncertainties

The Company's products and services are currently concentrated in a single segment of the life science research field which is characterized by rapid technological advances and changes in customer requirements. The success of the Company depends on management's ability to anticipate or to respond quickly and adequately to technological developments in its industry, changes in customer requirements or industry standards. Any significant delays in the development or introduction of products or services could have a material adverse effect on the Company's business and operating results.

The Company licenses certain technologies that are used in products that represent substantially all of its revenues. An inability to retain such technology licenses could result in a material adverse effect to the Company. Additionally, some of the components used in its products are from single-source suppliers. If the Company is unable to obtain such components, its financial condition and operating results could be significantly impacted.

Cash and Cash Equivalents

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

Investments

Management determines the appropriate classification of the Company's investments in marketable debt and equity securities at the time of purchase, and re-evaluates this designation at each balance sheet date. The Company classifies all securities as "available-for-sale" and carries them at fair value with unrealized gains or losses related to these securities included as a component of stockholders' equity in the consolidated balance sheet. The Company's investment objectives include the safety and preservation of invested funds and liquidity of investments that is sufficient to meet cash flow requirements. Cash, cash equivalents, and investments in debt and equity securities are placed with high credit quality financial institutions and commercial companies and government agencies in order to limit the amount of credit exposure. Realized gains and losses are determined using the specific identification method.

Fair Value of Financial Instruments

The carrying amounts of certain of the Company's financial instruments including cash and cash equivalents and accounts payable approximate fair value due to their short maturities. Based on borrowing rates currently available to the Company for loans with similar terms, the carrying value of its debt obligations approximates fair value.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents and accounts receivable. Most of the Company's cash and cash equivalents as of December 31, 2001 were deposited with financial institutions in the United States and exceeded federally insured amounts. The Company also maintains minimal cash deposits with banks in Western Europe and Canada. The Company has not experienced any losses on its deposits of cash and cash equivalents. The Company's accounts receivable are derived from sales made to customers located in North America, Europe and Asia. The Company performs ongoing credit evaluations of its customers' financial condition and generally does not require collateral. The Company maintains an allowance for doubtful accounts based upon the expected collectibility of accounts receivable.

Ciphergen Biosystems, K.K. accounted for 5% and 11% of revenue in 2001 and 2000, respectively. No other customer accounted for more than 10% of revenue in 2001 or 2000.

Inventories

Inventories are stated at the lower of standard cost, which approximates average cost, or market value.

Property and Equipment

Property and equipment are stated at cost and depreciated on a straight-line basis over the estimated useful lives of the related assets. Computer equipment is depreciated over three to four years, laboratory equipment over three to eight years, office furniture and equipment over three to ten years, and demonstration equipment over two years. Leasehold improvements are depreciated over the lease term. Gains and losses upon asset disposal are reflected in operations in the year of disposition.

Goodwill and Other Intangible Assets

Goodwill represents the excess of the purchase price over the estimated fair value of the tangible and intangible net assets acquired in the Company's acquisitions of IllumeSys Pacific, Inc. in 1997, Ciphergen Technologies, Inc. in 1998, and BioSepra S.A. in 2001. Prior to the adoption of Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets" (see "Recent

Accounting Pronouncements" below), goodwill was being amortized on a straight-line basis over five years.

Other intangible assets consist of patents and developed product technology arising from the acquisition of the BioSepra business. These intangibles are being amortized on a straight-line basis over their estimated useful lives of seven years.

Goodwill and other intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Long-lived Assets

Long-lived assets are reviewed for impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability is measured by comparison of the asset's carrying amount to future net undiscounted cash flows the assets are expected to generate. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the projected discounted future net cash flows arising from the assets.

Revenue Recognition

Revenue from product sales is recognized upon product shipment, provided no significant obligations remain and collections of the receivables are deemed probable. Revenue from research contracts is recognized as the work is performed, based on the achievement of milestones described in the contracts. Revenue from up-front payments is deferred and recognized ratably over the expected life of the contract. Payments for maintenance contracts are usually prepaid, and the revenue is deferred and recognized ratably over the term of the service contract, which is generally 12 months. For multiple element arrangements, revenue is allocated to each component of the contract using the fair value of the elements. The revenue attributable to any undelivered elements is deferred and is subsequently recognized as the Company fulfills its obligations to deliver those goods or services.

Research and Development Costs

Research and development expenditures are charged to operations as incurred. Software is an integral component of the Company's ProteinChip Systems. Software development costs incurred in the research and development of new products are expensed as incurred until technological feasibility is established. To date, products and upgrades have generally reached technological feasibility and have been released for sale at substantially the same time.

Stock-based Compensation

The Company accounts for its stock-based employee compensation arrangements in accordance with provisions of Accounting Principles Board Opinion No. 25 ("APB 25"), "Accounting for Stock Issued to Employees" and complies with the disclosure provisions of Statement of Financial Accounting Standards ("SFAS") No. 123, "Accounting for Stock-Based Compensation." Under APB 25, unearned compensation expense is based on the difference, if any, on the date of the grant, between the fair value of the Company's stock and the exercise price. Unearned compensation is amortized and expensed in accordance with Financial Accounting Standards Board Interpretation No. 28. The Company accounts for stock issued to non-employees in accordance with the provisions of SFAS No. 123 and Emerging Issue Task Force No. 96-18, "Accounting for Equity Instruments that are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services."

Income Taxes

The Company accounts for income taxes using the liability method. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and the tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to affect taxable income. A valuation allowance is established when necessary to reduce deferred tax assets to the amounts expected to be realized.

