SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

☑ **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: 0-22873

HYSEQ, INC.

(Exact Name of Registrant as Specified in Its Charter)

Nevada	**36-3855489**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
670 Almanor Avenue, Sunnyvale, CA	**94085**
(Address of principal executive offices)	*(Zip Code)*

Registrant's telephone number, including area code:

408-524-8100

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

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

Common Stock, $.001

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

The aggregate market value of the common stock held by non-affiliates of the Registrant on March 15, 2002 was $94,672,151 based on the last sale price of the common stock as reported by the Nasdaq Stock Market.

As of March 15, 2002, the Registrant had 19,371,052 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Definitive Proxy Statement, which will be filed with the Commission pursuant to Section 14A in connection with the 2002 meeting of stockholders, are incorporated by reference into Part III of this Form 10-K.

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PART I

Item 1. *Business*

This Annual Report on Form 10-K contains historical information as well as forward-looking statements that involve risks and uncertainty. Our actual results could differ significantly from discussions and forward-looking statements in this document. Factors that could cause or contribute to such differences include but are not limited to those discussed in this section under the caption "Risk Factors," as well as those under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and those discussed elsewhere in this Annual Report on Form 10-K.

Company Overview

We were incorporated in Illinois in August 1992 and reincorporated as a Nevada corporation on November 12, 1993. We have being doing business as Hyseq Pharmaceuticals, Inc. since October 2001.

We are engaged in research and development of novel biopharmaceutical protein-based products for the treatment of human disease from our collection of proprietary genes discovered using our high-throughput signature-by-hybridization platform. We are researching several product candidates to treat a variety of serious diseases and medical conditions. These product candidates target several markets, including cardiovascular disease and oncology. We intend to develop and commercialize these types of product candidates on our own or in collaboration with other biotechnology or pharmaceutical companies.

We believe our signature-by-hybridization platform, which is related to our proprietary sequencing-by-hybridization (or SBH) technology, gives us a significant advantage in discovering novel, rarely-expressed genes. We believe we possess one of the most important proprietary databases of full-length human gene sequences and have the potential to develop a significant pipeline of product candidates for research and development. Previously, our activities have focused primarily on full-length gene sequencing, patenting, bioinformatics, cloning, and early stage research activities to prioritize potential therapeutic protein candidates. As of March 15, 2002, we had filed patent applications on approximately 10,000 full-length human gene sequences. We are accelerating our research activities to elucidate the role of novel genes in our proprietary database, their encoded proteins and corresponding antibodies. Our database includes chemokines, growth factors, stem cell factors, interferons, integrins, hormones, receptors and other potential protein therapeutics or drug targets. Our focused bioinformatics and screening capabilities have significantly enhanced our understanding of the biological activity of these genes and their corresponding proteins, enabling us to file strategic patent applications that encompass both composition of matter and method of use claims.

We are primarily focused on discovering and developing therapeutic protein-based products, as we believe that naturally occurring therapeutic proteins have several commercial advantages over small molecule drugs.

In the near term, we are balancing the risks in developing therapeutics from our full-length gene database by also focusing on an early stage clinical product candidate acquired through collaboration with Amgen, Inc. We entered into this collaboration in January 2002, with the goal of developing and commercializing alfimeprase, a thrombolytic enzyme, for the treatment of peripheral arterial occlusion (or PAO) and other cardiovascular indications. Pre-clinical studies suggest that alfimeprase is a promising agent for dissolving blood clots (clot lysis) and may be well suited for the PAO indication.

Scientific and Industry Background

Genes are the hereditary units that control the structure, health and function of all organisms. The study of genes and their functions has led to the development of products and services for diverse markets, ranging from health care to agriculture. Genomics, the study of all the genetic information of an organism, is a growing field that is expected to lead to the development of additional gene-based therapeutics. The large market potential for gene-based products has led to a worldwide effort to sequence the human genome in the search for new proteins and drug targets for the treatment of disease and unmet medical needs.

The complete set of genetic information of each organism, known as its genome, is encoded in its deoxyribonucleic acid (or DNA). DNA, which is found in the nucleus of cells, is a molecule comprising two complementary strands entwined in the form of a double helix. Various combinations of four chemical building blocks or “bases” of DNA, adenine (A), thymine (T), cytosine (C) and guanine (G), are linked together in series to form each DNA strand. The bases of one DNA strand bind to the bases of the other strand in a specific fashion to form base pairs: A pairs with T and G pairs with C. In humans, there are approximately six billion base pairs organized into 23 pairs of DNA structures called chromosomes.

With the development of automated, high throughput DNA sequencing techniques in the early 1990s, researchers accelerated the discovery of novel genes and the proteins they express. Companies in the private sector, as well as publicly-funded research efforts, initiated large-scale activities to create databases of DNA sequence information that could be used to search for important new proteins or drug targets. Early commercial efforts focused on identification of expressed sequence tags, or ESTs, which are short DNA sequences that represent a portion of an expressed gene. At the same time, the U.S. government-funded Human Genome Project, in competition with other national governments and privately funded efforts, set about sequencing the entire human genome. The science of bioinformatics has arisen out of the need to analyze and derive value from this vast quantity of DNA sequence data. Bioinformatics involves the use of high-powered computers, software and analytical tools to interpret, compare and analyze DNA sequence data and can be used to assist in identifying those genes and proteins that are likely to play a meaningful role in human health. In addition to using bioinformatics to screen DNA sequence databases for medically relevant genes, researchers can use bioinformatics to infer important information about a newly discovered gene from its DNA sequence. Drawing on information about previously known genes, researchers can perform comparative analyses with newly discovered genes to obtain insight into their potential functions. Although bioinformatics represents a fundamental advance in the analysis of DNA sequence data, significant challenges remain in discovering how genes and proteins affect human biology and disease.

Prior to the development of robust large DNA sequence databases and the requisite analytical software needed to facilitate bioinformatics analyses, the discovery and development of therapeutic proteins typically involved an intense focus on biological processes of the human body or the pathology of disease. Researchers would study a particular biological process or disease and try to understand the underlying molecular mechanisms that could lead to the identification of potential therapeutic products. This time- and labor-intensive process yielded relatively few newly identified therapeutic protein product candidates. The introduction of methods for rapid DNA sequencing and bioinformatics in the early 1990s enabled an alternative approach to therapeutic protein discovery. Rather than study the biology of an organism or disease to discover a new therapeutic protein, a number of companies directed their efforts to discovering new proteins through bioinformatics and then studying the biology of these newly discovered proteins to determine whether they have therapeutic applications. We believe that over time this approach has the potential to yield a substantial number of therapeutic candidates, and ultimately approved products, faster and at lower cost than the traditional biology-only driven approach.

Genes that encode proteins are composed of two principal types of information: the primary coding sequence that dictates the composition of the protein as well as additional regulatory sequences that control the actual expression of a gene. The process by which the coding sequence of a gene directs the production of a protein begins with a process in which the gene is copied into a related molecule called messenger ribonucleic acid (or mRNA). The mRNA is used as a template to combine amino acids together in a particular order to form a protein. The regulatory region of a gene is responsible for determining the rate of production of mRNA copies, which can therefore directly affect the amount of the protein product that is produced by the cell. Additional factors besides mRNA abundance can affect the levels of proteins in a cell, and proteins themselves can be modified to affect their biochemical activities. The addition, deletion or substitution of one or more bases in a gene, known as a mutation, can alter the resultant protein’s structure and/or level of expression and result in a disease. Most diseases are believed to be polygenic, meaning that the activities of multiple genes interact to cause the disease. In developing a drug for treatment of a polygenic disease, the most effective strategy may be best selected when all genes that interact to cause or affect the disease are known.

Therapeutic proteins include naturally occurring proteins that are administered to patients as drugs. Some naturally occurring proteins replace or supplement a protein that is deficient in the body or defective. Others signal the body to initiate or cease a biological function. Examples of therapeutic proteins include ligands such as insulin, which regulates glucose metabolism for the treatment of diabetes, and enzymes such as tissue plasminogen activator, which converts plaminogen to plasmin, a protein that can break down blood clots. Other therapeutic protein-based drugs, although not naturally occurring, have been engineered to provide medical benefit. Examples include monoclonal antibodies such as Herceptin, which targets and destroys breast cancer cells, and soluble receptors such as Enbrel, which binds to and thereby blocks the effect of a ligand implicated in rheumatoid arthritis. Therapeutic proteins and other protein-based products represent a promising class of drugs in the biotechnology industry.

The use of recombinant DNA technology to manufacture therapeutic proteins has been a major breakthrough for the pharmaceutical industry. Recombinant DNA technology is used to insert a gene into non-human production cells. These cells, which are grown in culture, are engineered to produce the desired protein in large quantities. The protein is then isolated from the culture and purified. Recombinant proteins have several advantages over proteins derived from natural sources, such as human or animal pooled blood. First, recombinant DNA technology enables the large-scale production of certain therapeutic proteins that are scarce and thus too difficult or costly to derive from human or animal sources in therapeutically useful quantities. Second, recombinant DNA technology significantly reduces the contamination risks from blood-borne pathogens that cause diseases. Finally, recombinant DNA technology allows the production of therapeutic proteins using reproducible methodologies. This reproducibility in manufacturing provides for consistency between batches of the final protein product, a necessity for creating a safe drug capable of receiving regulatory approval.

Strategy

Our execution strategy will involve a combination of carefully-staged internal infrastructure growth, strategic relationships to share research and development efforts and marketing opportunities with other biotechnology and pharmaceutical companies, inlicensing product candidates and outsourcing, on a fee-for-service basis, to accelerate and expand our drug discovery and development efforts. Our goal is to build a fully integrated biopharmaceutical company that commercializes novel therapeutic proteins and other protein-based products derived from our proprietary portfolio of protein candidates. The first part of our strategy involves internal infrastructure growth to expand our staff and bring additional expertise into the company. Our early efforts have been focused on gene discovery, which requires a research staff of molecular biologists and bioinformatics personnel. As we continue characterize the genes in our database, we have expanded our research and development staff to include additional expertise in basic biology, physiology, cell biology and protein sciences. Further progress into development will require additional expertise in project management and product development including pharmacology, toxicology, assay development, formulation and process development, medical and regulatory affairs, quality control and quality assurance and an expanded capability in facilities and engineering. Expertise in these areas will be required to ensure that we meet FDA and foreign regulatory requirements for conducting clinical trials.

The second part of our strategy is to focus on the discovery of therapeutic proteins. We are pursuing a focused strategy to identify the subset of genes that we believe have the highest probability of coding for proteins with therapeutic potential. Specifically, we are focusing on key protein categories that have members with demonstrated therapeutic potential or medically relevant biological activity. We are currently utilizing a number of methods to help define the utility of these genes. Once we have identified a protein candidate with relevant biological activity, we will seek to develop a therapeutic protein directly, or, where appropriate, develop a monoclonal antibody or soluble receptor that targets the protein.

The third part of our strategy involves strategic relationships to share research and development efforts and marketing opportunities with other biotechnology and pharmaceutical companies. We believe this approach will greatly enhance our chances to move a number of drug candidates into clinical trials over the next several years. We are now focusing on new corporate relationships with other biotechnology and pharmaceutical companies to share costs and expertise of identifying and developing product candidates. This

focus also includes plans to collaborate with strategic partners with expertise to develop antibodies and small molecules from our proprietary targets.

The fourth part of our strategy involves outsourcing, on a fee-for-service basis, to accelerate and expand our drug discovery and development efforts. Initially, we intend to use outsourcing while we expand our in-house capabilities, although we expect to continue to use outsourcing when there are opportunities to accelerate and expand our drug discovery and development efforts. We currently use contract research organizations and collaborators to supplement our ability to conduct *in vitro* and *in vivo* testing of our therapeutic protein candidates. We also intend to use contract organizations to conduct good laboratory practices (GLP) toxicology and other studies required for filing an Investigational New Drug (IND) application, for the production of any current good manufacturing practices, or cGMP, drug and for conducting clinical trials on our lead therapeutic protein candidates.

Our strategy also encompasses pursuing comprehensive intellectual property protection. We seek to establish patent priority for our gene and protein discoveries at the earliest possible time. We use data generated from bioinformatics and exploratory biology to enhance our patent applications.

Because we expect to generate more product candidates than we have the capacity to develop on our own in the near term, we are pursuing a commercialization strategy with multiple options. We intend to internally develop and commercialize some product candidates where we believe the clinical trials and sales force requirements are manageable. We intend to partner with other companies to co-develop and co-promote product candidates in cases where we do not have access to the infrastructure required for development and commercialization. Finally, we intend to out-license other product candidates and intellectual property that do not fit within our future commercial focus.

We intend to develop our own manufacturing capabilities in the future, but in the near term we expect to use third-party manufacturers. We have initiated the design phase for a pilot manufacturing plant, which we intend to use as a source of clinical product supply. We plan to subsequently develop larger-scale commercial manufacturing facilities as our products progress through clinical development.

Research and Development

We have discovered a large collection of novel genes with our signature-by-hybridization platform. Since 1997 we have used our signature-by-hybridization platform to discover genes expressed in a large number of complementary DNA (or cDNA) libraries derived from specific human cells and tissues. These cDNA libraries are spotted onto replica filters which are then hybridized independently with short, distinct DNA probes. After repeated probing, each cDNA develops a characteristic hybridization signature that can be used to group similar clones into clusters. By sequencing only representative cDNAs from each cluster, we have allowed for an efficient and thorough analysis of all genes expressed in any library. Using bioinformatics and biological screening methods, gene sequences are analyzed to select molecules for pre-clinincal testing. In addition, the use of EST data together with genomic sequence data affords us the opportunity to identify those rare genes that otherwise might go undetected using only EST databases. Genes that are expressed only at low levels are typically underrepresented in or absent from public EST databases. These rarely expressed genes may have potent biological activities with clinical utility.

We conduct high-throughput gene sequence analysis using advanced informatics tools and protein structure modeling techniques to identify candidate genes for biological screening. In general, most candidates are grouped into the broad categories of potential protein therapeutics and small molecule or antibody targets. We believe genes with sequence characteristics and motifs similar to those found in known secreted proteins are more likely to be useful as protein therapeutics and those with characteristics of membrane or intracellular proteins are more likely to serve as targets for antibodies and small molecules. Our focus has been on development of molecules that we believe will result in protein therapeutics. We plan to pursue targets for antibodies and small molecules through strategic relationships.

We use a diverse set of tools to evaluate the biological functions of the genes and proteins we discover. In our collaboration with Kirin Brewery Company, Ltd., we conduct screens in which the gene of interest has

been introduced into genetically modified mice (transgenic mice) such that the encoded human protein is expressed in the adult animal. Through our collaboration with Deltagen Inc., we can identify the function of our genes by developing knockout mice, in which the corresponding mouse gene has been inactivated by genetic manipulation. We use dozens of independent assays to investigate the biological and biochemical activities of our novel proteins. To obtain additional information, our scientists have adapted or created in vivo laboratory models that mimic human diseases to determine the cause of disease and response to treatment. For certain ligands, we clone the receptors for the ligand present in a tissue or cell. In addition to providing a marker for tissues that should respond to the protein, the receptors themselves can have therapeutic potential. We also rely on an external network of collaborators to investigate biology and conduct additional tests that we do not perform in-house.

Within our exploratory biology operation, we apply a variety of methods by which we can identify a protein's function, determine whether the protein plays a role in disease, assess its commercial potential, and obtain information about dosing and systemic effects of the product candidate. Assuming positive results, both in terms of efficacy and toxicology, we may develop a commercial hypothesis for the product candidate. A commercial hypothesis requires the identification of a market opportunity and a preliminary determination that it will be economically feasible to manufacture the product candidate and administer it to patients.

The process of selecting and evaluating drug candidates involves a broad range of skills and a highly trained scientific staff. Following the initial gene assessment by our bioinformatics group, full-length genes are obtained, expressed, and screened for biological activity by our cloning and cell screening groups. Once activities have been identified, additional experiments are performed to support the development of a biological hypothesis that describes the protein's function. The protein candidate next moves to the validation stage, in which more directed and focused experiments are performed to confirm the biological activity and to establish a medical hypothesis. Molecules showing biological activity and molecules with sequence or structural homology to known proteins are further evaluated by our functional genomics group. Our protein production and purification group is responsible for providing larger quantities of selected proteins for further *in vitro* and *in vivo* testing. These tests are conducted by our functional genomics group, working in conjunction with contract research organizations and university collaborators. Throughout this process, information is provided to our legal group to pursue patent protection for our candidates. In cases where a protein demonstrates beneficial biological effects, it becomes a product candidate. If a protein has been found to have detrimental effects, we will focus on generating a monoclonal antibody or soluble receptor to inhibit the activity of the protein. In those cases, a resulting monoclonal antibody or soluble receptor will be the product candidate. Once a product candidate is identified, it moves to the pre-clinical stage, at which time it is tested in specific animal models of diseases for safety and pharmacokinetic analysis. Following initial safety and pharmacokinetic analysis, the pre-clinical safety and efficacy group will be responsible for working with contract research organizations to conduct GLP toxicology and other studies required for filing an IND. Until adequate staff and facilities are established in-house, we plan to use contract organizations for the production of cGMP drug and for conducting clinical trials on our lead therapeutic protein candidates.

Alfimeprase: Product Candidate for Clot Lysis

Alfimeprase is a thrombolytic agent, that is, it dissolves blood clots. Developed by Amgen, Inc., it is a novel recombinant form of fibrolase, a naturally occurring enzyme. Unlike plasminogen activators, alfimeprase can directly and rapidly degrade the network of fibrin protein that captures red blood cells to form blood clots. The first target medical indication is Peripheral Arterial Occlusion (or PAO). In PAO, a clot blocks blood flow to a distant body part, usually in the leg. It is estimated that more than 100,000 cases of PAO are reported in the United States per year. An IND has been filed in the PAO indication. We plan to begin Phase 1 human studies in the second quarter of 2002.

To date none of our other therapeutic protein product candidates has progressed beyond pre-clinical testing, aside from alfimeprase. Recently, we have refocused our efforts from previously identified pre-clinical stage product candidates, IL1Hy1 and CD39L4, to other more promising pre-clinical candidates, the results of testing to date may not be indicative of results that will be obtained in further pre-clinical studies or in clinical trials. However, as we have not begun human testing of alfimeprase or any other product candidates, human

clinical results could be different from our expectations following our pre-clinical studies. Consequently, there is no assurance that the results in our pre-clinical testing are predictive of the results that we will see in our clinical trials with humans. As further results of tests are received, we may abandon or reduce our efforts regarding particular projects. Additionally, there can be no assurance that clinical trials as to any particular product candidate, if commenced, will be successful, that the proposed disease indication will prove true, or that any product can be successfully commercialized. See "Risk Factors — Development of Our Products Will Take Years; Our Products Will Require Approval Before They Can Be Sold" and "Risk Factors — The Success of Our Potential Products in Preclinical Studies Does Not Guarantee that these Results Will Be Replicated in Humans."

Intellectual Property

We seek patent protection on isolated partial and full-length gene sequences, as well as their encoded protein products, antibodies that bind to these proteins, and methods of using these genes, proteins or antibodies. As of March 15, 2002, we had filed patent applications on approximately 10,000 full-length gene sequences and their corresponding proteins and antibodies. Subsequent bioinformatics analyses of our proprietary collection indicate that these putative full-length gene sequences represent approximately 10,000 different genes. We have also filed patent applications on more than 830,000 partial gene sequences. We hold five United States patents relating to our proprietary gene sequences with claims covering the genes, their encoded protein products, corresponding antibodies, or methods of use.

Our subsidiary Callida Genomics, Inc. holds nineteen United States patents with claims covering the methods, compositions, apparatus and applications relating to sequencing-by-hybridization technology. We have filed several additional patent applications covering improvements to and new applications of the SBH technology.