Foreign Currency Translation

The functional currencies of the Company's foreign subsidiaries are the local currencies. Accordingly, all monetary assets and liabilities of the foreign operations are translated into U.S. dollars at current period end exchange rates, and non-monetary assets and related elements of expense are translated using historical rates of exchange. Revenues and other expense elements are translated to U.S. dollars using average exchange rates in effect during the period. The gains and losses from foreign currency translation of these subsidiaries' financial statements are recorded directly into a separate component of stockholders' equity under the caption "Accumulated other comprehensive income (loss)." Foreign currency transaction gains and losses have not been significant.

Net Loss per Share

Basic net loss per share attributable to common stockholders is computed by dividing net loss attributable to common stockholders for the period by the weighted average number of common shares outstanding during the period. Diluted net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders for the period by the weighted average number of common and potential common shares outstanding during the period, if their effect is dilutive. Potential common shares include common stock subject to repurchase and incremental shares of common stock issuable upon the exercise of stock options and warrants and upon the conversion of convertible preferred stock.

The following table sets forth the computation of basic and diluted net loss per share attributable to common stockholders for the periods indicated (in thousands, except per share amounts):

	Years Ended December 31,		
	2001	2000	1999
Numerator:			
Net loss attributable to common stockholders	$ (25,812)	$ (47,532)	$ (8,046)
Denominator:			
Weighted average common shares outstanding	26,894	12,110	6,750
Weighted average unvested common shares subject to repurchase	(382)	(475)	(353)

	Years Ended December 31,		
Denominator for basic and diluted calculations	26,512	11,635	6,397
Basic and diluted net loss per share attributable to common stockholders	$ (0.97)	$ (4.09)	$ (1.26)

The following table sets forth the potential shares of common stock that are not included in the diluted net loss per share attributable to common stockholders calculation above because to do so would be anti-dilutive for the periods indicated (in thousands):

	Years Ended December 31,		
	2001	2000	1999
Effect of dilutive securities:			
Convertible preferred stock outstanding			8,231
Common stock subject to repurchase	293	505	392
Stock options outstanding	2,300	1,492	561
Common stock warrants outstanding	9	9	242
	2,602	2,006	9,426

Recent Accounting Pronouncements

In July 2001, the Financial Accounting Standards Board (FASB) issued Statements No. 141 and 142 (FAS 141 and FAS 142), "Business Combinations" and "Goodwill and Other Intangible Assets", respectively. FAS 141 eliminates pooling-of-interests accounting prospectively. It also provides guidance on purchase accounting related to the recognition of intangible assets and accounting for negative goodwill. FAS 142 changes the accounting for goodwill from an amortization method to an impairment-only approach. Under FAS 142, goodwill will be tested annually and whenever events or circumstances occur indicating that goodwill might be impaired. FAS 141 and FAS 142 were effective for all business combinations completed after June 30, 2001. Upon adoption of FAS 142, amortization of goodwill recorded for business combinations consummated prior to July 1, 2001 ceased, and intangible assets acquired prior to July 1, 2001 that do not meet the criteria for recognition under FAS 141 were reclassified to goodwill. Companies are required to adopt FAS 142 for fiscal years beginning after December 15, 2001, but early adoption is permitted in certain circumstances. The Company will adopt FAS 142 on the first day of fiscal 2002 (January 1, 2002). In connection with the adoption of FAS 142, the Company is required to perform a transitional goodwill impairment assessment. The Company believes that the implementation of these standards will not have a material impact on its results of operations or financial position.

In August 2001, the FASB issued Statement No. 143 (FAS 143), "Accounting for Asset Retirement Obligations," which is effective for fiscal years beginning after June 15, 2002. FAS 143 addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The Statement applies to all entities. It applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development, and/or the normal operation of a long-lived asset except for certain obligations of lessees. Ciphergen does not expect the adoption of FAS 143 will have a significant impact on its results of operations or financial position.

In October 2001, the FASB issued Statement No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." FAS 144 addresses financial accounting and reporting for the impairment of long-lived assets and for long-lived assets to be disposed of. FAS 144 was effective for fiscal years beginning after December 15, 2001. Ciphergen will adopt the provisions of FAS 144 on January 1, 2002 and does not expect that such adoption will have a material effect on its financial statements.

2. Balance Sheet Components (in thousands)

	December 31,	
	2001	2000
Inventory, net:		
Raw materials	$ 1,354	$ 605
Work in progress	818	393
Finished goods	1,717	324
	$ 3,889	$ 1,322
Property and equipment:		
Land	$ 348	$
Buildings and improvements	2,540	
Machinery and equipment	8,472	3,175
Leasehold improvements	2,559	2,136
Computers and equipment	1,427	785
Furniture and fixtures	810	524
	16,156	6,620
Less: accumulated depreciation and amortization	(5,928)	(1,933)
	$ 10,228	$ 4,687

Property and equipment includes $3,718 and $830 of equipment under capital leases at December 31, 2001 and 2000, respectively. Accumulated amortization of assets under capital leases totaled $837 and $318 at December 31, 2001 and 2000, respectively.

Goodwill and other intangible assets, net:		
Goodwill	$ 2,501	$ 1,322
Patents	400	
Purchased technology	5,400	
	8,301	1,322
Less: accumulated amortization	(1,592)	(943)
	$ 6,709	$ 379
Accrued liabilities:		
Payroll and related expenses	$ 2,639	$ 1,244
Security deposit	166	332
Legal and accounting fees	563	331
Rent and related liabilities	167	484
Tax-related liabilities	470	140
Other accrued liabilities	631	346
	$ 4,636	$ 2,877

3. Marketable Securities

Marketable securities, which are classified as available-for-sale, are summarized as follows as of December 31, 2001 (in thousands):

	Amortized Cost	Gross Unrealized Gains	Aggregate Fair Value
U.S. Treasury securities and debt securities of U.S. government agencies	$ 5,595	$ 17	$ 5,612
Corporate debt securities	23,006	187	23,193
	$ 28,601	$ 204	$ 28,805

The Company had no marketable securities at December 31, 2000.