Our success will depend in large part on our ability to: obtain patent and other proprietary protection for genes and proteins we discover; defend patents once obtained; operate without infringing the patents and proprietary rights of third parties; and preserve our trade secrets.

Research and Development Collaborations

We and our subsidiary Callida are focusing on strategic relationships to share research and development efforts and marketing opportunities with other biotechnology and pharmaceutical companies. We recognize external collaborations as an important aspect of our success in analyzing and characterizing protein function. Our current collaborations include research and development collaborations with Aurora Biosciences Corporation, Deltagen, Inc., and Kirin Brewery Co., Ltd., gene discovery collaborations with BASF Plant Sciences GmbH (or BASF), and Chiron Corporation and a collaboration with the University of California, San Francisco (or UCSF) to conduct research on genes that may have important roles in the development of cardiovascular and related diseases. We had a previous collaboration with Kirin that was completed in March 2001. Our subsidiary Callida also has a collaboration with Affymetrix, Inc. and has been assigned our previous collaboration with the Applied Biosystems Group of Applera Corporation to commercialize one application of our SBH technology.

Aurora

In July 2001, we entered into a two-year collaboration and license agreement with Aurora Biosciences Corporation, under which Aurora will screen over 200 secreted proteins from our proprietary collection, using Aurora's proprietary CellSensor™ Panel, and under which we received a non-exclusive license to certain fluorescent protein technologies. Aurora will use its technology on our behalf to identify proteins of interest as potential therapeutics and will receive upfront payments, licensing fees and technology access fees. Aurora may receive performance milestones, as well as development milestones and royalties on our products that result from the collaboration. In addition, as part of the agreement, we will provide Aurora access to selected novel targets from our database of proprietary full-length cDNAs. We will receive a database access fee and

licensing fees and may receive development milestones and royalties on Aurora's small molecule products that result from the collaboration.

Deltagen

In October 2001, we entered into a collaboration with Deltagen to undertake research and development activities on approximately 200 novel secreted proteins. We will provide gene sequences encoding for the secreted proteins, and Deltagen will utilize its in vivo mammalian gene knockout technology to identify and validate potential commercially relevant biopharmaceutical drug targets. Both companies will have certain joint development and commercialization rights around potential biopharmaceutical drug targets discovered through the collaboration. The cost of the collaboration will be shared with Deltagen; we will provide Deltagen with approximately $10 million in research and development payments over two years.

Kirin

In October 1998, we entered into a collaboration with Kirin in which we use our signature-by-hybridization platform to target potential pharmaceutical candidates involved in cell growth regulation from specific cell lines provided by Kirin. During the fourth quarter of 2000, we extended the term of our collaboration with Kirin through March 2001 in order to complete additional research. We retain rights in North America to develop pharmaceutical products resulting from the collaboration, subject to milestone and royalty payments to Kirin. Kirin has equivalent rights in Asia and Oceania, and we share rights equally in Europe and in the rest of the world. Our gene sequencing obligations under the original term of the agreement are substantially complete.

In August 2001, we entered into a new collaboration with Kirin, in which Kirin will fund three years of our collaborative research work and both companies will conduct research directed toward discovering proteins and antibodies for a variety of diseases, including hematopoietic and inflammatory diseases. We will jointly own discoveries made during the collaboration, and we will jointly develop and market the resulting products while sharing costs, efforts, and revenues. We will have marketing rights in North America on all products discovered and developed under the collaboration. Kirin will have marketing rights in Asia and Ocenia. We will share marketing rights equally in Europe and the rest of the world.

Revenues from our collaborations with Kirin represented 19% of total revenue for fiscal year ended December 31, 1999, and less than 10% of total revenue for fiscal years ended December 31, 2000 and 2001.

BASF

In December 1999, we entered into a collaboration with American Cyanamid Company in which we use our signature-by-hybridization platform to target potential agricultural products. During 2000, BASF Aktiengesellschaft acquired the crop protection business of American Cyanamid Company and subsequently assigned our collaboration with American Cyanamid to BASF Plant Sciences GmbH. The collaboration provides for funding of $60 million over its initial term of three and one half years. The collaboration can be extended by mutual agreement, for up to four additional one-year terms. BASF has the exclusive right to commercialize any agricultural products resulting from the collaboration. We will receive royalties on any such products. The agreement requires us to generate data at a specified level per year which, if not met, could result in our breach of the agreement. Revenues from our collaboration with BASF represented less than 10% of total revenue for fiscal year ended December 31, 1999, 75% of total revenue for fiscal year ended December 31, 2000, and 91% of total revenue for fiscal year ended December 31, 2001.

Chiron

In May 1997, we entered into a collaboration with Chiron in which we used our signature-by-hybridization platform to target solid tumor cancer therapeutics, diagnostic molecules and vaccines. The collaboration had an initial term of three years ending in May 2000, and has been extended by Chiron for an additional two-year period ending in May 2002. At its option, Chiron may extend the collaboration for one more two-year period before the current extension ends in May 2002. Our gene sequencing obligations under

the original term of the agreement are substantially completed. Chiron has the exclusive right to commercialize any solid tumor products resulting from the collaboration. We will receive royalties on any such products. In addition to research funding payments, in 1997 Chiron made an equity investment in us of $7.5 million in conjunction with the collaboration. Revenues from our collaboration with Chiron represented 76% of total revenue for fiscal year ended December 31, 1999, 21% of total revenue for fiscal year ended December 31, 2000, and less than 10% of total revenue for fiscal year ended December 31, 2001.

University of California, San Francisco

In February 1998, we entered into an agreement with UCSF to conduct research on genes that may have important roles in the development of cardiovascular and related diseases. Under the agreement, researchers at UCSF are collecting DNA samples from up to 20,000 genetically diverse individuals. We can use these DNA samples to identify genetic traits related to heart disease and hypertension.

Applied Biosystems

In May 1997, we entered into an agreement with Applied Biosystems to commercialize HyChip products. Pursuant to this agreement, we were required to commit $5.0 million to further development of the chip component of the HyChip system, which we satisfied in 1998. Applied Biosystems was also required to commit certain funds for development of the overall system. The collaboration had an initial term of five years and is extended automatically thereafter unless the parties mutually agree to termination. The agreement required us to design, develop and manufacture the HyChip chip component, while Applied Biosystems was responsible for the design, development and manufacture of the system that processes and analyzes data from the HyChip chip, as well as marketing and customer support. In 1997, Applied Biosystems made an equity investment in us of $10.0 million in conjunction with the collaboration.

In October 2001, we amended our agreement with Applied Biosystems to facilitate the settlement with Affymetrix. Significant components of this amendment included the conversion of the prior exclusive marketing arrangement with Applied Biosystems into a non-exclusive arrangement and the conclusion of all further collaboration obligations for each company. This collaboration agreement and amendment were assigned to our subsidiary Callida Genomics, Inc. (“Callida”) in October 2001.

Affymetrix

In October 2001, incident to our settlement of all outstanding litigation with Affymetrix, we entered into a collaboration with Affymetrix to accelerate development and commercialization of a high speed universal DNA sequencing chip. This collaboration with Affymetrix is through a newly created venture, N-Mer, Inc., that is a wholly owned subsidiary of Callida, which in turn is a newly formed majority-owned subsidiary of ours. Universal chips, or arrays, are DNA arrays designed without reference to specific gene sequences that can be used to sequence any gene sequence. N-Mer will have access to both our sequencing-by-hybridization (SBH) technology, through Callida, and to Affymetrix’ GeneChip technology, a standard platform for array-based experiments. Affymetrix will be the exclusive array and system supplier and is initially authorized to be the exclusive agent for the distribution of N-Mer products.

Our Subsidiary Callida Genomics, Inc.

In October 2001, we formed a new majority-owned subsidiary, Callida Genomics, Inc., to carry out the Company’s business relating to our proprietary SBH technology. At the same time, Callida formed a wholly owned subsidiary, N-Mer, Inc. to collaborate with Affymetrix, Inc. on developing and commercializing a high speed DNA sequencing chip. Affymetrix has an initial 10% equity interest in Callida which may increase or decrease upon further third party financing of Callida. We and Affymetrix have agreed to each make additional investments in Callida, which will be conditioned on N-Mer’s attainment of a specified technical milestone and the procurement of third-party financing. Callida granted Affymetrix an option to purchase a majority interest in N-Mer, which will be exercisable at any time over the next five years.

We contributed all of our SBH patents and patent applications to Callida. A team of approximately 30 Hyseq scientists, including one of our founders, Dr. Radoje Drmanac, who pioneered our DNA chip and SBH technology, are now full-time employees of Callida. Our Chairman Dr. George Rathmann will also serve as Chairman, Interim President and Chief Executive Officer of Callida. As of March 15, 2002, HySeq has a 90% equity position in Callida.

SBH technology generally involves using DNA probes of known sequence that are hybridized with DNA samples. Different probe sets can be used for different applications. We use a complete set of probes of a given length, or a subset of probes that are selected based on statistical properties, to assemble an unknown sequence of a DNA sample. DNA analysis applications using complete sets or subsets of probes include de novo sequencing, resequencing, genotyping, mutation discovery, and polymorphism detection. In addition, we have a proprietary signature-by-hybridization technology in which we use a small set of probes to screen for and discover genes in a large number of DNA samples.

Licensed Technology

In 1994, we acquired an exclusive license from Arch Development Corporation, a not-for-profit corporation affiliated with the University of Chicago that manages Argonne National Laboratories, to develop further and use certain SBH improvements developed by one of our chief scientists while he was at Argonne. In July 1997, we began paying minimum royalties as required under the exclusive license. This license agreement was assigned to our subsidiary Callida in October 2001.

Patents and Trade Secrets

The U.S. Patent and Trademark Office and patent authorities outside the United States issue patents for inventions based on genes that have been isolated from their natural state (through a purifying step that separates the gene from other molecules naturally associated with it), but only if the invention meets all the criteria for a patent. Each country has its own standards for granting a patent. In the United States, to be eligible for patent protection, an invention must at least be novel and useful and the patent application must contain sufficient detail to allow one skilled in the art or technology to reproduce the invention. We apply for patent applications on both partial and full-length gene sequences. As of March 15, 2002, we had filed patent applications on approximately 10,000 full-length gene sequences and their corresponding proteins. Fewer than 10,000 applications are pending because some of our patent applications include many gene sequences in one application. These applications may or may not result in the issuance of patents. In January 2001, the U.S. Patent and Trademark Office issued final revised guidelines on the standard of utility required for inventions, including gene-based inventions. The revised guidelines state that a patent application for an invention must disclose a well-established utility or a specific, substantial and credible utility for the isolated and purified gene. There can be no assurance that our disclosures in these applications are sufficient to meet the statutory requirements for patentability in all cases. We cannot assure you that any of our currently pending or future applications will issue as patents, or that any patent issued to us will not be challenged, invalidated, circumvented or held unenforceable by way of an interference proceeding or litigation.

Patent protection for therapeutic protein-based products can include coverage of the composition of matter of a gene and the protein it expresses, methods to generate or manufacture the products and methods of using the products. Prior to the genomics era, there were few patents filed each year that contained DNA sequence information. The development of methods for rapid DNA sequencing and bioinformatics techniques has driven significant growth in the number of patent applications filed on genes and their corresponding proteins.

In part, the filing of so many patents on DNA sequences reflects the importance of patent protection for therapeutic protein-based products. The costs of developing these products can run into the hundreds of millions of dollars and can take up to 10 to 12 years from experimental stage to market. Without patent protection, companies often have little incentive to invest in this important endeavor. Protection through patent exclusivity provides the opportunity for a company to recoup its research and development costs, make

a profit on the therapeutic protein-based product, and invest in research and development of additional therapeutic protein-based products.

The growth in the number of patents filed on DNA sequences has spurred continuing reassessment of the related patenting process. Beginning in the early 1990s, many companies filed patent applications primarily covering ESTs or other partial gene sequences, believing that resulting patents would cover the related full-length gene sequences. In the mid-1990s, it became increasingly evident that applications filed with the United States Patent and Trademark Office would need to cover full-length gene sequences to result in broad patent protection. More recently, the Patent and Trademark Office has published guidelines regarding utility of patented gene sequences. These guidelines suggest that many existing patent applications with inadequate utility disclosure may not result in issued patents, even if the applications cover full-length gene sequences. Patents on methods of use for proteins may become more important as more information becomes available about the therapeutic significance of discovered genes and proteins.

We have also filed United States patent applications on more than 830,000 partial human gene sequences. There can be no assurance that the disclosures in these applications are sufficient to meet the statutory requirements for patentability. Where only a partial sequence is disclosed, the U.S. Patent and Trademark Office may issue patents of a very limited scope that will not cover a full-length gene sequence that includes the partial sequence. Therefore, there is a significant risk that the U.S. Patent and Trademark Office will not issue patents based on patent disclosures limited to partial gene sequences or will issue patents of a very limited scope. The commercial protection provided by any patents issued on the basis of partial gene sequences is uncertain.

Other companies or institutions may have filed patent applications, or may file patent applications in the future, which attempt to patent genes similar to or the same as those covered in our patent applications, including applications based on our potential products. The U.S. Patent and Trademark Office would decide the priority of competing patent claims in an interference proceeding. Any patent application filed by a third party may have priority over a patent application we filed, in which event such third party may require us to stop pursuing a potential product, or negotiate a royalty arrangement to pursue and commercialize the potential product.

Issued patents may not provide freedom to operate with respect to our potential products because certain uses of our potential products may give rise to claims that such uses infringe the patents of others. This risk will increase as the biotechnology industry expands and as other companies obtain more patents and attempt to discover the utility and function of all known genes. Other persons could bring legal actions against us to claim damages or to stop our manufacturing and marketing of the affected products. If any of these actions are successful, in addition to any potential liability for past damages, these persons may require us to obtain a license in order to continue to manufacture or market the affected products. We believe that there will continue to be significant litigation in our industry regarding patent and other intellectual property rights. If we become involved in patent litigation related to our technology or potential products, it could consume a substantial portion of our resources.

We pursue patent protection for products and processes where appropriate and we also rely on trade secrets, know-how and continuing technological advancement to develop and maintain our competitive position. Our policy is to have each employee enter into an agreement that contains provisions prohibiting the disclosure of confidential information to anyone outside the company. Research and development contracts and relationships between us and our scientific consultants provide access to aspects of our know-how that is protected generally under confidentiality agreements with the parties involved. There can be no assurance, however, that these confidentiality agreements will be honored or that we can effectively protect our rights to our unpatented trade secrets. Moreover, there can be no assurance that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets.

Competition

Our strategy as a biopharmaceutical company is to define and patent human genes that are most likely to be involved in a disease condition and to focus on identifying product candidates from the proteins produced

by these genes. There are a finite number of genes in the human genome, virtually all of which have been or will soon be identified. Other active companies include major pharmaceutical and biotechnology firms, not-for-profit entities and United States and foreign government-financed programs, many of which have substantially greater research and product development capabilities and financial, scientific, marketing and human resources than we do. As a result, they may succeed in identifying genes and determining their functions or developing products earlier than we or our current or future collaboration partners do. They also may obtain patents and regulatory approvals for such products more rapidly than we or our current or future collaboration partners, or develop products that are more effective than those proposed to be developed by us or our collaboration partners. Further, any potential products based on genes we identify ultimately will face competition from other companies developing gene-based products as well as from companies developing other forms of treatment for diseases which may be caused by, or related to, the genes we identify. There can be no assurance that research and development by others will not render the products that we may develop obsolete or uneconomical or result in treatments, cures or diagnostics superior to any therapy or diagnostic developed by us or that any therapy we develop will be preferred to any existing or newly developed technologies. Certain of our collaboration partners may now be, or could become, competitors.

We are in a competition to identify, establish uses for and patent as many genes and their corresponding proteins as possible and to commercialize the products we develop from these genes and proteins. We face competition from other entities using high-speed gene sequencers and other sophisticated bioinformatics technologies to discover genes, including but not limited to Celera Genomics Corporation, Curagen, Inc., Genentech, Inc., Human Genome Sciences, Inc., Incyte Genomics, Inc., Millennium Pharmaceuticals, Inc., and Zymogenetics, Inc. We also face competition from entities using more traditional methods to discover genes related to particular diseases, including other large biotechnology and pharmaceutical companies. We expect that competition in our field will continue to be intense. Research to identify genes is also being conducted by various institutes and government-financed entities in the United States and in foreign countries, including France, Germany, Japan and the United Kingdom and elsewhere, as well as by numerous smaller laboratories associated with universities or other not-for-profit entities. In addition, a number of pharmaceutical and biotechnology companies and government-financed programs are engaged or have announced their intention to engage in areas of human genome research similar to or competitive with our focus on gene discovery, and other entities are likely to enter the field.

We believe the principal competitive factors affecting our markets are rights to develop and commercialize therapeutic protein-based products, including appropriate patent and proprietary rights; safety and effectiveness of therapeutic protein-based products; the timing and scope of regulatory approvals; the cost and availability of these products; the availability of appropriate third-party reimbursement programs; and the availability of alternative therapeutic products or treatments. Although we believe that we are well positioned to compete adequately with respect to these factors in the future, our future success is currently difficult to predict because we are an early stage company; all of our internal product candidates are still in various stages of pre-clinical development and have yet to undergo clinical trials. Also, although we believe that our bioinformatics technologies and exploratory biology capabilities provide us with a competitive advantage, any of the companies or other entities we compete with may discover and establish a superior patent position in one or more genes or proteins that we have identified and designated or considered designating as a product candidate. In addition, any potential products based on genes or proteins we identify will face competition both from companies developing gene- or protein-based products and from companies developing other forms of treatment for diseases that may be caused by, or related to, the genes or proteins we identify. Furthermore, our potential products, if approved and commercialized, may compete against well established existing therapeutic protein-based products, many of which may be currently reimbursed by government health administration authorities, private health insurers and health maintenance organizations. Also, healthcare professionals and consumers may prefer existing or newly developed products to any product we develop.

Although we believe that there are significant product development opportunities for both us and for our collaborators, competition exists to develop and commercialize therapeutic protein-based products. Many of our existing and potential competitors have substantially greater research and product development capabilities and financial, scientific, marketing and human resources than we do. As a result, these competitors

may: succeed in identifying genes or proteins, or developing therapeutic protein-based products, earlier than we do; obtain approvals for products from the FDA or other regulatory agencies more rapidly than we do; obtain patents that block or otherwise inhibit our ability to develop and commercialize our product candidates; develop treatments or cures that are safer or more effective than those we propose to develop; devote greater resources to marketing or selling their products; introduce or adapt more quickly to new technologies or scientific advances, which could render our high throughput technologies obsolete; introduce products that make the continued development of our potential products uneconomical; more effectively negotiate third-party collaborative or licensing arrangements; and take advantage of acquisition or other opportunities more readily than we can.

With regard to our subsidiary, Callida, competition in the area of DNA analysis tools is intense and expected to increase. Technologies in this area are new and rapidly evolving. Applications of Callida's SBH technology compete primarily with Affymetrix and Applied Biosystems. Applied Biosystems presently markets gel sequencers, a well-established sequencing technology, which compete with applications of SBH technology. Other companies also are developing or have developed DNA analysis tools that may compete with applications of SBH technology, including Aclara Biosciences, Inc., Agilent Technologies, Inc., Caliper Technologies, Inc., CuraGen, Inc., IBM, Illumina, Inc., Molecular Devices, Nanogen, Inc., and Sequenom, Inc. Many of these companies have significantly greater research and development, marketing and financial resources than we do, and therefore represent significant competition.