At December 31, 2001, marketable debt securities with an aggregate fair value of $21.3 million had scheduled maturities of less than one year. All remaining marketable debt securities had scheduled maturities of between one and two years. No marketable debt securities had maturities of less than three months at the date of purchase, and none were classified as cash equivalents.

During 2001 and 2000, no marketable securities were sold prior to maturity.

4. Acquisition

On July 31, 2001, the Company acquired BioSepra S.A. ("BioSepra") and certain other assets related to BioSepra's chromatography business from Invitrogen Corporation. Located near Paris, France, BioSepra develops, manufactures and sells chromatography sorbents for large scale purification of proteins. Ciphergen believes that BioSepra's protein chromatography products, combined with Ciphergen's ProteinChip Systems, will create a novel approach to protein purification and address a significant bottleneck in the field of proteomics. The Company paid approximately $12.0 million in cash, net of cash acquired, while incurring direct acquisition costs of approximately $257,000. The acquisition was accounted for using the purchase method of accounting. Accordingly, the results of operations of BioSepra and the estimated fair value of assets acquired and liabilities assumed were included in the Company's consolidated financial statements as of August 1, 2001 through December 31, 2001.

The total purchase price was allocated to the estimated fair value of assets acquired and liabilities assumed based on independent appraisals and management estimates as follows (in thousands):

Tangible net assets acquired:	
Accounts receivable, net, and other current assets	$ 2,028
Inventories, net	2,067
Property and equipment, net	3,859
Accounts payable and accrued liabilities	(1,427)
Capital lease obligations	(2,249)
	4,278
Acquired in-process technology	1,000
Completed technology	5,400
Patents	400
Excess of purchase price over net assets acquired	1,179
Total purchase price	$ 12,257

In connection with the purchase of BioSepra, the Company recorded a $1.0 million charge to acquired in-process technology. The amount was determined by identifying research projects for which

technological feasibility had not been established and no alternative future uses existed. The value of the projects identified to be in progress was determined by estimating the future cash flows of the product, then discounting the net cash flows back to their present value at a discount rate consistent with the inherent risk of the particular project. The net cash flows from the identified in-process projects are expected to commence at various times from 2002 to 2004 and include estimates of research and development costs needed to bring the project from its current state of development to a point of commercial feasibility. The cash flows are based on expected future revenues, cost of revenues, selling, general and administrative costs, research and development costs needed to maintain the project throughout its life cycle, and applicable income taxes for the projects. The discount rates used in the present value calculations were derived from the weighted-average cost of capital of BioSepra and adjusted upward to reflect additional risks inherent in the development life cycle of the particular project. Such discount rates ranged between 19% and 25% for all projects. Development of the technologies remains a substantial risk to the Company due to factors including the remaining effort to achieve technological feasibility, rapidly changing customer markets and competitive threats from other companies. Actual expenses incurred to date have not been materially different from those used in the calculations described above.

The amounts allocated to completed technology and patents are being amortized over their estimated useful lives of seven years using the straight-line method.

The amount of the purchase price in excess of the net assets acquired was recorded as goodwill and will be periodically evaluated for impairment in accordance with FAS 142.

The following pro forma summary is provided for illustrative purposes only and is not necessarily indicative of the consolidated results of operations for future periods or that actually would have been realized had the Company and Biosepra been a consolidated entity during the periods presented. The summary combines the results of operations as if Biosepra had been acquired as of the beginning of the periods presented. The summary includes the impact of certain adjustments such as amortization of intangibles. Additionally, the in-process technology charge of $1.0 million discussed above has been excluded from the periods presented as it arose from the acquisition of Biosepra.

	Twelve Months Ended December 31,	
	2001	2000
	(Unaudited) (in thousands, except per share amounts)	
Revenue	$ 22,157	$ 13,968
Net loss attributable to common stockholders	$ (24,618)	$ (47,595)
Basic and diluted net loss per share	$ (0.93)	$ (4.09)

5. Investment in Joint Venture

In January 1999, the Company entered into a joint venture agreement with a Japanese company to form a limited liability corporation, Ciphergen Biosystems, K.K., to be incorporated under the commercial code of Japan. The Company invested $315,000 in exchange for 30% ownership of the joint venture. The Company has no future funding commitments to Ciphergen Biosystems, K.K. Commencing after the fiscal year ending December 31, 2001, the Company has the option to purchase, based on a predetermined formula price, an aggregate of 40% of Ciphergen Biosystems, K.K. from its joint venture partner each year within 30 days of the receipt of the joint venture's audited financial statements. Such buyout option terminates automatically 30 days after the receipt of the joint venture's audited financial statements for the year ending December 31, 2004. The Japanese partner is obligated to provide or arrange for working capital for the joint venture until the Company purchases the additional 40% ownership, at which time the joint venture must repay such financing and arrange its own working capital financing. The Company's proportionate share of the joint venture's losses were

recorded in the statement of operations as non-operating losses, until such time as the original investment was written down to zero. Approximately 5% and 11% of the Company's revenues in 2001 and 2000, respectively, were from sales to the joint venture.

In connection with the joint venture agreement, the Company entered into a distribution and marketing agreement with the joint venture whereby the joint venture would distribute the Company's products in the life science research markets in Japan. In exchange for providing trading, technical support, equipment demonstrations and seminars, the Company received a non-refundable payment of approximately $315,000. Such payment is included in deferred revenue and is being recognized as other income over a 10-year period, the term of the joint venture agreement.

6. Long-term Debt (in thousands)

	December 31,	
	2001	2000
Notes payable to a financial institution, bearing interest between 14.7% and 16.8% collateralized by equipment and inventory, with principal and interest payable monthly through August 2002	$ 117	$ 295
Notes payable to a financial institution, bearing interest at 6%, collateralized by certain equipment, with principal and interest payable monthly through November 2001		4
	117	299
Less: current portion	(117)	(182)
	$	$ 117

The notes payable to financial institutions are subject to certain covenants, including restrictions on the payment of dividends and the sale of assets. At December 31, 2001, the Company was not in violation of any covenants.

7. Commitments and Contingencies

Capital Leases

The Company leases certain machinery and equipment in the U.S. under capital lease agreements, with an independent finance company, which expire through May 1, 2003. The Company also leases its facility in France, under a capital lease with an independent finance company, which expires on February 3, 2011. The interest rate on one capital lease is variable based on the Euribor rate.

As of December 31, 2001, future minimum lease payments under capital lease agreements were as follows (in thousands):

2002	$ 468
2003	314
2004	232
2005	240
2006 and after	1,411
Total minimum lease payments	2,665
Less: amount representing interest	(172)
Present value of minimum lease payments	2,493
Less: current portion	(410)
Non-current portion	$ 2,083

Operating Leases

The Company leases various equipment and facilities in Fremont, California; Malvern, Pennsylvania; Copenhagen, Denmark; and Beijing, China. The facility leases expire in July 2008, September 2005, March 2003 and November 2002, respectively. Under the terms of the facility leases in Fremont and Malvern, the Company is responsible for common area maintenance. Total rent expense under all leases, net of sublease income, was $1,791,000, $896,000 and $397,000 for the years ended December 31, 2001, 2000 and 1999, respectively.

As of December 31, 2001, future minimum payments under non-cancelable operating leases, exclusive of sublease income, were as follows (in thousands):

2002	$ 2,990
2003	3,052
2004	3,114
2005	3,193
2006 and after	8,435
	$ 20,784

Contingencies

The Company is currently party to three legal proceedings.

(1) *Ciphergen Biosystems, Inc., Ciphergen Technologies, Inc. and IllumeSys Pacific, Inc. v. Molecular Analytical Systems, Inc., LumiCyte, Inc. and T. William Hutchens.* On July 12, 2000, the Company filed a lawsuit in the Superior Court of the State of California against Molecular Analytical Systems, Inc. ("MAS") and LumiCyte, Inc. ("LumiCyte") requesting a declaration of the Company's rights, including that Ciphergen has the right to sell information and service products, and requesting a preliminary injunction preventing MAS from terminating the sublicense agreements. In October 2000, the Company made additional claims against MAS and LumiCyte, and added T. William Hutchens as an individual defendant. Hutchens is the Chief Executive Officer of both MAS and LumiCyte, as well as a former officer and director of Ciphergen. He is presently the beneficial owner of less than 10% of the Company's outstanding common stock. Ciphergen's action seeks, among other things, damages and injunctive relief against defendants for unfair competition, misappropriation of trade secrets, and breach of contract, as well as an injunction precluding defendants from operating in Ciphergen's licensed markets. In October 2000, MAS and LumiCyte filed a cross-complaint against Ciphergen,

Ciphergen Technologies, Inc. and IllumeSys Pacific, Inc., the three plaintiffs which filed the underlying lawsuit against MAS and LumiCyte described above. The cross-complaint alleges claims for breach of contract, intentional interference with prospective economic advantage, unfair competition, misappropriation of trade secrets and declaratory relief regarding the rights of the parties under the two technology transfer sublicense agreements between MAS and Ciphergen. The cross-complaint also seeks to terminate the sublicense agreements, to obtain injunctive relief, to prevent use of alleged trade secrets of MAS, and damages. Ciphergen and MAS have entered into an agreement that provides that MAS' license termination notices are suspended pending the conclusion of this lawsuit. In May 2001, the Company amended its complaint and brought additional claims against MAS, LumiCyte and Hutchens.

(2) *Molecular Analytical Systems, Inc. v. Ciphergen Biosystems.* The proceeding was filed December 9, 1999 in the United States Trademark and Appeal Board. The Company applied for registration of the term "SELDI" as a trademark. MAS has opposed registration of the trademark and is seeking to have the trademark registered in its name instead. The Trademark and Appeal Board has suspended the proceeding until resolution of the lawsuit described above.

(3) On July 27, 2001, the Company served a demand for arbitration on T. William Hutchens under the July 28, 1998 Stock Exchange Agreement among the Company, Ciphergen Technologies, Inc., Hutchens and others. The demand for arbitration asserts that Hutchens, who was a selling shareholder of Ciphergen Technologies, made representations and warranties to Ciphergen about the conduct of Ciphergen Technologies' business and its ownership of assets that are contrary to certain claims asserted in the cross-complaint filed by MAS and

LumiCyte and, therefore, that he must pay Ciphergen's attorneys fees and indemnify Ciphergen for any losses it might incur resulting from filing of the cross-claims, regardless of their merit. The parties have agreed to stay the arbitration until the earlier of August 1, 2002, or the resolution of any of several of plaintiffs' and cross-complainants' causes of action.

Although the ultimate outcome of these matters is not presently determinable, management believes that the resolution of all such pending matters will not have a material adverse effect on the Company's consolidated financial position, results of operations or cash flows. However, should the outcome of these matters be unfavorable to the Company, the impact could be material to the Company's consolidated financial position, results of operations or cash flows.

8. Stockholders' Equity

Stock Split

On September 26, 2000 the board of directors and stockholders approved a 0.43-for-1 reverse stock split of the common and preferred stock. All share and per share amounts for all periods presented in the accompanying consolidated financial statements have been adjusted retroactively.

Initial Public Offering

The Company had its initial public offering ("IPO") of 5,500,000 shares of common stock on September 28, 2000 at a price of $16 per share. On October 3, 2000 the underwriters exercised their option to purchase an additional 825,000 shares of common stock. The IPO generated aggregate gross proceeds of approximately $101.2 million for the Company. The net proceeds to the Company were approximately $92.4 million, after deducting underwriting discounts and commissions of approximately $7.1 million and expenses of the offering of approximately $1.7 million. Concurrent with the IPO, all of the Company's preferred stock and preferred stock warrants automatically converted to common stock and common stock warrants, respectively.