Government Regulation

Regulation by governmental authorities in the United States and most foreign countries will be a significant factor in manufacturing and marketing our potential products and in our ongoing research and product development activities. Virtually all of our products and those of our partners, such as Amgen, Aurora Biosciences, Chiron, Deltagen and Kirin, will require regulatory approval by governmental agencies prior to commercialization. In particular, human therapeutic products are subject to rigorous preclinical and clinical testing and other approval requirements by the FDA and comparable agencies in foreign countries. We are currently collaborating with Amgen to develop alfimeprase, which is a drug candidate that will require regulatory approval. The collaboration is further described in note 12, "Subsequent Events," to the financial statements included in this Annual Report on Form 10-K. The time required for completing such testing and obtaining such approvals is uncertain. Unexpected biological activities, some of which may result in safety issues, may arise during preclinical evaluation. Such observations could delay or alter the course of a development program or ultimately result in the termination of a program. Any delay in clinical testing may also delay product development. In addition, delays or rejections may be encountered based on changes in FDA or foreign regulatory policy during the period of product development and testing. Various federal statutes and regulations also regulate the manufacturing, safety, labeling, storage, record-keeping and marketing of such products. The lengthy process of obtaining regulatory approvals and ensuring compliance with appropriate federal statutes and regulations requires the expenditure of substantial resources. Any delay or failure by us or by our collaboration partners to obtain regulatory approval could adversely affect the commercialization of products we or they are developing, our ability to achieve product collaboration milestones or receive royalty revenue and thus negatively impact our liquidity and capital resources.

Preclinical studies are generally conducted in the laboratory to evaluate the potential efficacy and safety of a therapeutic product. The results of these studies are submitted to the FDA as part of an Investigational New Drug application (IND), which must be reviewed by FDA personnel before clinical testing can begin. Typically, clinical evaluation involves three sequential phases, which may overlap. During Phase I, clinical trials are conducted with a relatively small number of subjects to determine the early safety profile of a drug, as well as the pattern of drug distribution and drug metabolism. In Phase II, trials are conducted with groups of patients afflicted by a specific target disease to determine preliminary efficacy, optimal dosages, and dosage tolerance and to gather additional safety data. In Phase III, larger-scale, multi-center comparative trials are conducted with patients afflicted with a specific target disease to provide data for the statistical proof of efficacy and safety as required by the FDA and foreign regulatory agencies. The FDA, the clinical trial sponsor or the investigator may suspend clinical trials at any time if they believe that clinical subjects are being

exposed to an unacceptable health risk. Although the IND has been filed for alfimeprase, we may change the clinical study design, which may require further review by the FDA. Once we begin Phase I clinical studies, there is no assurance that the safety profile of alfimeprase will be acceptable and that it will proceed to Phase II or Phase III.

The results of preclinical and clinical testing are submitted to the FDA in the form of a New Drug Application for small molecule products or a Biologic License Application for biological products. In responding to New Drug Application or Biologic License Application it may grant marketing approval, request additional information, or deny the application if the FDA determines that the application does not satisfy its regulatory approval criteria. There can be no assurance that approvals will be granted on a timely basis, if at all. The failure to obtain timely permission for clinical testing or timely approval for product marketing would have a material negative effect on us. Product approvals may subsequently be withdrawn if compliance with regulatory standards is not maintained or if problems are identified after the product reaches the market. The FDA may require testing and surveillance programs to monitor the effect of a new product and may prevent or limit future marketing of the product based on the results of these post-marketing programs.

Currently one of our product candidates, Alfimeprase qualifies as an orphan drug under the Orphan Drug Act of 1983. This act generally provides incentives to manufacturers to undertake development and marketing of products to treat relatively rare diseases or those diseases that affect fewer than 200,000 persons annually in the United States. A drug that receives orphan drug designation by the FDA and is the first product to receive FDA marketing approval for its product claim is entitled to various advantages, including a seven-year exclusive marketing period in the United States for that product claim. However, any drug that is considered by the FDA to be different from or clinically superior to a particular orphan drug, including any orphan drug of ours that has been so designated by the FDA, will not be precluded from sale in the United States during the seven-year exclusive marketing period. We cannot assure you that any of our other product candidates will be designated as an orphan drug by the FDA or, if so designated, will have a positive effect on our revenues.

To manufacture our potential products, a domestic or foreign drug manufacturing facility must be registered with the FDA as a manufacturing establishment, must submit to periodic inspection by the FDA and must comply with current Good Manufacturing Practices regulations. In addition, the FDA imposes a number of complex regulations on entities that advertise and promote biologics, including, among others, standards and regulations for direct-to-consumer advertising, off-label promotions, industry-sponsored scientific and educational activities, and promotional activities involving the Internet. The FDA has very broad enforcement authority under the Federal Food, Drug and Cosmetic Act, and failure to abide by these regulations can result in penalties, including the issuance of a warning letter directing us to correct deviations from FDA standards, a requirement that future advertising and promotional materials be pre-cleared by the FDA, and civil and criminal penalties.

Whether or not FDA approval has been obtained, approval of a product by comparable foreign regulatory authorities is necessary prior to the commencement of marketing of a product in those countries. The approval procedures vary among countries and can involve additional testing. The time required to obtain approval may differ from that required for FDA approval. Although there are some centralized procedures for filings in the European Union countries, in general each country has its own procedures and requirements, and compliance with these procedures and requirements may be expensive and time-consuming. Accordingly, there may be substantial delays in obtaining required approvals from foreign regulatory authorities after the relevant applications are filed, if we ultimately receive any approvals at all.

Even if regulatory approval for a product is obtained, the product and the facilities manufacturing the product are subject to continued review and periodic inspection. Each drug-manufacturing establishment in the United States must be registered with the FDA. Domestic manufacturing establishments are subject to biannual inspections by the FDA and must comply with the FDA's cGMP regulations, as well as regulatory agencies in other countries if products are sold outside the United States. If our subsidiary Callida manufactures for sale to third parties diagnostic product applications of its SBH technology, it will need to comply with cGMP regulations pertaining to devices. We will need to spend funds, time and effort to ensure full technical compliance with these regulations. The FDA stringently applies regulatory standards for

manufacturing drugs, biologics, and medical devices. The FDA's cGMP regulations require that drugs and medical devices be manufactured and records be maintained in a prescribed manner with respect to manufacturing, testing and control activities.

Our policy is to conduct research activities in compliance with the National Institute of Health Guidelines for Research Involving Recombinant DNA Molecules. We also are subject to various federal, state and local laws, regulations and recommendations relating to safe working conditions, laboratory and manufacturing practices, the experimental use of animals and the use and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with our work. The extent and character of governmental regulation that might result from future legislation or administrative action and its effect on us cannot be accurately predicted.

We are subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of hazardous materials, including 33P, a low energy radioactive isotope used in labeling some of our probes and subsequently present in certain waste products. Although we believe that our safety procedures for such materials comply with the standards prescribed by local, state, and federal laws and regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result and any liability could exceed our resources.

Human Resources

At December 31, 2001, we had 224 full-time equivalent employees including Callida employees, 92 of whom hold Ph.D., M.D., J.D., or other advanced degrees. Approximately 186 of our employees are engaged in research and development activities, including 29 in Callida Genomics, and approximately 38 are engaged in business development, finance, operations support, and administration. None of our employees are represented by a collective bargaining agreement, nor have we experienced work stoppages. We believe that relations with our employees are good.

Risk Factors

We Must Be Able to Continue to Secure Additional Financing

Our business does not currently generate the cash needed to finance our operations. We will require substantial additional financial resources to conduct the time-consuming and costly research, preclinical development, clinical trials and regulatory approval and marketing activities necessary to commercialize our potential biopharmaceutical products. Also, in pursuing our goal of building a fully integrated biopharmaceutical company, we will need to expand our facilities and hire and train significant numbers of employees to staff these facilities, which will require substantial additional funds. We will need to secure additional financing in order to conduct our research and expand our facilities. However, unanticipated expenses, or unanticipated opportunities that require financial commitments, could give rise to requirements for additional financing sooner than we expect. Financing may be unavailable when we need it or may not be available on acceptable terms. The unavailability of financing may require us to delay, scale back, or eliminate expenditures for our research and development program or our facilities expansion plans. We may also be required to grant rights to third parties to develop and market product candidates that we would prefer to develop and market ourselves. If we were required to grant such rights, the ultimate value of these product candidates to us would be reduced.

We intend to seek additional funding through collaborations and public or private equity or debt financings. We have financed our operations since inception primarily through the sale of equity securities, and revenue from corporate collaborations. We have not generated royalty revenues from product sales, and do not expect to receive significant revenues from royalties in the foreseeable future, if ever.

To execute an operating plan that includes facilities expansion and additional staffing, we will need to secure additional financing. Additional financing, however, may not be available on acceptable terms, if at all. For approximately the past eighteen months, the capital markets have been volatile and uncertain. Given the

current state of the markets for public and private offerings of securities, we may have difficulty raising the amount of funds, on reasonable terms, necessary to finance our current operating plan. We have implemented a plan to delay, and scale back some of our operating expenditures, including facilities expansion plans, until we obtain additional funding. This plan includes a hiring freeze, a freeze on capital expenditures and a deferral of as many of our contractual financial commitments as possible. If we are unable to obtain additional financing, we may need to look to our Chairman to provide financing, which he has agreed to do. The planned reduction in operating expenditures may have a negative effect on our business. In addition, the perception in the capital markets that we may not be able to raise the amount of financing we desire, or on terms favorable to us, may have a negative effect on the trading price of our stock. Additional equity financings could result in significant dilution of current stockholders' equity interests. If sufficient capital is not available, we will delay, reduce the scope of, eliminate or divest one or more of our subsidiaries, discovery, research or development programs or our facilities expansion. Any such action could significantly harm our business, financial condition and results of operations.

Our future capital requirements and the adequacy of our currently available funds will depend on many factors, including, among others, the following:

- continued scientific progress in our research and development programs, including progress in our research and preclinical studies on our potential therapeutic protein candidates;
- the cost involved in our facilities expansion to support research and development of our potential therapeutic protein candidates;
- our ability and the ability of our subsidiary Callida to attract additional financing on favorable terms;
- the magnitude and scope of our research and development programs, including development of potential therapeutic protein candidates and Callida technology and applications;
- our ability to maintain, and the financial commitments involved in, our existing collaborative and licensing arrangements;
- our ability to establish new corporate relationships with other biotechnology and pharmaceutical companies to share costs and expertise of identifying and developing product candidates;
- the cost of prosecuting and enforcing our intellectual property rights;
- the cost of manufacturing material for preclinical, clinical and commercial purposes;
- progress in our clinical studies of alfimeprase;
- the time and cost involved in obtaining regulatory approvals;
- our need to develop, acquire or license new technologies or products;
- competing technological and market developments;
- future funding commitments to our subsidiary Callida, and our ability to borrow funds from Affymetrix to fund our commitment, under the terms of the Affymetrix settlement;
- our ability to use our common stock to repay our outstanding note to Affymetrix and our line of credit with our Chairman;
- legal and Nasdaq restrictions that impede our ability to raise funds from private placements of our common stock;
- future funding commitments to our collaborators;
- general conditions in the financial markets and in the biotech sector;
- the uncertain condition of the capital markets; and
- other factors not within our control.

Development of Our Products Will Take Years; Our Products Will Require Approval Before They Can Be Sold

Because substantially all of our potential products currently are in research or preclinical development, revenues from sales of any products will not occur for at least the next several years, if at all. We cannot be certain that any of our products will be safe and effective or that we will obtain regulatory approvals. In addition, any products that we develop may not be economical to manufacture on a commercial scale. Even if we develop a product that becomes available for commercial sale, we cannot be certain that consumers will accept the product. We cannot predict whether we will be able to develop and commercialize any of our protein candidates successfully. If we are unable to do so, our business, results of operations and financial condition will be materially adversely affected.

We do not yet have products in the commercial markets. All of our potential products are in research or preclinical development. We cannot apply for regulatory approval of our potential products until we have performed additional research and development and testing. We cannot be certain that we, or our strategic partners, will be permitted to undertake clinical testing of our potential products and, if we are successful in initiating clinical trials, we may experience delays in conducting them. Our clinical trials may not demonstrate the safety and efficacy of our potential products, and we may encounter unacceptable side effects or other problems in the clinical trials. Should this occur, we may have to delay or discontinue development of the potential product that causes the problem. After a successful clinical trial, we cannot market products in the United States until we receive regulatory approval. Even if we are able to gain regulatory approval of our products after successful clinical trials and then commercialize and sell those products, we may be unable to manufacture enough products to maintain our business, which could have a negative impact on our financial condition.

The Success of Our Potential Products in Preclinical Studies Does Not Guarantee that these Results Will Be Replicated in Humans

Even though some of our therapeutic protein candidates have shown results in preclinical studies, these results may not be replicated in our clinical trials with humans. Human clinical results could be different from our expectations following our preclinical studies. Consequently, there is no assurance that the results in our preclinical studies are predictive of the results that we will see in our clinical trials with humans. Also, while we have demonstrated some evidence that our therapeutic protein candidates have utility in preclinical studies, these results do not mean that the resulting products will be safe and effective in humans. Our therapeutic protein candidates may have undesirable and unintended side effects or other characteristics that may prevent or limit their use.

Our Ability To Commercialize Gene-Based Products is Unproven

We have not developed any therapeutic or diagnostic products using proteins produced by the genes we have discovered. Before we make any products available to the public, we or our collaboration partners will need to conduct further research and development and complete laboratory testing and animal and human studies. Moreover, with respect to biopharmaceutical products, we or our collaboration partners will need to obtain regulatory approval before releasing any such products. With respect to agricultural products, our collaboration partner may need to obtain regulatory approval before releasing any such products. We have spent, and expect to continue to spend, significant amounts of time and money in determining the function of genes and the proteins they produce, using our own capabilities and those of our collaboration partners. Such determination process constitutes the first step in developing commercial products. We also have spent and will continue to spend significant amounts of time and money in developing processes for manufacturing of our recombinant proteins under pre-clinical development, yet we may not be able to produce sufficient protein for preclinical studies. A commercially viable product may never be developed from our gene discoveries.

Our development of gene-based products is subject to several risks, including but not limited to:

- the possibility that a product is toxic, ineffective or unreliable;
- failure to obtain regulatory approval for the product;
- the product may be difficult to manufacture on a large scale, or may not be economically feasible to market;
- competitors may develop a superior product; or
- other persons' or companies' patents may preclude our marketing of a product.

Our biopharmaceutical development programs are currently in the research stage or in preclinical development. None of our potential therapeutic protein candidates have advanced to Phase I clinical trials. Our programs may not move beyond their current stages of development. Even if our research does advance, we will need to engage in certain additional preclinical development efforts to determine whether a product is sufficiently safe and efficacious to enter clinical trials. We have little experience with these activities and may not be successful in developing or commercializing products.

Under our collaboration arrangement with Chiron in the solid tumor cancer field, Chiron maintains responsibility for the development of a product. Under our collaboration arrangement with Kirin Brewery Company, Ltd., Kirin has primary responsibility for clinical development in its territory and we have primary responsibility in our territory. Under our collaboration arrangement with Deltagen, we share responsibility for development of a product. With respect to these arrangements, we run the risk that Chiron or Kirin may not pursue clinical development in a timely or effective manner, if at all, and that Deltagen may not cooperate with us in pursuing clinical development in a timely or effective manner.

If a product receives approval from the FDA to enter clinical trials, Phases I, II, and III of those trials include multi-phase, multi-center clinical studies to determine the product's safety and efficacy prior to marketing. We cannot predict the number or extent of clinical trials that will be required or the length of the period of mandatory patient follow-up that will be imposed. Assuming clinical trials of any product are successful and other data appear satisfactory to us, we or our applicable collaboration partner will submit an application to the FDA and appropriate regulatory bodies in other countries to seek permission to market the product. Typically, the review process at the FDA is not predictable and can take up to several years. Upon completion of such review, the FDA may not approve our or our collaboration partner's application or may require us to conduct additional clinical trials or provide other data prior to approval. Furthermore, even if our products or our collaboration partner's products receive regulatory approval, delays in the approval process could significantly harm our business, financial condition and results of operations.

In addition, we may not be able to produce any products in commercial quantities at a reasonable cost or may not be able to market successfully such products. If we do not develop a commercially viable product, then we would suffer significant harm to our business, financial condition and operating results.

The Success of Our Business Depends on Patents and Other Proprietary Information

We currently have patents that cover some of our technological discoveries and patent applications that we expect to cover some of our gene, protein and technological discoveries. We have five issued patents relating to our gene and protein discoveries. We will continue to apply for patents for our discoveries. We cannot assure you that any of our currently pending or future applications will issue as patents, or that any patent issued to us will not be challenged, invalidated, circumvented or held unenforceable by way of an interference proceeding or litigation. The patent positions of biotechnology companies involve complex legal and factual questions. Even though we own patents, we cannot be certain that:

- our patents will not be challenged;
- protection against competitors will be provided by such patents; or
- competitors will not independently develop similar products or design around our patents.

We seek patents on:

- full-length gene sequences;
- partial gene sequences;
- proteins produced by those genes;
- antibodies to those proteins;
- diagnostic and therapeutic methods involving such genes, proteins or antibodies; and
- processes, devices and other technology that enhance our ability to develop and/or manufacture gene-based products.

To obtain a patent, we must identify a utility for the gene or the protein we seek to patent. Identifying a utility may require significant research and development with respect to which we may incur a substantial expense and invest a significant amount of time.

Patent applications we may apply for with respect to human therapeutics could require us to generate data, which may involve substantial costs. Finally, we cannot predict the timing of the grant of a patent.

We also rely on trade secret protection for our confidential and proprietary information. Although our policy is to enforce security measures to protect our assets, trade secrets are difficult to protect. We require all employees to enter into confidentiality agreements with us. However:

- competitors may independently develop substantially equivalent proprietary information and techniques;
- competitors may otherwise gain access to our trade secrets;
- persons with whom we have confidentiality agreements may disclose our trade secrets; or
- we may be unable to protect our trade secrets meaningfully.

Certain of the patent applications protecting our subsidiary Callida's SBH technology are filed only in the United States. Therefore, Callida currently is not able to prevent others from practicing SBH technology outside of the United States. Furthermore, although we believe Callida intends to defend its patents, it may not prevail in a court case against others who use similar technology.

Certain of the patent applications protecting our gene-related information are filed only in the United States. Even where we have filed our patents applications internationally, we may choose not to maintain foreign patent protection through failure to enter national phase or failure to pay maintenance annuities.

We may be required to obtain licenses to patents or other proprietary rights of others. These required licenses may not, however, be made available on terms acceptable to us, or at all. If we do not obtain these licenses, we may not be able to develop, manufacture or sell products, or encounter delays in product market introductions, or incur substantial costs while we attempt to design around existing patents. Any of these obstacles could significantly harm our business, financial condition and operating results.

Our Business is Difficult to Evaluate Because We Have Been Focused on Our Current Business Strategy for Only Approximately Four Years

We commenced operations in the fourth quarter of 1994. Our initial business focused on gene discovery using our signature by hybridization platform, and applications of our SBH technology including the HyChip system. Not only is our operating history relatively short, but we began to transition our business strategy from gene discovery to research and development of potential therapeutic protein candidates in 1998. Accordingly, we have a limited operating history from which you can evaluate our present business and future prospects. As a relatively new entrant to the business of biopharmaceutical research and development, we face risks and uncertainties relating to our ability to implement our business plan successfully. Our prospects must be considered in light of the risks, expenses and difficulties frequently encountered by companies in their early

state of development, particularly companies in new and rapidly evolving markets such as research and development of gene-based products. If we are unsuccessful in addressing these risks and uncertainties, our business, results of operations, financial condition and prospects will be materially adversely affected.

We Lack Manufacturing Experience and We Intend to Rely Initially on Contract Manufacturers

We do not currently have significant manufacturing facilities. We are dependent on contract research and manufacturing organizations, and will be subject to the risks of finalizing contractual arrangements, transferring technology and maintaining relationships with such organizations in order to file an IND with the FDA and proceed with clinical trials for any of our potential therapeutic protein candidates. We are dependent on third-party contract research organizations to conduct certain research, including good laboratory practices toxicology studies in order to gather the data necessary to file an IND with the FDA for any of our potential therapeutic protein candidates. Our potential therapeutic protein candidates have never been manufactured on a commercial scale. Third-party manufacturers may not be able to manufacture such proteins at a cost or in quantities necessary to make them commercially viable. In addition, if any of our potential therapeutic protein candidates enter the clinical trial phase, initially we will be dependent on third-party contract manufacturers to produce the volume of current good manufacturing practices materials needed to complete such trials. We will need to enter into contractual relationships with these or other organizations in order to (i) complete the GLP toxicology and other studies necessary to file an IND with the FDA, and (ii) produce a sufficient volume of cGMP material in order to conduct clinical trials of our potential therapeutic protein candidates. We cannot be certain that we will be able to do so on a timely basis or that we will be able to obtain sufficient quantities of material on commercially reasonable terms. In addition, the failure of any of these relationships with third-party contract organizations may result in a delay of our filing for an IND, or our progress through the clinical trial phase. Any significant delay or interruption would have a material adverse effect on our ability to file an IND with the FDA and/or proceed with the clinical trial phase for any of our potential therapeutic protein candidates.

Moreover, contract manufacturers that we may use must continually adhere to current cGMP regulations enforced by the FDA through a facilities inspection program. If the facilities of such manufacturers cannot pass a pre-approval plant inspection, the FDA premarket approval of our products will not be granted.

We Are Dependent Upon Collaborative Arrangements

As we have transitioned our business from gene discovery to research and development of biopharmaceutical candidates, we have shifted our focus for new collaborative arrangements. We are now focusing on new collaborative arrangements where we would share costs of identifying, developing and marketing product candidates. There can be no assurance that we will be able to negotiate new collaboration arrangements of this type on acceptable terms, or at all.

Our subsidiary Callida, engaged in the development of SBH technology, is also dependent on the cooperation of its partners in collaborative arrangements and may also need to negotiate new collaborative arrangements in the future.

The success of our business is dependent, in significant part, upon our ability to enter into multiple collaboration arrangements and to manage effectively the numerous issues that arise from such collaborations. Management of our relationships with our collaboration partners will require:

- our management team to devote a significant amount of time and effort to the management of these relationships;
- effective allocation of our resources to multiple projects; and
- an ability to obtain and retain management, scientific and other personnel.

Our need, including the need of our direct and indirect subsidiaries, to manage simultaneously a number of collaboration arrangements may not be successful, and the failure to manage effectively such collaborations would significantly harm our business, financial condition and results of operations.

The research we perform in our gene discovery collaborative arrangements is at an early stage of product development. The successful development of products under these collaborations is highly dependent on the performance of our collaboration partners. Under our gene discovery collaborative arrangements, our collaboration partners are generally required to (i) undertake and fund certain research and development activities with us, (ii) make payments to us upon achievement of certain scientific milestones and (iii) pay royalties to us when and if they commercially market a product developed from the collaborative arrangement. We do not directly control the amount or timing of resources devoted to development activities by our collaboration partners. We, therefore, face a risk that our collaboration partners may not commit sufficient resources to our research and development programs or the commercialization of our products or may not perform their obligations as expected. If any collaboration partner fails to conduct its activities to be performed under our collaboration arrangement in a timely manner, or at all, our expectations of royalties and milestone payments related to such collaboration arrangement could be delayed or eliminated. Also, our current or future collaboration partners, if any, may independently pursue existing or other development-stage products or alternative technologies in preference to those they are developing in collaboration with us. Further, disputes may arise with respect to ownership of products developed under any such collaboration arrangement. Finally, any of our current collaboration arrangements may be terminated or not renewed by our collaboration partners, and we may not be able to negotiate additional collaboration arrangements in the future on acceptable terms, or at all.

We Are Dependent on Key Personnel

The success of our business is highly dependent on the principal members of our scientific and management staff and including our chairman and senior management team. The loss of the services of any such individual might significantly delay or prevent us from achieving our scientific or business objectives. Competition among biotechnology and biopharmaceutical companies for qualified employees is intense. The ability to retain and attract qualified individuals is critical to our success. We may not be able to attract and retain qualified employees currently or in the future on acceptable terms, or at all. The failure to do so would significantly harm our business, financial condition and results of operations.

Management of Growth

We expect to increase significantly the number of our employees and the scope of our operations. Such growth may place a significant strain on our management and operations. In order to execute our strategy to build a fully integrated biopharmaceutical company, develop therapeutic or diagnostic products, and obtain regulatory approvals, we will need to:

- attract and train skilled employees;
- attract and retain employees with expertise to ensure that we meet FDA and foreign regulatory requirements for conducting clinical trials;
- expand our facilities for additional research and development laboratories and offices and acquire additional equipment and supplies;
- expand our protein production capacity;
- enter into and manage contractual relationships with contract research and manufacturing organizations; and
- get additional funding.

Our ability to manage such growth effectively will depend upon our ability to broaden our management team and to attract, hire and retain skilled employees. Our success also will depend on the ability of our officers and key employees to continue to implement and improve our operational, management information and financial control systems and to expand, train and manage our employee base. Inability to manage growth effectively could significantly harm our business, financial condition and operating results.

We Must Attract and Retain Qualified Employees and Consultants

Our success will depend on our ability to retain our key executive officers and scientific staff to develop our potential products and formulate our research and development strategy. We have programs in place to retain personnel, including programs to create a positive work environment and competitive compensation packages. Because competition for employees in our field is intense, however, we may be unable to retain our existing personnel or attract additional qualified employees. Our success also depends on the continued availability of outside scientific collaborators to perform research and develop processes to advance and augment our internal research efforts. Competition for collaborators is intense. If we do not attract and retain qualified personnel and scientific collaborators, and if we experience significant turnover or difficulties recruiting new employees, our research and development programs could be delayed and we could experience difficulties in generating sufficient revenue to maintain our business.

Future Sales of Our Common Stock May Depress Our Stock Price

Sales in the public market of substantial amounts of our common stock could depress prevailing market prices of our common stock. As of March 15, 2002, we had 19,371,052 shares of our common stock outstanding. All of these shares are freely transferable without restriction or further registration under the Securities Act of 1933, as amended, except for shares held by our affiliates and unregistered shares held by non-affiliates. As of March 15, 2002, our affiliates held 4,414,946 shares of our common stock and non-affiliates held 543,027 unregistered shares of our common stock, which are transferable pursuant to Rule 144 as promulgated under the Securities Act of 1933, subject to the volume limitations of Rule 144. Although we do not believe that our affiliates have any present intentions to dispose of any shares of common stock owned by them, there can be no assurance that such intentions will not change in the future. An additional 708,480 shares owned by a Yugoslav entity have been held in a blocked account pursuant to restrictions imposed by the U.S. Department of Treasury arising from the political situation in former Yugoslavia and therefore have not been able to be voted or transferred. We believe that some of these restrictions may have been removed and the remaining restrictions may be removed in the future. There can be no assurance as to how long any such restrictions will remain in effect.

As of March 15, 2002, warrants to purchase 3,149,433 shares of our common stock were outstanding. In addition, under registration statements on Form S-8 under the Securities Act of 1933, we have registered approximately 5,605,572 shares of our common stock for sale upon the exercise of outstanding options under our 1995 Stock Option Plan, Non-Employee Director Stock Option Plan, Scientific Advisory Board/ Consultants Stock Option Plan, and stock option agreements entered into outside of any of our stock option plans and under our Employee Stock Purchase Plan and our Non-Qualified Employee Stock Purchase Plan. Shares of our common stock acquired pursuant to these plans and agreements are available for sale in the open market. In addition, we have reserved approximately 1,268,160 shares of our common stock for issuance upon the exercise of outstanding options under stock option agreements entered into outside of any of our stock option plans. As of March 15, 2002, 229,540 of the 1,268,160 shares of these options were exercisable. Although these shares have not been registered under the Securities Act of 1933, and therefore are restricted securities within the meaning of Rule 144 under the Securities Act of 1933, we intend to register these shares on a registration statement on Form S-8 under the Securities Act of 1933. Certain options or warrants may have exercise prices that are substantially below the prevailing market price of our common stock. The exercise of those options or warrants, and the prompt resale of shares of our common stock received, may result in downward pressure on the price of our common stock. The existence of the currently outstanding warrants and options to purchase our common stock may negatively affect our ability to complete future equity financings at acceptable prices and on acceptable terms.

Our Subsidiary Callida Genomics, Inc. May Not Be Able to Raise Third Party Financing

In October 2001, we formed Callida Genomics, Inc. to develop and commercialize our SBH technology. We recognize 90% of Callida's operating losses in our consolidated results of operations up to the point where Affymetrix's initial majority interest investment is depleted. Beyond that point, the Company will absorb 100% of the net losses until Callida generates net income. There is no guarantee, however, that Callida will meet its

technical milestone and other requirements to obtain additional funding through Affymetrix and Hyseq. There is also no assurance that Callida will be able to obtain any third party financing or that any such financing that Callida obtains will be on favorable terms or that the funding from outside sources will be sufficient to fund Callida's operations. We cannot assure the success of Callida and if Callida is unable to obtain sufficient funding from outside sources, we may abandon their projects or bear the costs of financing Callida ourselves, which will divert our resources from other biopharmaceutical projects.

We Have a History of Operating Losses and May Never Be Profitable

For the years ended December 31, 2001, 2000 and 1999, we had net losses of $36.5 million, $22.3 million and $18.5 million, respectively. As of December 31, 2001, we had an accumulated deficit of $108.4 million. The process of developing our therapeutic protein candidates will require significant additional research and development, preclinical testing, clinical trials and regulatory approvals. These activities, together with general administrative expenses, are expected to result in operating losses for the foreseeable future. We may never generate profits, and if we do become profitable, we may be unable to sustain or increase profitability on a quarterly or annual basis. As a result, the trading price of our stock could decline.

We May Face Fluctuations in Operating Results

Our operating results may rise or fall significantly as a result of many factors, including:

- the amount of research and development we engage in;
- the progress we make with research and preclinical studies on our therapeutic protein candidates, and the number of candidates in research and preclinical studies;
- our ability to expand our facilities to support our operations;
- our ability to enter into new strategic relationships;
- the nature, effectiveness, size, timing or termination of our collaborative arrangements;
- the costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims;
- the possibility that others may have or obtain patent rights that are superior to ours;
- changes in government regulation; and
- competitors' release of successful products into the market.

Because substantially all of our potential products currently are in research or preclinical development, revenues from sales of any products will not occur for at least the next several years, if at all. We also have a high percentage of fixed costs such as lease obligations. As a result, we may experience fluctuations in our operating results from quarter to quarter and continue to generate losses. Quarterly comparisons of our financial results may not necessarily be meaningful and investors should not rely upon such results as an indication of our future performance.

We Face Potential Volatility of Our Stock Price

Our common stock has been traded on the Nasdaq National Market since August 1997. The market price of our common stock may fluctuate substantially because of a variety of factors, including:

- volatility and uncertainty in the capital markets in general;
- fluctuations in our results of operations;
- sales of our common stock by existing holders;
- loss of key personnel;
- economic and other external factors;

- announcements by governmental agencies that may have, or may be perceived to have, an impact on our potential products;
- changes in our earnings estimates;
- changes in accounting principles;
- lack of trading volume in our stock;
- fluctuations within the biotechnology sector;
- announcements by competitors; and
- other factors not within our control.

In addition, the stock market in general, and the market for biotechnology and other life science stocks in particular, has historically been subject to extreme price and volume fluctuations. This volatility has had a significant effect on the market prices of securities issued by many companies for reasons unrelated to the operating performance of these companies. In the past, following periods of volatility in the market price of a company's securities, class action securities litigation has often been instituted against such a company. Any such litigation instigated against us could result in substantial costs and a diversion of management's attention and resources, which could significantly harm our business, financial condition and operating results.

FDA Regulatory Approval of Our Products is Uncertain; We Face Heavy Government Regulation

Products such as those proposed to be developed by us or our collaboration partners, typically will be subject to an extensive regulatory process by federal, state and local governmental authorities, including the FDA, and comparable agencies in other countries before we may market and sell such products. In order to obtain regulatory approval of a drug product, we or our collaboration partners must demonstrate to the satisfaction of the applicable regulatory agency, among other things, that such product is safe and effective for its intended uses. In addition, we must show that the manufacturing facilities used to produce the products are in compliance with cGMP requirements. In the event we or our collaboration partners, develop products classified as drugs, we and our collaboration partners will be required to obtain appropriate approvals as well.

If our subsidiary Callida sells applications of our SBH technology for clinical diagnostics, it will need to comply with appropriate cGMP regulations pertaining to devices. The new Quality System Regulation imposes design controls and makes other significant changes in the requirements applicable to manufacturers. Callida must also demonstrate that a Biologic License Application or New Drug Application for any biological products would be approved by the applicable government agency. In addition, if Callida markets applications of our SBH technology as diagnostic products, they may be considered to be medical devices and Callida or its collaboration partners will be required to show that the diagnostic product is substantially equivalent to a legally marketed product not requiring FDA approval. In addition, Callida must demonstrate that it is capable of manufacturing the product in accordance with the relevant standards. To obtain FDA approval for such products, Callida must submit extensive data to the FDA, including pre-clinical and clinical trial data to prove the safety and efficacy of the device. Clinical trials are normally conducted over a two- to five-year period, but may take longer to complete as a result of many factors, including:

- slower than anticipated patient enrollment;
- difficulty in finding a sufficient number of patients fitting the appropriate inclusion criteria;
- difficulty in acquiring a sufficient supply of clinical trial materials; or
- adverse events occurring during the trials.

Furthermore, data obtained from preclinical and clinical activities are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval or clearance for a product.

The process of obtaining FDA and other required regulatory approvals and clearances is lengthy and will require us to expend substantial capital and resources. We may not ultimately be able to obtain the necessary

approvals and clearances. Moreover, if and when our products do obtain such approval or clearances, the marketing, distribution and manufacture of such products would remain subject to extensive ongoing regulatory requirements. Failure to comply with applicable regulatory requirements can result in:

- warning letters;
- fines;
- injunctions;
- civil penalties;
- recall or seizure of products;
- total or partial suspension of production;
- refusal of the government to grant approvals, premarket clearance or premarket approval; or
- withdrawal of approvals and criminal prosecution.

We also are subject to numerous federal, state and local laws, regulations and recommendations relating to safe working conditions, laboratory and manufacturing practices, the experimental use of animals, the environment and the use and disposal of hazardous substances used in connection with our discovery, research and development work, including radioactive compounds and infectious disease agents. In addition, we cannot predict the extent of government regulations or the impact of new governmental regulations that might significantly harm the discovery, development, production and marketing of our products. We may be required to incur significant costs to comply with current or future laws or regulations and we may be adversely affected by the cost of such compliance.

If we market therapeutic and diagnostic products outside the United States, such products will be subject to foreign regulatory requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement. Such requirements vary from country to country and are becoming more restrictive throughout the European Community. The process of obtaining foreign regulatory approvals can be lengthy and require the expenditure of substantial capital and resources. We or our collaboration partners may not be successful in obtaining the necessary approvals.

Any delay or failure by us or our collaboration partners to obtain regulatory approvals for our products:

- would adversely affect our ability to generate product and royalty revenues;
- could impose significant additional costs on us or our collaboration partners;
- could diminish competitive advantages that we may attain; and
- would adversely affect the marketing of our products.

We Face Intense Competition

The genomics and biopharmaceutical industries are intensely competitive. Our strategy as a biopharmaceutical company is to find the genes of the human genome that are most likely to be involved in a disease condition and to focus on identifying product candidates from the proteins produced by genes. There are a finite number of genes in the human genome, virtually all of which have been or will soon be identified. Our competitors include major pharmaceutical and biotechnology firms, not-for-profit entities and United States and foreign government-financed programs, many of which have substantially greater research and product development capabilities and financial, scientific, marketing and human resources than we do. As a result, they may succeed in identifying genes and determining their functions or developing products earlier than we or our current or future collaboration partners do. They also may obtain patents and regulatory approvals for such products more rapidly than we or our current or future collaboration partners, or develop products that are more effective than those proposed to be developed by us or our collaboration partners. Further, any potential products based on genes we identify ultimately will face competition from other

companies developing gene-based products as well as from companies developing other forms of treatment for diseases which may be caused by, or related to, the genes we identify.

Many of the companies developing competing products have significantly greater financial resources than we have. Many such companies also have greater expertise than we or our collaboration partners have in discovery, research and development, manufacturing, preclinical and clinical testing, obtaining regulatory approvals and marketing. Other smaller companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Academic institutions, government agencies and other public and private research organizations may also conduct research, seek patent protection and establish collaborative arrangements for discovery, research, clinical development and marketing of products similar to our products. These companies and institutions compete with us in recruiting and retaining qualified scientific and management personnel as well as in acquiring technologies complementary to our programs. We will face competition with respect to:

- product efficacy and safety;
- the timing and scope of regulatory approvals;
- availability of resources;
- reimbursement coverage; and
- price and patent position, including potentially dominant patent positions of others.

There can be no assurance that research and development by others will not render the products that we may develop obsolete or uneconomical, or result in treatments, cures or diagnostics superior to any therapy or diagnostic developed by us or that any therapy we develop will be preferred to any existing or newly developed technologies. While we believe that our technology provides a significant competitive advantage, any one of our competitors may discover and establish a patent position in one or more genes which we designate as a product candidate, before we do. Competition in this field is expected to intensify. Certain of our collaboration partners may now be, or could become, competitors.

Competition in the area of DNA analysis tools is intense and expected to increase. Technologies in this area are new and rapidly evolving. Other companies also are developing or have developed DNA analysis tools that may compete with applications of Callida's SBH technology. Many of these companies have significantly greater research and development, marketing and financial resources than we do, and therefore represent significant competition.

We Lack Marketing Experience for Biopharmaceuticals

We currently have no sales, marketing or distribution capability. For the foreseeable future, we intend to rely primarily on our current and future collaboration partners or licensors, if any, to market our products. Such collaboration partners, however, may not have effective sales forces and distribution systems. If we are unable to maintain or establish such relationships and are required to market any of our products directly, we will have to develop our own marketing and sales force with the appropriate technical expertise and with supporting distribution capabilities. We may not be able to maintain or establish such relationships with third parties or develop in-house sales and distribution capabilities. To the extent that we depend on our collaboration partners or third parties for marketing and distribution, any revenues we receive will depend upon the efforts of such collaboration partners or third parties. Such efforts may not be successful.

Our Products May Not Be Accepted in the Marketplace

Even if they are approved for marketing, products we develop may never achieve market acceptance. Our products, if successfully developed, will compete with a number of traditional drugs and therapies manufactured and marketed by major pharmaceutical and other biotechnology companies. Our products will also compete with new products currently under development by such companies and others. The degree of market

acceptance of any products developed by us, alone, or in conjunction with our collaboration partners, will depend on a number of factors, including:

- the establishment and demonstration of the clinical efficacy and safety of the products;
- our products' potential advantage over alternative treatment methods; and
- reimbursement policies of government and third-party payors.

Physicians, patients or the medical community in general may not accept and utilize any of the products that we alone, or in conjunction with our collaboration partners, develop. The lack of such market acceptance would significantly harm our business, financial condition and results of operations.