Preferred Stock

In February 1995, the Company entered into a joint development agreement with Stanford Research Systems which was amended in June 2000. It provided for the issuance of a total of 949,113 shares of Series B preferred stock. Through December 31, 1999, a total of 712,613 shares of preferred stock were issued under the agreement. During 2000, two additional milestones were attained and 25,800 shares of preferred stock valued at $379,000 and 12,900 shares of common stock valued at $142,000 were issued, respectively. In 2001, a total of 51,600 common shares valued at $268,000 were issued upon the attainment of four additional milestones. The remaining 146,200 shares will be issued as common stock upon the achievement of additional milestones.

In March 2000, the Company issued 4,468,070 shares of Series E preferred stock ("Series E") at $6.395 per share resulting in net cash proceeds of $26.9 million. The difference between the conversion price and the fair market value per share of the common stock on the transaction date resulted in a beneficial conversion feature of $26.7 million which has been reflected as a preferred stock dividend in the consolidated financial statements. In connection with the Series E financing, the Company issued the underwriter warrants to purchase 63,053 shares of Series E preferred stock for $6.395 per share. The warrants had a fair value of $8.32 per share based on a calculation using the Black-Scholes option-pricing model at the time of issuance. The aggregate amount allocated to the warrants based on the relative value of the warrants to the Series E preferred stock was $213,000. In March 2000, the underwriters exercised the 63,053 warrants. The resulting difference between the exercise price of the warrants and fair market value of the common stock underlying the Series E preferred stock resulted in an additional beneficial conversion feature of $542,000 on the date these warrants were exercised. This has been reflected as a preferred stock dividend in the consolidated financial statements.

At December 31, 2001 and 2000, 5,000,000 shares of preferred stock were authorized, but no shares were issued or outstanding.

9. Stock Options, Warrants and Employee Stock Purchase Plan

1993 Stock Option Plan

The Company has no shares of common stock reserved for sale to employees, directors or consultants under its 1993 Stock Option Plan (the "Plan"). Under the Plan, options were granted at prices not lower than 85% and 100% of the fair market value of the common stock for

nonstatutory and statutory stock options, respectively. Options are exercisable when granted and such unvested shares are subject to repurchase upon termination of employment. Should the employment of the holders of common stock subject to repurchase terminate prior to full vesting of the outstanding shares, the Company may repurchase all unvested shares at a price per share equal to the original exercise price. Options generally vest monthly over a period of five years. At December 31, 2001, a total of approximately 293,000 shares of common stock were subject to repurchase by the Company at a weighted average repurchase price of $2.18 per share. Unexercised options generally expire ten years from the date of grant (five years for incentive stock options granted to holders of more than 10% of the Company's common stock). During 2001, no options were granted under this Plan. Options for 137,621 shares were cancelled during 2001 and the shares reserved under the Plan were reduced by the same amount.

2000 Stock Plan

In April 2000, the stockholders approved the 2000 Stock Plan (the "New Plan"). The Company currently has 2,550,000 shares of common stock reserved for sale to employees, directors and consultants under this new stock option plan. Under the New Plan, options may be granted at prices not lower than 85% and 100% of the fair market value of the common stock for nonstatutory and statutory stock options, respectively. Options generally vest monthly over a period of five years. During

2000 there was no activity under this New Plan. During 2001, options for 1,105,100 shares were granted and options for 41,517 shares were cancelled.

Activity under the two Plans was as follows (in thousands, except per share data):

		Options Outstanding			
	Shares Available for Grant	Number of Shares	Price Per Share	Aggregate Price	Weighted Average Exercise Price
Balances, December 31, 1998	168	439	$ 0.12-1.16	$ 273	$ 0.62
Shares reserved for the Plan	516				
Options granted	(505)	505	1.16	586	1.16
Options canceled/shares repurchased	403	(44)	0.23-1.16	(30)	0.69
Options exercised		(339)	0.23-1.16	(366)	1.08
Balances, December 31, 1999	582	561	0.12-1.16	463	0.83
Shares reserved for the Plans	2,064				
Options granted	(1,624)	1,624	3.49	5,666	3.49
Options canceled/shares repurchased	118	(99)	0.23-3.49	(220)	2.21
Options exercised		(594)	0.23-3.49	(1,345)	2.27
Balances, December 31, 2000	1,140	1,492	0.12-3.49	4,564	3.06
Shares reserved for the Plan	325				
Reduction in shares reserved	(213)				
Options granted	(1,105)	1,105	2.99-8.50	7,022	6.35
Options canceled/repurchased	189	(179)	1.16-8.50	(734)	4.10
Options exercised		(118)	0.12-3.49	(182)	1.55
Balances, December 31, 2001	336	2,300	$ 0.23-$8.50	$ 10,670	$ 4.61

The options outstanding and currently exercisable by weighted average exercise price at December 31, 2001 were as follows:

	Options Outstanding			Options Exercisable	
		Weighted Average Remaining Contractual Life	Price		Price

Range of Exercise Prices	Options Outstanding Number (in thousands)	(Years)		Number (in thousands)	
$0.23-$1.16	144	6.6	$ 0.89	144	$ 0.89
$2.99-$3.49	1,169	9.2	$ 3.46	1,098	$ 3.49
$4.86-$5.60	241	9.8	$ 5.22	21	$ 4.93
$6.08-$6.74	516	9.4	$ 6.35	61	$ 6.39
$8.50	230	9.1	$ 8.50	44	$ 8.50
	2,300			1,368	

Fair Value Disclosures

The Company applies the measurement principles of APB 25 in accounting for its stock option plans. Had compensation expense for options granted been determined based on fair value at the grant date as prescribed by SFAS No. 123, the Company's net loss per share attributable to common stockholders would have increased to the pro forma amounts indicated below (in thousands, except per share data):