We may develop diagnostic testing products in the future. Our success in diagnostics will depend in large part upon our ability to obtain customers and upon the ability of these customers to market genetic tests performed with our technology properly. Genetic tests, including any performed using applications of Callida's SBH technology, may be difficult to interpret and may lead to misinformation or misdiagnosis. Even when a genetic test identifies the existence of a mutation in a person, the test cannot determine with absolute certainty whether the tested individual will develop the disease or condition for which the test is performed. The prospect of broadly available genetic predisposition testing has raised societal and governmental concerns regarding the appropriate use and the confidentiality of information provided by such testing. Government authorities could limit the use of genetic testing or prohibit testing for genetic predisposition to certain conditions. Ethical concerns about genetic testing may adversely affect market acceptance of our technology for diagnostic applications. Impaired market acceptance of our technology could significantly harm our business, financial condition and operating results.

We Face Uncertainties Related to SBH Technology Applications

We have developed applications of our SBH technology, currently in our subsidiary, Callida, including the chip component to be used with the HyChip system. As Callida continues development of SBH technology applications, it may discover problems in the functioning of these applications, including the HyChip system. Callida may be unable to improve applications of our SBH technology enough to be able to market them successfully. Further, SBH technology applications compete against other DNA analysis tools and well-established technologies. We cannot predict the outcome of these uncertainties.

We Face Uncertainty With Respect to Pricing, Third-Party Reimbursement and Health Care Reform

Our ability to collect significant royalties from our products may depend on our ability, and the ability of our collaboration partners or customers, to obtain adequate levels of reimbursement from third-party payors such as:

- government health administration authorities;
- private health insurers;
- health maintenance organizations;
- pharmacy benefit management companies; and
- other health care related organizations.

Currently, third-party payors are increasingly challenging the prices charged for medical products and services, and the overall availability of third-party reimbursement is limited and uncertain for genetic predisposition tests. Third-party payors may deny their insured reimbursement if they determine that a prescribed device or diagnostic test (i) has not received appropriate clearances from the FDA or other government regulators, (ii) is not used in accordance with cost-effective treatment methods as determined by the third-party payor, or (iii) is experimental, unnecessary or inappropriate. If third-party payors routinely deny reimbursement, we may not be able to market our products effectively. We also face the risk that we will have to offer our diagnostic products at low prices as a result of the current trend in the United States towards

managed health care through health maintenance organizations. Prices could be driven down by health maintenance organizations which control or significantly influence purchases of health care services and products. Legislative proposals to reform health care or reduce government insurance programs could also adversely affect prices of our products. The cost containment measures that health care providers are instituting and the results of potential health care reforms may prevent us from maintaining prices for our products that are sufficient for us to realize profits and may otherwise significantly harm our business, financial condition and operating results.

We Face Product Liability Exposure and Potential Unavailability of Insurance

We risk financial exposure to product liability claims in the event that the use of products developed by us or our collaboration partners, if any, result in personal injury. We may experience losses due to product liability claims in the future. We have obtained limited product liability insurance coverage. Such coverage, however, may not be adequate or may not continue to be available to us in sufficient amounts or at an acceptable cost, or at all. We may not be able to obtain commercially reasonable product liability insurance for any product approved for marketing. A product liability claim or other claim, product recalls, as well as any claims for uninsured liabilities or in excess of insured liabilities, may significantly harm our business, financial condition and results of operations.

We Use Hazardous Materials

Our research and development activities involve the controlled use of hazardous materials. Although we believe that our safety procedures for handling and disposing of these materials comply with applicable laws and regulations, we cannot eliminate the risk of accidental contamination or injury from hazardous materials. If a hazardous material accident occurred, we would be liable for any resulting damages. This liability could exceed our financial resources. Additionally, hazardous materials are subject to regulatory oversight. If our access to hazardous materials necessary for our operations is limited by federal, state or local regulatory agencies, we could experience delays in our research and development programs. Paying damages or experiencing delays caused by restricted access to necessary materials could reduce our ability to generate revenues and make it more difficult to fund our operations.

We Have Implemented Anti-Takeover Provisions that May Reduce the Market Price of Our Common Stock

Our Amended and Restated By-Laws provide that members of our board of directors serve staggered three-year terms. Our Amended and Restated Articles of Incorporation provide that all stockholder action must be effected at a duly called meeting and not by a consent in writing. The Amended and Restated By-Laws provide, however, that our stockholders may call a special meeting of stockholders only upon a request of stockholders owning at least 50% of our capital stock. These provisions of our Amended and Restated Articles of Incorporation and our Amended and Restated By-Laws could discourage potential acquisition proposals and could delay or prevent a change in control. These provisions are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by our board of directors. We also intended these provisions to discourage certain types of transactions that may involve an actual or threatened change of control. We designed these provisions to reduce our vulnerability to unsolicited acquisition proposals and to discourage certain tactics that may be used in proxy fights. These provisions, however, could also have the effect of discouraging others from making tender offers for our shares. As a consequence, they also may inhibit fluctuations in the market price of our shares that could result from actual or rumored takeover attempts. Such provisions also may have the effect of preventing changes in our management.

We are permitted to issue shares of our preferred stock without stockholder approval upon such terms as our board of directors determines. Therefore, the rights of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of our preferred stock that may be issued in the future. In addition, the issuance of preferred stock could have a dilutive effect on the holdings of our current stockholders.

On June 5, 1998, our board of directors adopted a rights plan and declared a dividend with respect to each share of our common stock then outstanding. This dividend took the form of a right, which entitles the holders to purchase one-one thousandth of a share of our Series B junior participating preferred stock at a purchase price of $175, subject to adjustment from time to time. These rights have also been issued in connection with each share of our common stock issued after June 15, 1998. The rights are exercisable only if a person or entity or affiliated group of persons or entities acquires, or has announced its intention to acquire, 15% (27.5% in the case of certain approved stockholders) or more of our outstanding common stock. The adoption of the rights plan makes it more difficult for a third party to acquire control of us without the approval of our board of directors.

Nevada Revised Statutes Sections 78.411 through 78.444 prohibit an "interested stockholder," under certain circumstances, from entering into specified combination transactions with a Nevada corporation, unless certain conditions are met. Under the statute, an "interested stockholder" is a person who beneficially owns, directly or indirectly, 10% or more of a corporation's voting stock or an affiliate or associate of a corporation who at any time within the prior three years beneficially owned, directly or indirectly, 10% or more of a corporation's voting stock. According to the statute, we may not engage in a combination within three years after an interested stockholder acquires our shares, unless (i) our board of directors approves the combination prior to the interested stockholder becoming an interested stockholder or (ii) holders of a majority of voting power not beneficially owned by the interested stockholder approve the combination at a meeting called no earlier than three years after the date the interested stockholder became an interested stockholder.

Nevada Revised Statutes Sections 78.378 through 78.3793 further prohibit an acquirer, under certain circumstances, from voting shares of a target corporation's stock after crossing certain threshold ownership percentages, unless the acquirer obtains the approval of the target corporation's stockholders. This statute only applies to Nevada corporations that do business directly or indirectly in Nevada. We do not intend to do business in Nevada within the meaning of the statute. Therefore, it is unlikely that the statute will apply to us.

The provisions of our governing documents, our existing agreements and current Nevada law may, collectively:

- lengthen the time required for a person or entity to acquire control of us through a proxy contest for the election of a majority of our board of directors;
- discourage bids for our common stock at a premium over market price; and
- generally deter efforts to obtain control of us.

Risk of Natural Disasters and Power Blackouts

Our facilities are located in Sunnyvale, California. In the event that a fire or other natural disaster (such as an earthquake) prevents us from operating our production line, our business, financial condition and operating results would be materially, adversely affected. Some of our landlords maintain earthquake coverage for our facilities. Although we maintain personal property and business interruption coverage, we do not maintain earthquake coverage for personal property or resulting business interruption.

The State of California has experienced natural gas and electricity problems, which have resulted in rolling power blackouts, some of which have affected our facilities. In addition, we, like others, have experienced large fluctuation in our natural gas rates and may experience steep fluctuations in our electric rates. Although we have an auxiliary generator, it is intended for emergency backup in the event of a power outage and is not capable of powering our entire operations. Future power blackouts and/or large increases in our utility costs could harm our business, financial condition and results of operations.

Item 2. ***Properties***

We lease a 12,000 square foot facility at 670 Almanor Avenue, Sunnyvale, California. The lease on this facility expires June 30, 2005, and requires base payments on average of approximately $25,000 per month.

We also lease approximately 59,000 square feet of space at 675 Almanor Avenue, Sunnyvale, California, which is across the street from 670 Almanor. This lease expires on June 30, 2005, and has a five-year renewal option which, if exercised, would extend the lease to June 30, 2010. It requires base payments on average of approximately $95,000 per month. In June 2000 we leased an additional approximately 59,000 square feet of space at 225, 249 and 257 Humbolt Court in Sunnyvale, California, approximately one mile from our current operating facilities. The lease on this new space requires base lease payments on average of approximately $317,000 per month and extends through July 2011. Approximately 15,000 square feet of this Humboldt Court space is planned for use by our subsidiary Callida and the remainder of the space is currently being evaluated for optimal use. In April 2001, we leased an additional approximately 140,000 square feet of space at 985 Almanor Avenue in Sunnyvale, California, adjacent to our current operating facilities. The lease on this new space requires base lease payment of approximately $451,000 per month and extends through May 2011. In the initial phase of our facilities expansion, we plan to build out approximately 55,000 square feet of this space to accommodate new research and development offices and laboratories to support preclinical development activities, including preliminary preclinical safety and efficacy studies in rodents, functional cell biology assays, cell based functional screening efforts, protein production, protein characterization and analytical assay development. To complete this build out as planned, we will need to secure additional financing. The remaining portion of the building may be used for further research and development laboratory expansion, process development and/or clinical manufacturing as appropriate.

Item 3. ***Legal Proceedings***

In October 2001, the Company entered into a settlement agreement with Affymetrix providing for the comprehensive settlement of all existing litigation between the two companies that began in March 1997. The lawsuits involved are Hyseq, Inc., Plaintiff/ Counterdefendant v. Affymetrix, Inc., Defendant/ Counterclaimant, Case No. C 97-20188 RMW, United States District Court, Northern District of California, San Jose Division; Affymetrix, Inc., Plaintiff v. Hyseq, Inc., Defendant, Case No C 99-21163 JF, United States District Court, Northern District of California, San Jose Division; and Hyseq, Inc., Plaintiff/ Counterdefendant v. Affymetrix, Inc., Defendant/ Counterclaimant, Case No. C 00-20050 RMW, United States District Court, Northern District of California, San Jose Division. On October 26, 2001, Hyseq and Affymetrix jointly filed a “Stipulation and Proposed Order of Dismissal and Final Judgment” in each of these lawsuits which sought dismissal, with prejudice, in each case. Hyseq and Affymetrix have each acknowledged the validity and enforceability of the patents involved in these lawsuits, which are: Hyseq’s U.S. Patent Nos. 5,202,231, 5,525,464, 5,695,940, 6,018,041 and 5,972,619; and Affymetrix’ U.S. Patent Nos. 5,795,716, 5,744,305 and 5,800,992.

Hyseq and Affymetrix have also been involved in patent interference proceedings titled Chee v. Drmanac, Interference No. 104,552 before the U.S. Patent and Trademark Office. In November 2001, Hyseq entered an abandonment of contest in the interference with respect to our pending patent application.

In October 2001, the Company also announced its plan to reorganize into two distinct companies. We are continuing our biopharmaceutical business as “Hyseq Pharmaceuticals, Inc.” and our new majority-owned subsidiary, Callida Genomics, Inc. is focusing on the development and commercialization of our SBH technology. Incident to the settlement, Callida entered into a collaboration arrangement with Affymetrix, through Callida’s wholly-owned subsidiary, N-Mer Inc., for the development and commercialization of a high speed DNA sequencing chip. The Company, Callida, N-Mer and Affymetrix also entered into various cross-licensing arrangements, and Affymetrix agreed to become the exclusive array and system supplier to N-Mer and the exclusive sales agent, subject to customary performance obligations, for the distribution of any products developed by N-Mer. Affymetrix agreed to pay the Company a one-time license fee for a non-exclusive license of array-related patents in the field of non-universal probe arrays and to loan the Company $4 million, all for use to fund Callida and N-Mer. The loan, which bears interest at the rate of 7.5% per annum and matures five years after closing, is prepayable by the Company at any time, exchangeable at the option of the Company for common stock of the Company and secured by the Company’s equity interest in Callida. Affymetrix has an initial 10% equity ownership interest in Callida. Affymetrix and the Company agreed to each make additional investments in N-Mer, conditioned on N-Mer’s attainment of a specified technical

milestone and the procurement of third-party financing. Callida agreed to grant Affymetrix an option to purchase a majority interest in N-Mer, which is exercisable at any time within five years.

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

No matters were submitted to the vote of stockholders through the solicitation of proxies or otherwise during the fourth quarter of the year ended December 31, 2001.

PART II

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

Our common stock began trading on the Nasdaq Stock Market on August 8, 1997 under the symbol "HYSQ." Prior to that date, there was no established trading market for the common stock. The following table sets forth, for the periods indicated, the high and low bid information for the common stock, as reported by the Nasdaq Stock Market:

	High	Low
Fiscal 2000:		
First Quarter	$139.50	$12.44
Second Quarter	$ 46.88	$17.00
Third Quarter	$ 53.25	$30.25
Fourth Quarter	$ 37.00	$11.25
Fiscal 2001:		
First Quarter	$ 16.44	$ 7.50
Second Quarter	$ 18.00	$ 7.50
Third Quarter	$ 11.35	$ 5.20
Fourth Quarter	$ 10.22	$ 5.94

As of March 15, 2002, there were approximately 187 stockholders of record of our common stock. We have not paid dividends to our stockholders since our inception and we do not plan to pay cash dividends in the foreseeable future. We currently intend to retain earnings, if any, to finance our growth.

Item 6. ***Selected Consolidated Financial Data***

	Year Ended December 31,				
	2001	2000	1999	1998	1997
	(In thousands, except per share amounts)				
Statement of Operations Data:					
Contract revenues	$ 24,590	$ 15,604	$ 6,397	$ 9,590	$ 6,199
Loss before minority interest	(36,765)	(22,253)	(18,547)	(16,369)	(6,537)
Loss attributable to minority interest	293	—	—	—	—
Net loss	(36,472)	(22,253)	(18,547)	(16,369)	(6,537)
Basic and diluted net loss per share	(2.26)	(1.65)	(1.43)	(1.27)	(0.86)
Weighted average shares used in computing basic and diluted net loss per share	16,158	13,449	13,004	12,839	7,589

	December 31,				
	2001	2000	1999	1998	1997
	(In thousands)				
Balance Sheet Data:					
Working capital	$ (1,829)	$ (2,577)	$22,077	$42,345	$56,824
Total assets	39,904	21,288	45,364	57,914	66,950
Noncurrent portion of capital lease and loan obligations	2,228	4,722	5,221	4,479	613
Note payable	4,000	—	—	—	—
Other non-current liabilities	125	—	—	—	—
Minority interest	112	—	—	—	—

Factors that affected the comparability of information between 2000 and 2001 were the Company's private placement in August of 2001 in which an aggregate of 3,040,734 shares of common stock and warrants to purchase an aggregate of 1,520,368 shares of common stock were sold for net proceeds of approximately $20.7 million, and the conversion of our loan from our Chairman's first line of credit into 2,237,637 shares of common stock.

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

We have included or incorporated by reference into this Management's Discussion and Analysis of Financial Condition and Results of Operations and elsewhere in this Annual Report on form 10-K, and from time to time our management may make, statements that constitute "forward-looking statements" as that term is defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words including "anticipate," "believe," "intends," "estimates," "expect," "should," "may," "potential" and similar expressions. Such statements are based on our management's current expectations and involve risks and uncertainties. Actual results and performance could differ materially from those projected in the forward-looking statements as a result of many factors discussed in this Annual Report, including those set forth in Item 7 as well as under "Item 1. Business," including "Risk Factors."

Critical Accounting Policies and Estimates

Our discussion and analysis of our operating results and financial condition is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of the financial statements requires us to make estimates, judgments, and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent amounts. While we believe our estimates, judgments, and assumptions are reasonable, the inherent nature of estimates is that actual results will likely be different from the estimates made.

We believe the following critical accounting policies, among others, affect the more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

We recognize revenue when all of the following conditions have occurred:

- Persuasive evidence of an arrangement exists,
- Delivery has occurred or services have been rendered,
- The price is fixed and determinable, and
- Collectibility is reasonably assured.

We defer and recognize up-front refundable fees as revenues upon the later of when they become nonrefundable or when performance obligations are completed. In situations where we have no continuing performance obligations, we recognize up-front nonrefundable fees as revenues when receivable. In situations where continuing performance obligations exist, we defer and amortize up-front nonrefundable fees over the performance period. The terms of such arrangements may cause our operating results to vary considerably from period to period.

Income Taxes

Income taxes are accounted for under the asset and liability method pursuant to US Statement of Financial Accounting Standards ("SFAS") Board Opinion No. 109. Under SFAS 109, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

We record a valuation allowance to reduce deferred income tax assets to an amount that is more likely than not to be realized. Assessment of the realization of deferred income tax assets requires that estimates and assumptions be made as to the taxable income of future periods. Our deferred tax assets are reduced to zero,

as management believes that it is more likely than not that the deferred tax assets will not be realized. Projection of future period earnings is inherently difficult as it involves consideration of numerous factors such as our overall strategies and estimates of new product development and acceptance, product lifecycles, selling prices and volumes, responses by competitors, manufacturing costs and assumptions as to operating expenses and other industry specific and macro and micro economic factors. In addition, consideration is also given to ongoing and constantly evolving global tax laws and our own tax minimization strategies.

Capitalization of Software Developed for Internal Use

Hyseq accounts for software developed for internal use in accordance with Statement of Position ("SOP") 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use," which requires research and development costs associated with the application development stage to be capitalized for internal use software. Platform and software development costs incurred prior to the application development stage are charged to expense as incurred. Management is required to use professional judgment in determining whether development costs meet the criteria in SOP 98-1 for immediate expense or capitalization. Amortization of the capitalized costs begins when all substantial testing is completed and the software is ready for its intended use. Management periodically reviews the carrying value of the projects that have been capitalized to determine if impairment may exist. If it is determined that the carrying value of the asset has been impaired, the value would be reduced by a charge to operations in the amount of the impairment.

Results of Operations

Contract Revenues

Comparison of Years Ended December 31, 2001 and 2000. Our contract revenues were $24.6 million for 2001 compared to $15.6 million for 2000. The increase was primarily due to higher revenues earned from our collaboration with BASF for gene screening services to target potential agricultural products.

Contract revenues earned during 2001 included $22.4 million under our agreement with BASF, $1.2 million under our agreement with Chiron, $0.8 million under our agreement with Affymetrix, and $0.2 million under our agreement with Applied Biosystems.

Revenues recognized under our agreement with BASF were $22.4 million for 2001 compared to $11.7 million for 2000. Processing was slightly ahead of contractual levels of 1.1 million average clones per month in 2001, compared to 0.6 million average clones per month in 2000 when processing was ramping up.

Revenues recognized in 2001 under our agreement with Chiron consist mainly of $1.0 million minimum annual research funding received for the second year of the two-year extension initiated by Chiron in May of 2000, compared to $3.3 million revenue in 2000 earned in the final months of the initial three year gene screening services portion of our agreement with Chiron. Chiron has the right to extend the agreement for one additional two-year period in May 2002 for a minimum of $1.0 million each year.

Our revenues typically vary from quarter to quarter and may result in significant fluctuations in our operating results from year to year. In the future, we may not be able to maintain existing collaborations, obtain additional collaboration partners or obtain revenue from other sources. The failure to maintain existing collaborations, the inability to enter into additional collaborative arrangements or obtain revenue from other sources could have a material adverse effect on our revenues and operating results.

Comparison of Years Ended December 31, 2000 and 1999. Our contract revenues increased by $9.2 million to $15.6 million in 2000, compared to $6.4 million for 1999. Contract revenues recognized in 2000 included $11.7 million from BASF and $3.3 million from Chiron. The increase in 2000 was due primarily to the ramp up of gene screening services for BASF, less a $1.6 million decrease in revenues earned from Chiron due the completion in the first half of 2000 of the gene screening services portion of that three year collaboration.

Operating Expenses

Comparison of Years Ended December 31, 2001 and 2000. Our total operating expenses, consisting of research and development expenses and general and administrative expenses, increased by $22.5 million to $60.8 million for 2001 compared to $38.3 million for 2000.

For 2001, our research and development expenses increased by $17.5 million to $46.5 million compared to $29.0 million for 2000. This increase was primarily due to Hyseq's biopharmaceutical research and development efforts, and includes a $3.3 million increase in costs associated with the addition of scientific personnel, $4.5 million increase in outside contract research services, and a $1.1 million write-off of certain capitalized software development costs. Due to the acquisition of additional facilities for research and development, rent expense increased $5.4 million and depreciation expense of leasehold improvements increased $1.1 million.

Our general and administrative expenses increased $4.1 million to $13.5 million in 2001 compared to $9.3 million in 2000. The increase in general and administrative expenses during 2001 included $3.4 million increase in personnel expenses in connection with the compensation, recruiting, and relocation of an experienced and accomplished senior management team.

We expect operating expenses to increase during 2002 as we plan to continue research and development of our therapeutic protein candidates, build out our new facilities to support our research and development efforts, further develop SBH technology applications through our subsidiary Callida, and prosecute our intellectual property rights. The magnitude of the increases in our operating expenses will be significantly affected by our ability to secure adequate sources of external financing or additional sources of revenue. If we do not obtain adequate financing or revenue in a timely manner, this could significantly harm our business, financial condition and results of operations, and may require us to delay or eliminate one or more of our research or development programs and/or delay the build out and occupation of our new leased facilities. See — "Liquidity and Capital Resources."

Comparison of Years Ended December 31, 2000 and 1999. Our total operating expenses, consisting of research and development expenses and general and administrative expenses, increased by $12.0 million to $38.3 million for 2000 compared to $26.3 million for 1999.

For 2000, our research and development expenses increased by $10.8 million to $29.0 million compared to $18.2 million for 1999. This increase in our research and development expenses was primarily attributable to the increase in production throughput in our gene discovery and complete gene sequencing programs, including $5.1 million increase in costs associated with the addition of scientific and bioinformatic personnel, $1.9 million increase in outside contract services, $2.5 million increase in supplies purchases related to our collaborations, and a $0.6 million write-off of certain capitalized software development costs.

Our general and administrative expenses increased $1.2 million to $9.3 million in 2000 compared to $8.1 million in 1999. The increase in general and administrative expenses during 2000 included $0.8 million increase in rent expenses associated with the new leased facilities, $0.5 million increase in recruiting and salary expenses, plus increases in legal expenses related to our patent litigation and settlement with Affymetrix.

Interest Income and Expense, Net

Comparison of Years Ended December 31, 2001 and 2000. Our interest income and expense, net decreased by $1.1 million to $0.6 million interest expense for 2001 compared to $0.5 million interest income for 2000. This decrease in interest income resulted from lower average cash and investment balances and lower interest rates.

Comparison of Years Ended December 31, 2000 and 1999. Our interest income and expense, net decreased by $0.8 million to $0.5 million interest income for 2000 compared to $1.3 million interest income for 1999. This decrease in 2000 resulted from lower cash and investment balances, and higher interest expense from our increased equipment and leasehold financing activities.

Net Loss

Since our inception, we have incurred net losses, and as of December 31, 2001, we had an accumulated deficit of $108.4 million. During 2001, we incurred a net loss of $36.5 million as compared to a $22.3 million net loss in 2000 and a net loss of $18.5 million in 1999. We expect to continue to incur significant net losses, which may increase substantially as we pursue research and development of our therapeutic protein candidates and other operations, and prosecute and enforce our intellectual property rights.

Loss Attributable To Minority Interest

Loss attributable to minority interest of $0.3 million is recorded for the portion of Callida's losses attributable to minority stockholder Affymetrix. As the expected future level of Callida's losses increases, we anticipate recording additional losses attributable to minority interest up to the point where Affymetrix' initial minority interest investment is depleted. Beyond that point, the Company will absorb 100% of the net losses until Callida generates net income.

Liquidity and Capital Resources

Our primary source of liquidity is cash from financing activities and from collaboration receipts. We generated cash of $44.3 million and $1.3 million from financing activities, and cash of $22.0 million and $15.6 million from collaboration receipts in 2001 and 2000, respectively.

Our primary use of capital resources is to fund operating activities and to acquire capital equipment and make leasehold improvements. We used cash of $21.5 million and $20.3 million for operating activities, and cash of $12.6 million and $8.3 million to acquire capital equipment and make leasehold improvements in 2001 and 2000, respectively. We expect operating expenses to increase during 2002, and will need additional funding in order to finance the expansion of our biopharmaceutical research and the build out of our new leased facilities to support such research. If we do not obtain adequate financing or collaboration receipts in a timely manner, this could significantly harm our business, financial condition, and results of operations, and may require us to delay and scale back one or more of our research or development programs, discontinue the build out of our new leased facilities, or relinquish greater rights to products at an earlier stage of development or on less favorable terms than we would otherwise seek to obtain, which could materially adversely affect our business, financial condition, and operating results.

Our future capital requirements and the adequacy of available funds will depend on many factors, including those set forth under Item 1, "Risk Factors — We Must Be Able to Continue to Secure Additional Financing" above. We may not be able to secure additional financing to meet our funding requirements on acceptable terms, if at all. If we raise additional funds by issuing equity securities, substantial dilution to our existing stockholders may result. If we are unable to obtain additional funds we may have to significantly curtail the scope of our operations. We have implemented a plan to delay, scale back or eliminate some of our operating expenditures, including facilities expansion plans, until we obtain additional funding. This plan includes a hiring freeze, a freeze on capital expenditures and a deferral of as many of our contractual financial commitments as possible. If we are unable to obtain financing, we may need to look to our Chairman to provide additional financing, which he has agreed to do.

Cash and Cash Equivalents and Short-Term Investments

Comparison of Years Ended December 31, 2001 and 2000. As of December 31, 2001, we had $12.3 million in cash and cash equivalents. These amounts reflect a net increase of $9.6 million from the $2.7 million in cash and cash equivalents we had as of December 31, 2000. This increase resulted primarily from the $20.0 million draw down of the first of our two lines of credit from our Chairman which was converted to common stock in March 2001, $20.7 million received from our August private stock offering net of offering expenses, and $8.0 million received from Affymetrix under the terms of our legal settlement and new collaboration, less cash used by operations of $21.5 million and capital spending of $12.6 million.

Sources of Capital and Used of Capital

All of our investments in marketable securities have had maturities of less than one year, have been considered available-for-sale, and as such have been classified as short-term investments. We have held our cash equivalents and investments in investment-grade commercial paper, bank certificates of deposit and other interest-bearing securities. We make our investments in accordance with our investment policy. The primary objectives of our investment policy are liquidity, safety of principal and diversity of investments. At December 31, 2001, we did not hold any marketable securities.

In October 2001, as part of our reorganization and litigation settlement, Affymetrix gave us a total of $8.0 million in cash, which was comprised of two pieces: a license payment of $4.0 million dollars for granting Affymetrix a non-exclusive license under various U.S. patents and patent applications; and a loan to us of $4.0 million (interest rate of 7.5%, 5 year term) for Hyseq to invest in Callida. In lieu of repayment of this loan, we have the right, at any time, to exchange the note in whole or in part into such number of shares of our common stock (based on a price per share equal to 90% of the ten day trailing average price) equal to the aggregate amount of principal and interest to be exchanged. Our right to exchange the note into shares of common stock is subject to a number of conditions set forth in the note, including the requirements that the exchange of the note into our common stock does not cause Affymetrix to hold more than 19% of our outstanding common stock, and that there shall be an effective registration statement relating to the resale of the common stock issuable upon exchange of the note.

Both we and Affymetrix committed to invest additional amounts in N-Mer, contingent on Callida achieving certain milestones. Affymetrix has committed to lend us the additional amount that we have committed to invest in Callida, and we have the option to repay this loan with common stock. All outstanding principal and interest under the Affymetrix loan (and future loans) may become due and payable under specified conditions, including: upon the exercise by Affymetrix of its option to acquire N-Mer; upon a change in control of us; if our common stock ceases to be approved for quotation on Nasdaq or listed on a national securities exchange; in certain customary cases involving insolvency, bankruptcy or similar proceedings; that the aggregate amount outstanding under all loans exceeds 10% of our equity market capitalization; or if we end up in litigation with Affymetrix in the future.

In August 2001, we completed a private placement of approximately 3.04 million newly issued shares of common stock at $7.00 per share, together with warrants to purchase approximately 1.52 million shares of common stock, for aggregate gross proceeds of approximately $21.3 million ($20.7 million, net of offering expenses). The warrants are exercisable at any time through and including August 28, 2006 at $10.50 per share, a 50 percent premium to the per unit purchase price on the closing date, which may be adjusted to $7.95 per share based on certain future issuances. We may seek to raise funds through additional private placements in the future but cannot guarantee that we will be successful.

In August 2001, the Company received a commitment from the Chairman of its Board of Directors to provide a second line of credit of up to $20.0 million. A line of credit agreement was executed on August 6, 2001, and makes available the principal amount of $20.0 million, for draw down through August 5, 2003. Amounts outstanding under the line of credit are secured by a promissory note which bears interest at a rate equal to one percent (1%) above the prime rate, and will be payable in 48 equal monthly installments beginning August 5, 2003. Amounts outstanding may be repaid by conversion into shares of our common stock at any time upon the agreement of us and Dr. Rathmann at a price based upon the average price of the our common stock over the 20-day period prior to the conversion, or, if in connection with an equity financing, at the offering price. We may not repay more than $20 million in the form of shares of common stock. Under certain specified conditions, including (1) a change in control (based on a 50% ownership test), (2) insolvency or bankruptcy, or (3) a material adverse effect on our business, properties, assets or condition, we may not be able to borrow any further amounts under the line of credit. If any of the following events of default occurs, all payments under the promissory note may be accelerated: we shall fail to make payments within five business days of the date due; the breach by us of a representation or warranty made to Dr. Rathmann; the uncured breach by us of an obligation under the credit agreement; a material default by us under any other

agreement with Dr. Rathmann; and customary defaults related to our bankruptcy or insolvency. As of March 15, 2002, $16.0 million was available under this line of credit.

In April 2001, we leased an additional 138,698 square feet of space at 985 Almanor Avenue in Sunnyvale, California, adjacent to our current operating facilities. Lease payments over the ten-year term of the lease total approximately $54.1 million. Pursuant to the terms of the lease, we provided a letter of credit in the amount of $4.0 million as additional security for the lease; this letter of credit terminates after 5 years if we have not been in monetary default under the lease. Our Chairman provided the collateral for our letter of credit under this lease. This lease, as well as some of our other leases, contain customary event of default provisions, including that all payments due under the leases, such as amounts for unpaid rent and payments for future rent up to an amount of loss that we prove could have been reasonably avoided, will be accelerated upon the occurrences of events of default. Our lease obligations are further described in Item 2 “Properties,” and in Notes to Consolidated Financial Statements, Note 5 “Capital Lease and Loan Obligations.”

In August 2001, the terms of our Humboldt Court lease required us to provide a $2.0 million letter of credit. This letter of credit was provided in March 2002 and must be increased by $1.0 million annually in each of August 2002 and August 2003, after which it can decrease by $2.0 million in 2007.

In March 2001, our Board of Directors decided to complete the draw down of the balance of the $20.0 million available under the first line of credit from our Chairman, and pay off the outstanding principal balance in shares of our common stock, as provided in the agreement. As a consequence, we issued 2,237,637 shares of common stock to our Chairman in satisfaction of $20.0 million of outstanding principal under the line of credit.

We have $1.6 million in restricted cash on deposit as security for a $2.0 million letter of credit in conjunction with the 675 Almanor lease. Provided that no event of default under the lease occurs, the letter of credit and the cash collateralizing it will be reduced by $0.5 million per year in July 2002, July 2003, and July 2004. The cash on deposit at any time in conjunction with this letter of credit is restricted and cannot be withdrawn. We control the investment of the cash and receive the interest earned thereon.

As of December 31, 2001, our contractual payment obligations consist principally of lease payments as described in Item 2 “Properties” above and in the Notes to the Consolidated Financial Statements Note 5 “Capital Lease and Loan Obligations” and Note 6 “Commitments and Contingencies;” the loan repayment to Affymetrix and our contingent obligation to provide future funding to Callida described in the Notes to the Consolidated Financial Statements Note 7 “Collaborative Agreements;” and collaboration payments. Under the terms of our collaboration agreement with Deltagen, we will be obligated to pay $10.0 million over the next two years to fund the research work under the agreement. Under the terms of our collaboration agreement with Aurora, we may be obligated to pay up to $2.6 million over the next two years for work performed under that agreement.

Cash Used in Operating Activities

Comparison of Years Ended December 31, 2001 and 2000. The amount of net cash used in operating activities increased by $1.2 million to $21.5 million in 2001 from $20.3 million in 2000. This increase in cash used for operations in 2001 compared to 2000 was due primarily to increased research and development expenses related to our pharmaceutical product candidates, and the addition of new leased facilities for laboratory expansion, partially offset by an increase in current liabilities including a $2.5 million accrual for major contract services and for $3.2 million deferred revenues related to the Affymetrix collaboration.

Comparison of Years Ended December 31, 2000 and 1999. The amount of net cash used in operating activities increased by $8.4 million to $20.3 million in 2000 from $11.9 million in 1999. This increase in cash used in operations in 2000 compared to 1999 was due primarily to increased research and development expenses related to our pharmaceutical product candidates and our complete gene sequencing programs, and the addition of new leased facilities for laboratory expansion and payment of advanced rent for those lease facilities.

Cash Provided by Investing Activities

Our investing activities, other than purchases and sales of short-term investments, have consisted primarily of capital expenditures.

Comparison of Years Ended December 31, 2001 and 2000. Net cash used in investing activities decreased by $21.2 million to $13.1 million used in 2001 by investing activities, compared to $8.1 million provided in 2000 by investing activities. The decrease was primarily due to no new net redemptions of investments in 2001, compared with $17.0 million net redemptions of short-term investments in 2000. Capital expenditures increased by $4.3 million to $12.6 million in 2001, primarily due to leasehold improvements, compared with $8.3 million in 2000.

Comparison of Years Ended December 31, 2000 and 1999. Net cash provided by investing activities increased by $5.7 million to $8.1 million in 2000 compared to $2.4 million in 1999. The increase was primarily due to higher net redemptions of short-term investments in 2000, partially offset by higher purchases of equipment used to support our expanding research and development activities and investment in capitalized software. In 2000, all of our short-term investments were reinvested upon maturity into commercial paper with maturities of less than 90 days.

Cash Provided by Financing Activities

Comparison of Years Ended December 31, 2001 and 2000. Net cash provided by financing activities increased to $44.3 million in 2001 compared to $1.3 million in 2000. The increase was primarily due to the draw down of the first of two $20.0 million lines of credit from the Chairman of our Board of Directors, the completion of a private stock placement from which the Company received net proceeds of $20.7 million, and a $4.0 loan from Affymetrix as part of the Callida collaboration. The increase was partially offset by payments on existing capital lease and loan obligations.

As of December 31, 2001, minority interest was $0.1 million. Minority interest is related to the establishment of Callida in October 2001, a majority-owned subsidiary, and reflects the initial minority shareholders' capitalization less the minority shareholders' portion of the net losses incurred to date.

Comparison of Years Ended December 31, 2000 and 1999. Net cash provided by financing activities decreased slightly to $1.3 million in 2000 compared to $1.6 million in 1999. The decrease was primarily due to lower proceeds from financing arrangements, partially offset by higher proceeds from employee stock option exercises and higher payments on loan obligations. In 2000, we borrowed the remaining $2.0 million of a $5.0 million asset-backed financing commitment obtained in 1999.

Disclosure Regarding Our Chairman

In November 2000, we received a commitment from Dr. Rathmann to provide a line of credit of up to $20.0 million in aggregate principal amount. The promissory note under the line of credit relating to outstanding amounts was convertible at our option into shares of our common stock at fair market value. On March 20, 2001 we drew down the entire $20.0 million amount and, following ratification of the transaction by our stockholders at last year's annual meeting, we converted the note for the entire amount into 2,237,637 shares of our common stock.

In August 2001, we received a commitment from Dr. Rathmann to provide a second line of credit of up to $20.0 million in aggregate principal amount, available for draw down through August 5, 2003. Amounts outstanding under the line of credit bear interest at prime plus 1% and are payable in 48 equal monthly installments beginning upon the expiration date of August 5, 2003. The promissory note issued pursuant to the line of credit may be repaid by converting into shares of our common stock at any time upon the agreement of us and Dr. Rathmann at a price based upon the average price of our common stock over the 20-day period prior to the conversion or, if in connection with an equity financing, at the offering price. In February 2002, we drew down $4.0 million under the line of credit.

Dr. Rathmann guaranteed to a certain maximum amount and provided the collateral for our $4.0 million letter of credit under our 985 Almanor lease, and our $2.0 million letter of credit under our Humboldt Court lease.

On February 1, 2000, our Board of Directors granted Dr. Rathmann an option to purchase 1,000,000 shares of our common stock for services as Chairman of the Board, at an exercise price equal to the then-current market price on the day before the date of grant of $31.688 per share, which option vests and becomes exercisable over two years at a rate of one-third upon grant and one-third on each yearly anniversary thereafter. The term of the option is ten years. On August 21, 2001, our Board of Directors granted Dr. Rathmann an option to purchase 1,000,000 shares of our common stock, for services as Chairman of the Board at an exercise price equal to the then-current market price of $8.635 per share. This option has a ten year term, and vests and becomes exercisable over four years at a rate of one-fourth upon the one year anniversary of the date of grant and 1/48th of the total number of shares upon each monthly anniversary thereafter. In the event of a change in control of our company, the option shall become immediately exercisable. Upon the termination of Dr. Rathmann's directorship with us for any reason or no reason, except as a result of Dr. Rathmann's death or disability, the unvested portion of the option shall be forfeited, and the vested unexercised portion of the option shall be exercisable for a period of thirty days following termination or the expiration of the term of the option if earlier. The option shall be exercisable by Dr. Rathmann or his legal representative, and in the event of his death only by his beneficiary. The option shall not otherwise be transferable by Dr. Rathmann or by operation of law, and any attempted transfer or other disposition of the option shall be void and shall result in the cancellation of the option. Our Board of Directors has the right to amend or terminate the provisions of the option in any manner it may deem necessary or advisable to carry out the purpose of the grant as the result of, or to comply with, any change in applicable regulations, interpretation or statutory enactment.

Dr, Rathmann receives no cash compensation as an employee and instead receives options to purchase 3,000 shares per month. To date, at Dr. Rathmann's request, we have not granted him any equity incentives in recognition of the lines of credits that he has made available to us, his guarantee of our real estate leases, his provision of collateral for two of our letters of credit under facilities leases, or the occasional use of his private jet for our business purposes. We believe that the Board is likely to take action in the future to provide appropriate incentives to Dr. Rathmann in order to ensure his continued active involvement with us.