	Years Ended December 31, 2001	2000	1999
Net loss attributable to common stockholders:			
As reported	$ (25,812)	$ (47,532)	$ (8,046)
Pro forma	$ (27,577)	$ (48,921)	$ (8,481)
Basic and diluted net loss attributable to common stockholder per share:			
As reported	$ (0.97)	$ (4.09)	$ (1.26)
Pro forma	$ (1.04)	$ (4.20)	$ (1.33)

The value of each option grant is estimated on the date of grant using the Black-Scholes option-pricing model in 2001 and 2000 and the minimum value method in 1999 with the following weighted assumptions:

	Years Ended December 31, 2001	2000	1999
Risk-free interest rate	4.6%	6.2%	5.6%
Expected average life	5 years	5 years	5 years
Expected dividends			
Volatility	75%	75%	n/a

The expected average life is based on the assumption that stock options on average are exercised 5 years after they are granted. The risk-free interest rate was calculated in accordance with the grant date and expected average life. During the years ended December 31, 2000 and 1999, the exercise prices of all options granted were less than the market value of the underlying stock on the respective grant dates. During the year ended December 31, 2001, the exercise prices of all options granted were equal to fair market value on the dates of grant. The weighted-average fair value of options granted during the years ended December 31, 2001, 2000 and 1999 was $4.10, $12.32 and $0.26 per share, respectively.

Stock-Based Compensation

During the period from April 1997 through December 31, 2001, the Company recorded $26.0 million of stock-based compensation in accordance with APB 25, SFAS 123 and Emerging Issues Task Force 96-18, related to stock options granted to consultants and employees. For options granted to consultants, the Company determined the fair value of the options using the Black-Scholes option pricing model with the following assumptions: expected lives of five years; weighted average risk-free rate calculated using rates between 4.5% and 6.2%; expected dividend yield of zero percent; volatility of 75% and deemed values of common stock between $0.70 and $14.67 per share. Stock compensation

expense is being recognized in accordance with FIN 28, an accelerated amortization method, over the vesting periods of the related options, generally five years.

The allocation of stock-based compensation expense by functional area was as follows (in thousands):

	Years Ended December 31,		
	2001	2000	1999
Cost of revenue	$ 232	$ 269	$ 39
Research and development	583	1,454	206
Sales and marketing	919	1,395	476
General and administrative	2,913	6,192	623
Total stock-based compensation	$ 4,647	$ 9,310	$ 1,344

Warrants

During 2000, outstanding warrants to purchase 290,623 shares of preferred stock were exercised for total proceeds of $1.0 million. Warrants exercised after the Company's initial public offering were exercised for common stock. No warrants were issued or exercised in 2001. At December 31, 2001, the Company had 9,010 common stock warrants outstanding at a weighted average exercise price of $3.54 per share.

Employee Stock Purchase Plan

In April 2000, the stockholders approved the 2000 Employee Stock Purchase Plan, under which eligible employees may purchase common stock of the Company through payroll deductions. Purchases are made semi-annually at a price equal to the lower of 85% of the closing price on the applicable offering commencement date or 85% of the closing price at the end of the purchase period. The Company currently has 250,999 shares of common stock reserved for issuance to employees under this Plan. There was no activity under this plan in 2000. During 2001, purchases of 114,001 shares were made under this Plan.

10. Income Taxes

The Company accounts for income taxes using the liability method. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax bases of assets and liabilities using the current tax laws and rates. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

The provision for income taxes was due to current foreign income taxes, which were $143,000 for the year ended December 31, 2001.

Based on the available objective evidence, management believes it is more likely than not that the net deferred tax assets will not be fully realizable. Accordingly, the Company has provided a full valuation allowance against its net deferred tax assets at December 31, 2001.

Deferred tax assets consisted of the following (in thousands):

	December 31,	
	2001	2000
Net deferred tax assets:		

	December 31,	
Depreciation and amortization	$ 1,135	$ 485
Other	1,163	751
Research and development and other credits	2,277	1,293
Net operating losses	17,637	10,783
Deferred tax assets	22,212	13,312
Less: valuation allowance	(22,212)	(13,312)
	$	$

Reconciliation of the statutory federal income tax to the Company's effective tax:

	2001	2000	1999
Tax at federal statutory rate	(34)%	(34)%	(34)%
State, net of federal benefit	(6)	(2)	(2)
Research and development credits	(2)	(1)	1
Change in valuation allowance	35	20	30
Stock-based compensation	7	17	5
Foreign rate difference and other	1		
Provision for income taxes	1%	0%	0%

As of December 31, 2001, the Company had net operating loss carryforwards of approximately $48.1 million for federal and $23.5 million for state tax purposes. If not utilized, these carryforwards will begin to expire beginning in 2009 for federal purposes and 2002 for state purposes.

The Company had research credit carryforwards of approximately $1.4 million and $1.2 million for federal and state income tax purposes, respectively. If not utilized, the federal carryforward will expire in various amounts beginning in 2009. The California credit can be carried forward indefinitely.

The Internal Revenue Code limits the use of net operating loss and tax credit carryforwards in certain situations where changes occur in the stock ownership of a company. In the event the Company has had a change in ownership, utilization of the carryforwards could be restricted.

11. Employee Benefit Plans

The Company maintains the Ciphergen Biosystems, Inc. 401(k) Savings Plan for its U.S. employees. The Plan allows eligible employees to defer up to 20%, subject to the Internal Revenue Service annual contribution limit, of their pretax compensation in certain investments at the discretion of the employee. Under the Plan, the Company is not required to make Plan contributions. The Company had not made any contributions to the Plan as of December 31, 2001.

12. Related Parties

At December 31, 2001, the Company had two notes receivable totaling $230,000 from an officer, with an imputed interest rate of 6.0%. The notes are repayable on or before December 30, 2003. Additionally, the Company has various notes receivable from stockholders in the aggregate amount of approximately $1.3 million related to the early exercise of stock options. These full recourse notes have five year terms, bear interest between 5.59% and 6.85% and are collateralized by the underlying stock and other personal assets. All notes receivable related to the early exercise of options become due immediately upon termination of employment. At December 31, 2001, accrued interest on these notes amounted to $154,000.

During the years ended December 31, 2001 and 2000, the Company recorded revenue in the amount of $1.2 million and $1.1 million, respectively, on sales to related parties. These sales were transactions related to the sale of equipment and consumables to customers who hold minority investments in the Company. Additionally, each year the Company recorded approximately $31,000 of other income for services performed under the Ciphergen Biosystems, K.K. distribution and marketing agreement. The Company also purchased $372,000 and $352,000 of inventory in 2001 and 2000, respectively, from one of its related parties, and in 2001 and 2000 made non-cash payments in the form of Ciphergen stock to this related party under the terms of a joint development agreement. (See Note 8.)

13. Segment Information

The Company operates in one business segment. The Company sells its products and services directly to customers in North America and Europe, and through distributors in Asia.

Revenue for geographic regions reported below are based upon the customers' locations. Long-lived assets, predominately machinery and equipment, are reported based on the location of the assets. Following is a summary of the geographic information related to revenues, long-lived assets and information related to significant customers for the years ended December 31, 2001, 2000 and 1999:

	2001	2000	1999
		(in thousands)	
Revenue			
North America	$ 10,435	$ 5,540	$ 3,142
Europe	6,124	2,327	1,320
Asia	2,490	1,068	548
Total:	$ 19,049	$ 8,935	$ 5,010
Long-lived assets			
North America	$ 5,558	$ 4,324	$ 777
Europe	4,670	363	90
Total:	$ 10,228	$ 4,687	$ 867

14. Quarterly Consolidated Financial Data (Unaudited)

The following table presents certain unaudited consolidated quarterly financial information for the eight quarters ended December 31, 2001. In our opinion, this information has been prepared on the same basis as the audited consolidated financial statements and includes all adjustments (consisting

only of normal recurring adjustments) necessary to present fairly the unaudited quarterly results of operations set forth herein.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year
		(in thousands, except per share data)			
Net sales					
2001	$ 2,683	$ 3,663	$ 5,404	$ 7,299	$ 19,049
2000	1,495	2,146	2,338	2,956	8,935
Gross profit					
2001	1,683	2,636	3,454	4,662	12,435
2000	922	1,208	1,307	2,018	5,455

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Fiscal Year
Net loss					
2001	(5,984)	(5,814)	(6,916)(1)	(7,098)	(25,812)(1)
2000	(2,658)	(6,552)	(6,171)	(4,923)	(20,304)
Net loss attributable to common stockholders					
2001	(5,984)	(5,814)	(6,916)(1)	(7,098)	(25,812)(1)
2000	(29,885)(2)	(6,552)	(6,171)	(4,924)	(47,532)(2)
Basic and diluted net loss per share attributable to common stockholders					
2001	(0.23)	(0.22)	(0.26)	(0.27)	(0.97)
2000	(4.59)	(0.98)	(0.89)	(0.19)	(4.09)

(1) Includes a $1.0 million charge related to the write-off of acquired in-process technology.

(2) Includes a $27.2 million dividend related to the beneficial conversion feature of preferred stock.

Quarterly and annual earnings per share are calculated independently, based on the weighted average number of shares outstanding during the periods.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

ITEM 10. DIRECTORS AND OFFICERS OF THE REGISTRANT

The information regarding our directors and officers is incorporated by reference from "Election of Directors" in our Proxy Statement for our 2002 Annual Meeting of Stockholders.

Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") requires the Company's Executive Officers and Directors and persons who own more than ten percent (10%) 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 (the "Commission") and the National Association of Securities Dealers, Inc. Executive Officers, Directors and greater than ten percent (10%) stockholders are required by Commission regulation to furnish the Company with copies of all Section 16(a) forms they file. The Company believes that all Executive Officers and Directors of the Company complied with all applicable filing requirements during the fiscal year ended December 31, 2001.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above under the heading "Executive Compensation and Other Matters."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this Item is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above under the heading "Security Ownership of Certain Beneficial Owners and Management."

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this Item is incorporated by reference from our definitive Proxy Statement referred to in Item 10 above under the heading "Certain Relationships and Related Transactions."

PART IV

ITEM 14. EXHIBITS, CONSOLIDATED FINANCIAL STATEMENTS, SCHEDULES AND REPORTS ON FORM 8-K

(a)

The following documents are filed as part of this Form 10-K:

(1)

Index to Financial Statements:

(2)

Financial Statement Schedules:

The following financial statement schedule of Ciphergen Biosystems, Inc. for the years ended December 31, 2001, 2000 and 1999 is filed as part of this Annual Report and should be read in conjunction with the Consolidated Financial Statements of Ciphergen Biosystems, Inc.

Schedule II Valuation and Qualifying Accounts

All other schedules have been omitted since the required information is not present in amounts sufficient to require submission of the schedule or because the information required is included in the financial statements or notes thereto.

(b)

Reports on Form 8-K

No reports on Form 8-K were filed during the quarter ended December 31, 2001.