Recent Accounting Pronouncements

In June 2001, the Financial Accounting Standards Board (or FASB) issued Statement of Financial Accounting Standards (or SFAS) No. 141, "Business Combinations", which requires that all business combinations be accounted for under the purchase method of accounting. This statement is effective for all business combinations initiated after June 30, 2001. Implementation of SFAS No. 141 will not have a material effect on the Company's results of operations or financial position.

In June 2001, the FASB issued SFAS No. 142, "Goodwill and Other Intangible Assets." This statement applies to intangibles and goodwill acquired after June 30, 2001, as well as goodwill and intangibles previously acquired. Under this statement, goodwill, as well as other intangibles determined to have an infinite life, will no longer be amortized; however, these assets will be reviewed for impairment on a periodic basis. This statement became effective January 1, 2002. Implementation of SFAS No. 142 will not have a material effect on the Company's results of operations or financial position.

In June 2001, the FASB issued SFAS No. 143, " Accounting for Asset Retirement Obligations." SFAS No. 143 requires liability recognition for obligations associated with the retirement of tangible long-lived asset and the associated asset retirement costs. The Company is required to adopt the provisions of SFAS No. 143 effective January 1, 2003, with earlier application encouraged. Implementation of SFAS 143 will not have a material effect on the Company's results of operations or financial position.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." SFAS No. 144 supersedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of", in that it removes goodwill from its impairment scope

and allows for different approaches in cash flow estimation. However, SFAS No. 144 retains the fundamental provisions of SFAS No. 121 for (a) recognition and measurement of long-live assets to be held and used and (b) measurement of ling-lived assets to be disposed of. SFAS No. 144 also supersedes the business segment concept in APB Opinion No. 30, “Reporting the Results of Operations-Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions,” in that it permits presentation of a component of an entity, whether classified as held for sale or disposed of, as a discontinued operation. However, SFAS No. 144 retains the requirement of APB Opinion No. 30 to report discontinued operations separately from continuing operations. The Company was required to adopt the provision of SFAS No. 144 effective January 1, 2002. Implementation of SFAS 144 is not expected to have a material effect on the Company’s results of operations or financial position.

Item 7A. ***Qualitative and Quantitative Disclosures About Market Risk***

Market Rate Risk

We have exposure to changes in interest rates in our cash equivalents, which are held primarily in money market accounts which earn interest at variable rates. We do not use derivative financial instruments in our investment portfolio. We place our investments with high quality issuers and, by policy, limit the amount of credit exposure to any one issuer. We are averse to principal loss and ensure the safety and preservation of our invested funds by limiting default, market and reinvestment risk. The recorded carrying amounts of our cash equivalents approximate fair value due to their short-term maturities.

We also have exposure to changes in interest rates in our line of credit with our Chairman, which bears interest at the prime rate plus one percentage point. See Note 10 of Notes to Consolidated Financial Statements. Our interest rate exposure is mitigated by our ability to repay amounts outstanding under the line of credit with our common stock.

Changes in interest rates do not affect interest income on our restricted cash as it is maintained in commercial paper with fixed rates and maturities of less than 90 days.

Changes in interest rates do not affect interest expense on our lease obligations as they bear fixed rates of interest.

Changes in interest rates do not affect our note payable as it bears fixed rate of interest.

The table below presents the amounts and related interest rates of our cash equivalents, restricted cash, lease obligations, line of credit, and note payable at December 31, 2001 and 2000:

	2000 Average Rate	2000 Carrying Amount	2001 Average Rate	2001 Carrying Amount
		(In thousands)		(In thousands)
Cash equivalents	5.50%	$2,699	3.17%	$12,329
Restricted cash	6.42%	$2,106	4.52%	$ 1,606
Lease obligation	11.90%	$7,100	11.60%	$ 4,734
Line of credit	N/A%	$ —	N/A%	$ —
Note payable	N/A%	$ —	7.50%	$ 4,000

Item 8. ***Financial Statements and Supplementary Data***

Hyseq, Inc.'s financial statements and notes thereto appear on pages 43 to 64 of this Annual Report on Form 10-K.

INDEPENDENT AUDITORS' REPORT

The Board of Directors and Stockholders of

Hyseq, Inc.:

We have audited the accompanying consolidated balance sheets of Hyseq, Inc. and subsidiary as of December 31, 2001 and 2000 and the related consolidated statements of operations, stockholders' equity and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Hyseq, Inc. and subsidiary as December 31, 2001 and 2000 and the consolidated results of their operations and their cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

/s/ KPMG LLP

San Francisco, California

February 5, 2002

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Stockholders

Hyseq, Inc.:

We have audited the accompanying consolidated statements of operations, stockholders' equity and cash flows of Hyseq, Inc. for the year ended December 31, 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

In our opinion, based on our audit, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated results of operations and cash flows for Hyseq, Inc. for the year ended December 31, 1999, in conformity with accounting principles generally accepted in the United States.

/s/ ERNST & YOUNG LLP

Palo Alto, California

February 2, 2000

HYSEQ PHARMACEUTICALS, INC.

CONSOLIDATED BALANCE SHEETS

(In thousands, except share information)

	At December 31,	
	2001	2000
	(In thousands, except share information)	
ASSETS		
Cash and cash equivalents	$ 12,329	$ 2,699
Accounts receivable	53	22
Prepaid rent	1,890	2,224
Contract revenue receivable	1,037	—
Other current assets	992	682
Total current assets	16,301	5,627
Cash on deposit	1,606	2,106
Equipment, leasehold improvements and capitalized software, net	18,988	12,465
Patents, licenses and other assets, net	3,009	1,090
Total assets	$ 39,904	$ 21,288
LIABILITIES AND STOCKHOLDERS' EQUITY		
Accounts payable	$ 3,210	$ 1,979
Accrued professional fees, other	928	833
Accrued bonus	1,833	—
Accrued license fee	2,500	—
Deferred rent	1,608	231
Deferred revenue	3,702	1,798
Current portion of capital lease and loan obligations	2,506	2,379
Other current liabilities	1,731	984
Total current liabilities	18,018	8,204
Noncurrent portion of capital lease and loan obligations	2,228	4,722
Other noncurrent liabilities	125	—
Note Payable	4,000	—
Total liabilities	24,371	12,926
Minority interest	112	—
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, par value $0.001; 8,000,000 shares authorized; none issued and outstanding as of December 31, 2001 and 2000	—	—
Common stock, par value $0.001; 100,000,000 shares authorized; 19,307,735 and 13,722,388 issued and outstanding as of December 31, 2001 and 2000, respectively	19	14
Additional paid-in capital	123,849	80,278
Deferred stock compensation	(53)	(8)
Accumulated deficit	(108,394)	(71,922)
Total stockholders' equity	15,421	8,362
Total liabilities and stockholders' equity	$ 39,904	$ 21,288

See accompanying Notes to Consolidated Financial Statements.

HYSEQ PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(In thousands, except per share data)

	Year Ended December 31,		
	2001	2000	1999
	(In thousands, except per share data)		
Contract revenues	$ 24,590	$ 15,604	$ 6,397
Operating expenses:			
Research and development	46,506	29,018	18,157
General and administrative	13,452	9,315	8,101
Restructuring	825	—	—
Total operating expenses	60,783	38,333	26,258
Loss from operations	(36,193)	(22,729)	(19,861)
Interest income	319	1,347	2,004
Interest expense	(891)	(871)	(690)
Loss before minority interest	(36,765)	(22,253)	(18,547)
Loss attributable to minority interest	293	—	—
Net loss	$(36,472)	$(22,253)	$(18,547)
Basic and diluted net loss per share	$ (2.26)	$ (1.65)	$ (1.43)
Weighted average shares used in computing basic and diluted net loss per share	16,158	13,449	13,004

See accompanying Notes to Consolidated Financial Statements.

HYSEQ PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

For the Years Ended December 31, 2001, 2000 and 1999
(In thousands, except share data)

	Common Stock		Additional Paid-in Capital	Notes Receivable from Stockholders	Deferred Compensation	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount						
				(In thousands, except share data)				
Balance at December 31, 1998	12,931	$ 13	$ 82,328	$(3,503)	$(126)	$(14)	$ (31,122)	$ 47,576
Issuance of common stock upon exercise of stock options and under Employee Stock Purchase Plan	152	—	122	—	—	—	—	122
Amortization of deferred compensation	—	—	—	—	89	—	—	89
Comprehensive loss:								
Net loss	—	—	—	—	—	—	(18,547)	(18,547)
Other comprehensive income (loss)	—	—	—	—	—	(18)	—	(18)
Comprehensive loss								(18,565)
Balance at December 31, 1999	13,083	$ 13	$ 82,450	$(3,503)	$ (37)	$(32)	$ (49,669)	$ 29,222
Issuance of common stock upon exercise of stock options and under Employee Stock Purchase Plan	560	1	1,481	—	—	—	—	1,482
Issuance of common stock upon cash exercise of warrants	1	—	6	—	—	—	—	6
Issuance of common stock upon cashless exercise of warrants	149	—	—	—	—	—	—	—
Compensation expense related to SAB option grants	—	—	157	—	—	—	—	157
Notes receivable from stockholders repaid by surrendering shares of stock	(71)	—	(3,816)	3,503	—	—	—	(313)
Amortization of deferred compensation	—	—	—	—	29	—	—	29
Comprehensive loss:								
Net loss	—	—	—	—	—	—	(22,253)	(22,253)
Other comprehensive income (loss)	—	—	—	—	—	32	—	32
Comprehensive loss								(22,221)
Balance at December 31, 2000	13,722	$ 14	$ 80,278	$ —	$ (8)	$ —	$ (71,922)	$ 8,362
Issuance of common stock upon exercise of stock options and under Employee Stock Purchase Plan	140	—	848	—	—	—	—	848
Compensation expense related to vesting acceleration	—	—	30	—	—	—	—	30
Issuance of common stock upon cash exercise of warrants	167	—	574	—	—	—	—	574
Issuance of common stock through PIPE in August, 2001, net issuance cost of ($548)	3,040	3	20,734	—	—	—	—	20,737
Conversion of line of credit into common stock	2,238	2	19,998	—	—	—	—	20,000
Gain on sale of 10% interest in Callida	—	—	1,308	—	—	—	—	1,308
Deferred compensation related to SAB option grants	—	—	79	—	(79)	—	—	—
Amortization of deferred compensation	—	—	—	—	34	—	—	34
Net loss							(36,472)	(36,472)
Balance at December 31, 2001	19,307	$ 19	$123,849	$ —	$ (53)	$ —	$(108,394)	$ 15,421

See accompanying Notes to Consolidated Financial Statements.

HYSEQ PHARMACEUTICALS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)

	Year Ended December 31,		
	2001	2000	1999
		(In thousands)	
Cash flows from operating activities:			
Net loss	$(36,472)	$(22,253)	$(18,547)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	5,070	3,095	2,876
Loss attributable to minority interest	(293)	—	—
Stock compensation expense	30	157	—
Amortization of deferred stock compensation	34	29	89
Non-cash change in deferred revenue	(24,195)	(11,954)	—
Loss on disposal of assets	—	578	—
Loss on impairment of capitalized software	1,087	—	—
Realized gain (loss) on short-term investments	—	—	(18)
Other non-cash items	238	—	—
Changes in operating assets and liabilities:			
Accounts receivable	(31)	1,228	(599)
Prepaid rent	334	(2,107)	(11)
Contract revenue	(1,037)	—	—
Other current assets	(310)	17	18
Deferred revenue	26,099	10,666	5,000
Accounts payable	1,231	506	(432)
Accrued professional fees	95	(945)	203
Accrued bonus	1,833	(145)	145
Accrued license fee	2,500	—	—
Deferred rent	1,377	84	69
Other current liabilities	747	696	(659)
Other non-current liabilities	125	—	—
Net cash used in operating activities	(21,538)	(20,348)	(11,866)
Cash flows from investing activities:			
Purchases of property and equipment	(12,582)	(8,269)	(4,374)
Purchases of short-term investments	—	(57,101)	(16,382)
Maturities of short-term investments	—	74,095	24,300
Intangible and other assets	(542)	(639)	(1,158)
Proceeds from sale of fixed assets	—	9	—
Net cash (used in) provided by investing activities	(13,124)	8,095	2,386
Cash flows from financing activities:			
Proceeds from financing arrangements and loans	4,000	2,073	3,001
Proceeds from release of cash on deposit	500	—	—
Payment on capital lease and loan obligations	(2,367)	(2,283)	(1,523)
Repurchases of common stock	—	—	(115)
Proceeds from line of credit	20,000	—	—
Proceeds from issuance of common stock (PIPE), net of issuance costs	20,737	—	—
Proceeds from issuance of common stock upon the exercise of options, warrants and Employee Stock Purchase Plan	1,422	1,487	237
Net cash provided by financing activities	44,292	1,277	1,600
Net decrease in cash	9,630	(10,976)	(7,880)
Cash and cash equivalents at beginning of year	2,699	13,675	21,555
Cash and cash equivalents at end of year	$ 12,329	$ 2,699	$ 13,675
Supplemental disclosures of cash flow information:			
Interest paid	$ 739	$ 868	$ 690
Noncash investing and financing activities:			

Cashless exercise of stock options	$ —	$ 687	$ —
Cashless exercise of warrants	$ —	$ 745	$ 206
Sale of interest in subsidiary in exchange for intellectual property	$ 1,713	$ —	$ —
Conversion of line of credit to common stock	$ 20,000	$ —	$ —

See accompanying Notes to Consolidated Financial Statements.

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Organization and Summary of Significant Accounting Policies

Organization

Hyseq, Inc. (the Company or Hyseq) was established in August 1992 as an Illinois corporation and subsequently reincorporated as a Nevada corporation on November 12, 1993. On October 24, 2001 the Company began doing business as Hyseq Pharmaceuticals, Inc. The Company's wholly owned subsidiary, Hyseq Diagnostics, Inc., was formed as a Nevada corporation on July 18, 1995 and is inactive. The Company's prior wholly owned subsidiary, GeneSolutions Inc., was formed as a Nevada corporation on July 23, 1999 and was merged into the Company on January 8, 2002. The Company's majority-owned subsidiary, Callida Genomics, Inc., was formed as a Delaware corporation on October 24, 2001 to carry out the Company's business relating to sequencing-by-hybridization (SBH) technology. Callida Genomics' wholly owned subsidiary, N-Mer, Inc., was formed as a Delaware corporation on October 24, 2001 to collaborate with Affymetrix, Inc (See Note 8).

Hyseq researches and develops biopharmaceutical products from its collection of novel genes discovered using its high-throughput screening signature-by-hybridization platform, related to its proprietary sequencing-by-hybridization technology. Hyseq has collaborations for conducting research and development on gene-based products and collaboration with Amgen to develop alfimeprase, a thrombolytic enzyme for PAO and other indications.

Principles of Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of Hyseq Pharmaceuticals and Callida Genomics, our majority owned subsidiary. All significant intercompany transactions and accounts have been eliminated in consolidation. Upon consolidation, 10% of the losses in Callida are excluded from Hyseq's consolidated results and are allocated to the minority interest holder Affymetrix up to the point where Affymetrix's initial investment is depleted. Beyond that point, the Company will absorb 100% of the net losses until Callida generates net income.

Use of Estimates

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

Cash and Cash Equivalents

Cash equivalents consist primarily of money market accounts, commercial paper and certificates of deposit with original maturities of three months or less. This is consistent with the Company's policy to maintain high liquidity and ensure safety of principal.

Equipment, Leasehold Improvements, and Capitalized Software

Equipment, leasehold improvements, and capitalized software are recorded at cost. Equipment under capital leases is recorded at the lower of the net present value of the minimum lease payments required over the term of the lease or the fair value of the assets at the inception of the lease. Additions, renewals and betterments that significantly extend the life of an asset are capitalized. Minor replacements, maintenance, and repairs are charged to operations as incurred. Equipment is depreciated over the estimated useful lives of the related assets, ranging from three to five years, using the straight-line method. Equipment under capital leases is amortized over the shorter of the estimated useful life or the terms of the lease, using the straight-line method. Leasehold improvements are amortized over the shorter of the estimated life or the term of the lease, using the straight-line method. Capitalized software is amortized over the shorter of the estimated useful life

or two years, using the straight-line method. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation or amortization are eliminated from the accounts and any resulting gain or loss is reflected in income.

Impairment of Long-Lived Assets

Periodically, management determines whether any property and equipment or any other assets have been impaired based on the criteria established in Statement of Financial Accounting Standards No. 121, "Accounting for the Impairment of Long-Lived Assets and Long-Lived Assets to be Disposed Of" ("SFAS No. 121").

Revenue Recognition

Revenues are recognized when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed and determinable and collectibility is reasonably assured. Revenues related to collaborative research agreements and government grants are generally recognized over the related funding periods for each contract as the services are performed. Nonrefundable up-front payments received in connection with collaborative research agreements where the Company has no continuing performance obligation are recognized when receivable and collectibility is reasonably assured. When a continuing performance obligation exists, these revenues are deferred and recognized over the relevant periods of service, generally the research term.

Revenues from collaborative agreements representing 10% or more of total revenue are as follows:

	Year Ended December 31,		
	2001	2000	1999
Source:			
BASF Plant Sciences GmbH	91%	75%	*
Chiron Corporation	*	21%	76%
Kirin Brewery Co. Ltd	*	*	19%

* less than 10%

Revenues by Geographic Area

Revenues by geographic area are based on customers' country of domicile rather than customer's shipping locations:

	Year Ended December 31,		
	2001	2000	1999
	(In thousands)		
Revenues:			
Domestic	$ 2,230	$ 3,639	$5,178
Germany	22,360	11,665	19
Japan	—	300	1,200
Total revenues	$24,590	$15,604	$6,397

Stock-Based Compensation

In accordance with the provisions of Statement of Financial Accounting Standards No. 123 (SFAS No. 123), "Accounting for Stock-Based Compensation" the Company has elected to account for stock-based

compensation to employees under the provisions of Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and its related interpretations, and to adopt the "disclosure only" alternative described in SFAS No. 123. Stock options granted to non-employees are accounted for in accordance with SFAS No. 123 and Emerging Issues 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."

Research and Development

Research and development costs are expensed to operations as incurred and include costs related to the Company's collaborations. Research costs related to collaborations were approximately $13.0 million, $10.4 million and $7.0 million in 2001, 2000 and 1999, respectively.

Net Loss per Share

Basic and diluted net loss per share are presented in conformity with the Statement of Financial Accounting Standards No. 128 (SFAS No. 128), "Earnings Per Share" for all periods presented. In accordance with SFAS No. 128, basic and diluted net loss per share has been computed using the weighted average number of shares of common stock outstanding during the period.

In 2001, 2000 and 1999, outstanding options and warrants of 730,051, 1,513,000 and 369,000 shares, respectively, (as determined using the treasury stock method) were not included as they were antidilutive.

Segment Reporting

To date, the Company has viewed its operations as principally one segment. Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker in making decisions how to allocate resources and assess performance. The Company's chief operating decision maker is the Chief Executive Officer. As a result, the financial information disclosed herein materially represents all of the financial information related to the Company's principal operating segment.