(c)

Exhibits:

Number	Description of Document
3.2*	Amended and Restated Certificate of Incorporation of Registrant
3.4*	Amended and Restated Bylaws of Registrant
3.5***	Certificate of Designation of Rights, Preferences and Privileges of Series A Participating Preferred Stock of Ciphergen Biosystems, Inc.
4.1*	Form of Registrant's Common Stock Certificate
4.2***	Preferred Shares Rights Agreement dated March 20, 2002 between Ciphergen Biosystems, Inc. and Continental Stock Transfer & Trust Company
10.1*	Form of Preferred Stock Purchase Agreement
10.2*	Fourth Amended and Restated Investors Rights Agreement dated March 3, 2000
10.3*	1993 Stock Option Plan
10.4*	Form of Stock Option Agreement
10.5*	2000 Stock Plan and related form of Stock Option Agreement
10.6*	2000 Employee Stock Purchase Plan
10.7*	401(k) Plan

10.8*	Form of Warrant
10.9*	Form of Proprietary Information Agreement between the Registrant and certain of its employees
10.12*	Lease Agreement dated January 28, 2000, between the Registrant and John Arrillaga, Trustee of the John Arrillaga Survivor's Trust and Richard T. Peery, Trustee of the Richard T. Peery Separate Property Trust, and Amendment No. 1 dated August 8, 2000
10.13*	Employment Agreement dated August 24, 2000, between William E. Rich and the Registrant
10.14*	Sublease Agreement between the Registrant and BigBand Networks, Inc. dated August 25, 2000
10.15	First Amendment dated September 30, 2001 to the Sublease Agreement between the Registrant and BigBand Networks, Inc. dated August 25, 2000
10.23*	MAS License Agreement with IllumeSys Pacific, Inc. dated April 7, 1997
10.24*	MAS License agreement with Ciphergen Technologies, Inc. (formerly ISP Acquisition Corporation) dated April 7, 1997
10.25*	Joint Venture Agreement between Registrant and Sumitomo Corporation
10.26*	Distribution and Marketing Agreement between Registrant and Ciphergen Biosystems, K.K. dated March 24, 1999
10.27*	Joint Development Agreement between Registrant and Stanford Research Systems, Inc. dated February 2, 1995 and amendment thereto
10.28**	Asset Purchase Agreement dated June 25, 2001 by and between Invitrogen Corporation and Ciphergen Biosystems, Inc.

10.29	OEM Agreement between Salford Systems and Ciphergen Biosystems, Inc. dated February 27, 2001
10.30	Supply Agreement between Beckman Coulter, Inc. and Ciphergen Biosystems, Inc. dated November 2, 2001
10.31	Lease Agreement by Natiocredimurs and Cicamur for BioSepra S.A. dated the 29th of April 1998.
21.1*	Subsidiaries of Registrant
23.1	Consent of PricewaterhouseCoopers LLP, Independent Accountants
24.1	Power of Attorney (see page 64)
27.1*	Financial Data Schedule

*
Incorporated by reference from our registration statement on Form S-1, registration number 333-32812, declared effective by the Securities and Exchange Commission on September 28, 2000

**
Incorporated by reference to our Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission for the period ended June 30, 2001, file number 000-31617

***
Incorporated by reference to our Registration Statement on Form 8-A, filed with the Securities and Exchange Commission on March 21, 2002

SIGNATURES

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

CIPHERGEN BIOSYSTEMS, INC.

By: /s/ WILLIAM E. RICH, PH.D.

William E. Rich, Ph.D.
President and Chief Executive Officer

Dated: March 29, 2002

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints William E. Rich and Matthew J. Hogan, and each of them, his true and lawful attorneys-in-fact, each with full power of substitution, for him in any and all capacities, to sign any amendments to this report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact or their substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Exchange Act, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date

/s/ WILLIAM E. RICH, PH.D. William E. Rich, Ph.D.	President and Chief Executive Officer, and Director (Principal Executive Officer)	March 29, 2002
/s/ MATTHEW J. HOGAN Matthew J. Hogan	Chief Financial Officer (Principal Financial Officer)	March 29, 2002
/s/ DANIEL M. CASERZA Daniel M. Caserza	Corporate Controller (Principal Accounting Officer)	March 29, 2002
/s/ JOHN A. YOUNG John A. Young	Director	March 29, 2002
/s/ MICHAEL J. CALLAGHAN Michael J. Callaghan	Director	March 29, 2002
/s/ WILLIAM R. GREEN William R. Green	Director	March 29, 2002
/s/ JAMES L. RATHMANN James L. Rathmann	Director	March 29, 2002

REPORT OF INDEPENDENT ACCOUNTANTS
ON FINANCIAL STATEMENT SCHEDULE

To the Board of Directors and Stockholders of Ciphergen Biosystems, Inc.

Our audits of the consolidated financial statements referred to in our report dated February 1, 2002, appearing in this Form 10-K also included an audit of the consolidated financial statement schedule listed in Item 14(a)2 of this Form 10-K. In our opinion, this consolidated financial statement schedule presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements.

PRICEWATERHOUSECOOPERS LLP

San Jose, California
February 1, 2002

SCHEDULE II
CIPHERGEN BIOSYSTEMS, INC.
VALUATION AND QUALIFYING ACCOUNTS

Years ended December 31, 2001, 2000 and 1999
(in thousands)

	Balance at Beginning of Year	Additions Charged to Earnings	Deductions	Other Charges	Balance at End of Year
Allowance for doubtful accounts:					
31 Dec 2001	$ 160	$ 180	$ 51	$ 35	$ 324
31 Dec 2000	100	60			160
31 Dec 1999	40	60			100
Inventory reserve:					
31 Dec 2001	107	248	22	532	865
31 Dec 2000	69	38			107
31 Dec 1999	206	5		(142)(1)	69
Deferred tax valuation allowance:					
31 Dec 2001	13,312	8,900			22,212
31 Dec 2000	9,306	4,006			13,312
31 Dec 1999	6,701	2,605			9,306
Warranty reserve:					
31 Dec 2001	74		64		10
31 Dec 2000	61	111	98		74
31 Dec 1999	43	109	91		61

(1) Represents a reclassification between property and equipment, and inventory reserve.