2. Equipment, Leasehold Improvements and Capitalized Software

Equipment, leasehold improvements and capitalized software, net consist of the following (in thousands):

	December 31,	
	2001	2000
Machinery, equipment and furniture	$ 11,044	$ 8,535
Computers and capitalized software	9,890	7,633
Leasehold improvements	13,006	5,191
	33,940	21,359
Less: accumulated depreciation	(14,952)	(8,894)
Equipment, leasehold improvements and capitalized software, net	$ 18,988	$12,465

Depreciation expense totaled $6.1 million, $3.1 million and $2.8 million for the years ended December 31, 2001, 2000 and 1999, respectively. Equipment and leasehold improvements at December 31, 2001 and 2000 include items under capitalized leases in the amount of $0.6 million and $0.7 million, respectively, and related accumulated depreciation of $0.5 million and $0.5 million at December 31, 2001 and 2000, respectively. These leases are secured by the equipment leased thereunder. During 2001, there were write-offs

of certain capitalized software aggregating $1.1 million. These write-offs are included in research and development expenses in the accompanying Statement of Operations.

3. Accumulated Other Comprehensive Losses

Accumulated other comprehensive income or loss consists entirely of unrealized gains and losses on securities. The change in accumulated other comprehensive loss was $0, $32,000 and ($18,000) in 2001, 2000 and 1999, respectively. This change consisted entirely of unrealized losses on securities.

4. Patents, Licenses and Other Assets

Patents and Licenses

Patent costs are incurred in connection with obtaining certain patents and filing of related patent applications. Patent and license amortization expense was $99,008, $27,633 and $27,633 for the years ended December 31, 2001, 2000 and 1999, respectively. Patent amortization expense is recorded on a straight-line basis over the patent's estimated useful life which approximates 17 years.

Patent License Agreement

In 1994, the Company entered into a patent license agreement with an affiliate of the University of Chicago for an exclusive license to use certain proprietary technology developed by the Company's former Chief Scientific Officer and to develop, use, and sell licensed products or processes. The Company issued 15,244 shares of Series A preferred stock (which converted to common stock in connection with the Company's initial public offering in 1997). The Company began paying minimum royalties of $25,000 per annum beginning in 1997 and increasing to $100,000 per annum in 1999, and will continue to pay minimum royalties at the rate of $100,000 per annum over the term of the agreement, which terminates upon the later to occur of (a) fifteen years after the date of the agreement or (b) the expiration of the last-to-expire patents of the licensed patent rights.

5. Capital Lease and Loan Obligations

The Company has financed equipment purchases through capital lease and loan agreements. The capital lease and loan obligations are to be repaid over terms of 48 to 60 months at interest rates ranging from 8.10% to 14.98% and are secured by the related equipment.

Future minimum payments under the capital lease and loan agreements are as follows (in thousands):

Years Ending December 31:	
2002	$ 2,941
2003	1,435
2004	875
2005	201
2006	4
Total loan payments	5,456
Less: Amount representing interest	(722)
Present value of future loan payments	4,734
Less: Current portion	(2,506)
Noncurrent portion	$ 2,228

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

6. Commitments and Contingencies

Operating Leases

The Company leases three facilities under operating lease agreements, two that expire in June 2005 and one that expires in July 2011. In April 2001 the Company leased an additional approximately 138,698 square feet of space at 985 Almanor Avenue in Sunnyvale, California, adjacent to our current operating facilities. The lease on this new space requires base lease payments on average of approximately $451,000 per month and extends through May 2011. Rental expense was approximately $8.1 million in 2001, $2.1 million in 2000, and $1.4 million in 1999. The leases provide for scheduled rent increases annually over the terms of the leases. The rent is being recognized as expense on a straight-line basis.

Minimum future rental commitments under non-cancelable operating leases at December 31, 2001 are as follows (in thousands):

	Minimum Rental Commitments
Year Ended December 31,	
2002	$ 9,569
2003	9,975
2004	10,394
2005	9,986
2006	9,583
2007 and thereafter	43,780
	$93,287

Letters of Credit

In accordance with the terms of the 675 Almanor facility lease agreement signed in the fourth quarter of 1997, the Company was required to obtain an irrevocable standby letter of credit in the amount of $2.0 million as partial security for the Company's lease obligations. In connection with obtaining the letter of credit, the Company was required to place $2.1 million restricted cash on deposit with the Company's primary bank as security for the letter of credit. The letter of credit and the cash collateralizing it was reduced by $0.5 million commencing in July 2001 and will be further reduced by $0.5 million each year thereafter to a certain minimum amount provided that no default under the lease occurs. The cash on deposit at any time in conjunction with this letter of credit is restricted and cannot be withdrawn. The Company controls the investment of the cash and receives interest earned thereon. The Company was also required to provide a letter of credit in the amount of $4.0 million as additional security for the lease of 985 Almanor Avenue, which requirement terminates after 5 years if the Company has not been in monetary default under the lease. Under the terms of the Humboldt Court lease, the Company was required to provide a $2.0 million letter of credit. This letter of credit was provided in March 2002 and must be increased by $1.0 million annually in each of August 2002 and August 2003, after which it can decrease by $2.0 million in 2007.

7. Collaborative Agreements

Aurora

In July 2001, the Company entered into a two-year collaboration and license agreement with Aurora Biosciences Corporation, under which Aurora will screen over 200 secreted proteins from the Company's proprietary collection, using Aurora's proprietary CellSensor™ Panel, and also granted the Company a non-exclusive license to certain fluorescent protein technologies. Aurora will use its technology on behalf of the

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Company to identify proteins of interest as potential therapeutics and will receive upfront payments, licensing fees and technology access fees. Aurora may receive performance milestones, as well as development milestones and royalties on the Company's products that result from the collaboration. In addition, as part of the agreement, the Company will provide Aurora access to selected novel targets from the Company's database of proprietary full-length cDNAs. The Company will receive a database access fee and licensing fees and may receive development milestones and royalties on Aurora's small molecule products that result from the collaboration.

Deltagen

In October 2001, the Company entered into a collaboration with Deltagen, Inc. to undertake research and development activities on approximately 200 novel secreted proteins. The Company will provide gene sequences encoding for the secreted proteins, and Deltagen will utilize its in vivo mammalian gene knockout technology to identify and validate potential commercially relevant biopharmaceutical drug targets. Deltagen and the Company will each have certain joint development and commercialization rights around potential biopharmaceutical drug targets discovered through the collaboration. Deltagen and the Company will share the collaboration's costs; Hyseq will provide Deltagen with approximately $10.0 million in research and development payments over two years.

Kirin

In August 2001, the Company entered into a collaboration with Kirin Brewery Co. Ltd., in which Kirin will fund three years of collaborative research work at Hyseq and both companies will conduct research directed toward discovering proteins and antibodies for a variety of diseases, including hematopoietic and inflammatory diseases. Discoveries during the collaboration will be jointly owned by Kirin and Hyseq, and will be jointly developed and marketed with costs, efforts, and revenues shared by both companies. The Company will have marketing rights in North America on all products discovered and developed under the collaboration. Kirin will have marketing rights in Asia, New Zealand, and Australia. Marketing rights will be shared by both companies in the rest of the world.

In October 1998, the Company entered into a collaboration with Kirin Brewery Co. Ltd., in which the Company used its proprietary gene discovery technologies to target novel genes relating to a specific growth factor activity from certain cell lines provided by Kirin. The Company retains exclusive rights to develop and market pharmaceutical products resulting from the collaboration in North America, subject to milestone and royalty payments to Kirin. Kirin retains equivalent rights and obligations in Asia and Oceania. The Company and Kirin share such rights equally in Europe and the rest of the world. Under the terms of the agreement, Kirin paid the Company $3.0 million for the initial phase of the collaboration. Total revenue recognized in 2000, 1999 and 1998 under the agreement was $0.3 million, $1.2 million and $1.5 million, respectively. The agreement was extended once and expired March 31, 2001.

BASF

In December 1999, the Company entered into a collaboration with American Cyanamid Company in which the Company uses its signature-by-hybridization technology to target agricultural products. During 2000, BASF Aktiengesellschaft acquired the crop protection business of American Cyanamid Company and subsequently assigned our collaboration with American Cyanamid to BASF Plant Sciences GmbH (or BASF). The collaboration provides for funding of $60 million over its initial term of three and one half years. The collaboration can be extended by mutual agreement for up to four additional one-year terms. Subject to compliance with the terms of the contract, the Company expects to recognize revenue from this collaboration over the term of the agreement as services are performed. Total revenue recognized in 2001 and 2000 under the agreement was $22.4 million and $11.7 million respectively. BASF has the exclusive right to commercial-

ize any agricultural products resulting from the collaboration. The Company will receive royalties on any such products.

Chiron

In May 1997, the Company entered into a collaboration with Chiron Corporation. Pursuant to the terms of the collaboration agreement, the Company and Chiron are collaborating to develop solid tumor therapeutics, diagnostic molecules and vaccines. The collaboration had an initial term of three years and has been extended by Chiron for an additional two-year period. Chiron may extend the collaboration for one more two-year period. Chiron has the exclusive right to commercialize solid tumor therapeutics, diagnostic molecules and vaccines resulting from the collaboration. The Company will receive royalties on any such products. Concurrent with execution of the collaboration agreement in 1997, Chiron made an equity investment of $5.0 million in return for shares of the Company's preferred stock, which subsequently converted into common stock upon the Company's initial public offering in 1997. Chiron also purchased shares of common stock directly from the Company in a private placement concurrent with the Company's initial public offering in 1997 for an aggregate purchase price of $2.5 million. Total revenue recognized in 2001, 2000, and 1999 under the agreement with Chiron was $1.2 million, $3.3 million, and $4.9 million, respectively, which the Company received as research funding payments and recognized as revenue as earned. The Company has no future performance obligations related to the revenue recognized in 2001, 2000, and 1999 and no portions of such revenues are refundable.

UCSF

In February 1998, the Company entered into a collaborative agreement with the University of California San Francisco (or UCSF) to conduct research on genes that may have important roles in the development of cardiovascular and related diseases. Under the terms of the five-year agreement, the Company makes quarterly payments of approximately $0.1 million to UCSF in connection with the agreement to reimburse UCSF for direct and indirect expenses incurred in clinical sample collection and for research conducted.

Applied Biosystems

In May 1997, the Company entered into an agreement with the Applied Biosystems Stock Group of Applera Corporation to combine certain of the Company's chip technology and Applied Biosystems' life science system capabilities to commercialize the HyChip system. Pursuant to the terms of the agreement, the Company committed $5.0 million to further development of the Company's "chip" component of the HyChip system. The Company spent approximately $2.0 million for the development of the chip component of the HyChip system from June 1997 through December 1997. Of this amount, $0.5 million was reimbursed to the Company under its NIST grant. As of December 31, 1998, the Company had satisfied the $5.0 million obligation under its agreement with Applied Biosystems. In October 2001, Applied Biosystems and the Company amended the collaboration to facilitate the settlement with Affymetrix. Significant components of this amendment include the conversion of the prior exclusive marketing arrangement with Applied Biosystems into a non-exclusive arrangement and the conclusion of all further collaboration obligations. In June 1997 Applied Biosystems made an equity investment of $5.0 million in return for shares of the Company's preferred stock, which subsequently converted into common stock upon the Company's initial public offering in 1997. Applied Biosystems also purchased shares of common stock directly from the Company in a private placement concurrent with the initial public offering in 1997 for an aggregate purchase price of $5.0 million. The Company recognized approximately $0.3 million in revenue in each of 2001, 2000, and 1999 from Applied Biosystems from research funding reimbursement under the collaboration and from an expansion of the existing relationship as services were performed.

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Affymetrix

In October 2001, the Company and Affymetrix Inc. resolved all outstanding litigation and entered into a collaboration to accelerate development and commercialization of a high speed universal DNA sequencing chip. This collaboration with Affymetrix is through a newly created venture, N-Mer, Inc., that is a wholly owned subsidiary of Callida, which in turn is a newly formed majority-owned subsidiary of the Company. N-Mer will have access to both SBH technology from the Company, through Callida, and to Affymetrix' GeneChip technology, a platform for array-based experiments. Affymetrix will be the exclusive array and system supplier and is initially authorized to be the exclusive agent for the distribution of any potential N-Mer products.

Hyseq contributed cash, certain assets consisting primarily of equipment, capitalized software, and SBH intellectual property to Callida upon its formation in exchange for a 90% interest in Callida, in the form of Series A convertible preferred stock (See Note 8). In exchange for a contribution of certain intellectual property (a non-exclusive license to 12 U.S. patents or patent applications and counterpart foreign applications in a limited field of use) to Callida, Affymetrix received a 10% equity interest in Callida, in the form of Series A-1 convertible preferred stock (See Note 8). The Company accounts for the Affymetrix 10% ownership share as minority interest in Callida, recognizing a portion of Callida's losses attributable to Affymetrix as a gain on the statement of operation, up to the point where Affymetrix' initial minority interest investment is depleted. Beyond that point, the Company will absorb 100% of the net losses until Callida generates net income.

Affymetrix gave a total of $8.0 million in cash to Hyseq at the close of the settlement. The $8.0 million payment is comprised of two pieces. First, Affymetrix made a license payment of $4.0 million dollars in return for a non-exclusive license, without the right to grant sublicenses, under 11 U.S. patents and 30 U.S. patent applications and counterpart foreign patents and applications to make, use, sell, and import products in the non-universal array field. Universal arrays are DNA arrays designed without reference to specific gene sequences that can be used to sequence any gene. This license payment will be recognized as revenue as Callida utilizes its cash in conducting R&D efforts.

Second, Affymetrix made a loan to Hyseq of $4.0 million (interest rate of 7.5%, 5 year term) for Hyseq's cash investment in Callida. In lieu of cash repayment of this loan, Hyseq has the right, at any time, to exchange the note in whole or in part into such number of shares of Hyseq common stock (based on a price per share equal to 90% of the ten day trailing average price) equal to the aggregate amount of principal and interest to be exchanged.

Callida capitalized the intellectual property contributed by Affymetrix at its fair value of $1.7 million, based on its estimate of future royalty payments on potential Callida and N-Mer products, and based upon its determination that the intellectual property contributed has a future alternative use. The intellectual property will be amortized on a straight-line basis over its estimated useful life of four years.

Both Hyseq and Affymetrix committed to invest additional amounts in N-Mer, contingent on Callida achieving certain milestones. Affymetrix received an option to purchase a majority interest of the outstanding common stock of N-Mer at a predetermined sum, exercisable at any time over the next five years. The Company believes that Affymetrix's purchase option has no material fair value, until such point that research reaches a technical milestone and product feasibility is achieved, and has no accounting implications as of the date of inception of Callida or as of December 31, 2001. The Company will periodically evaluate the value of N-Mer to determine whether Affymetrix's purchase option has value. If so, such value will be recorded through earnings and on Hyseq's balance sheet.

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

8. Stockholders' Equity

Preferred Stock

The Company is authorized to issue 8,000,000 shares of preferred stock. The Company's Board of Directors may set the rights and privileges of any preferred stock issued.

As of December 31, 2001 and 2000, there were no issued and outstanding shares of preferred stock. On June 5, 1998, Hyseq's Board of Directors adopted a rights plan and declared a dividend with respect to each share of common stock then outstanding. This dividend took the form of a right that entitles the holders to purchase one one-thousandth of a share of our Series B junior participating preferred stock at a purchase price of $175, subject to adjustment from time to time. These rights have also been issued in connection with each share of common stock issued after June 5, 1998. The rights are exercisable only if a person or entity or affiliated group of persons or entities acquires, or has announced its intention to acquire, 15% (27.5% in the case of certain approved stockholders) or more of the Company's outstanding common stock. The adoption of the rights plan makes it more difficult for a third party to acquire control of the Company without the approval of the Board of Directors.

In October 2001, the Company settled all outstanding litigation with Affymetrix, and created a new subsidiary, Callida Genomics, Inc. The authorized capital stock of Callida consists of 10,000,000 shares, of which 6,000,000 shares are common stock, par value $0.001 per share, and 4,000,000 shares are preferred stock, par value $0.001 per share. The preferred stock is divided into a Series A preferred stock, which consists of 3,600,000 shares, and Series A-1 preferred stock, which consists of 400,000 shares. Each of the Series A preferred stock and the Series A-1 preferred stock have aggregate liquidation preferences equal to $4.0 million, with no participation rights to future dividends and no redemption rights. The Series A preferred stock (held by Hyseq) has voting rights; the Series A-1 preferred stock (held by Affymetrix) has no voting rights. Callida classifies these preferred stock as permanent equity on its consolidated balance sheet.

Common Stock

In March 2001, we completed the draw down of the balance of the $20.0 million available under the first line of credit from our Chairman and paid off the outstanding principal balance in shares of our common stock as provided in the agreement. As a consequence, we issued 2,237,637 shares of common stock to our Chairman in satisfaction of $20.0 million in outstanding principal under the line of credit.

In August 2001, the Company announced the completion of a private stock placement of 3,040,734 newly issued shares of common stock at $7.00 per share, together with warrants to purchase 1,520,369 shares of common stock. The warrants are exercisable at any time through and including August 28, 2006 at $10.50 per share, a 50 percent premium to the per unit purchase price on the closing date, which may be adjusted to $7.95 per share based on certain future issuances. After August 28, 2003, the warrants may only be exercised on a cashless exercise basis.

Deferred Compensation

The Company recorded deferred compensation of $695,000 in 1997 representing the difference between the issuance and exercise prices related to stock awards and options and the fair value for financial reporting purposes of the Company's common stock. The deferred compensation is being amortized to expense over the vesting period of the options and over the two-year repurchase period for the stock awards. The amortization of deferred compensation was $34,000, $29,000, and $89,000 in 2001, 2000, and 1999, respectively. At December 31, 2001, the deferred compensation balance was approximately $53,000.

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Warrants

As of December 31, 2001, warrants to purchase 1,657,889 shares of common stock were outstanding at exercise prices ranging from $4.17 to $10.50 ($9.97 weighted average exercise price) per share. These warrants are held by certain investors and executive officers and expire at various times between July 2002 and August 2006.

Stock Option Plans

In 1995, the Company's stockholders adopted the 1995 Employee Stock Option Plan, or employee plan. The Company initially reserved a total of 1,152,000 common shares for issuance under the employee plan. At the 1998 annual meeting, the Company's stockholders approved a proposal to increase the number of shares authorized for issuance under the Plan to 2,152,000. Options granted under the employee plan may be either incentive stock options or nonstatutory stock options. Incentive stock options may be granted to employees with exercise prices of not less than fair market value and nonstatutory options may be granted to employees at exercise prices of not less than par value of the common stock on the date of grant as determined by the board of directors. Options vest as determined by the board of directors (generally in four equal annual installments commencing one year after the date of grant), and expire 10 years from the date of grant. At December 31, 2001, 1,922,220 options were outstanding under the employee plan.

The Company granted options to purchase common stock to several key employees, directors, scientific advisory board members and scientists prior to adoption of the employee plan. Each option gives the holder the right to purchase common stock at prices between $0.78 and $1.82 per share. In 1998, the Company granted options outside of any of the Company's stock option plans to purchase a total of 9,500 shares of common stock to three non-employee directors and a scientific advisory board member at prices between $4.75 and $10.06 per share. The options vest over periods up to four years. In February 2000, an officer and director of the Company was granted an option to purchase 1,000,000 shares of common stock at $31.69 per share, the closing price on the day prior to the grant, as an inducement to become an employee of the Company. This option becomes exercisable one-third upon the date of grant, one-third on the one-year anniversary and one third on the two-year anniversary of the date of grant. In 2001, the Company granted options outside of any of the Company's stock option plans to purchase a total of 1,268,160 shares to five employee officers at prices between $9.96 and $12.56 per share as inducements to become employees of the company. In August 2001, a director of the Company was granted an option, contingent upon shareholder approval, to purchase 1,000,000 shares of common stock at $8.63 per share, the closing price on the day prior to the grant. As of December 31, 2001, 3,537,966 options issued outside of any of the Company's stock option plans were outstanding.

In 1997, the Company's stockholders adopted the Non-Employee Director Stock Option Plan, or directors plan, providing for periodic stock option grants to non-employee directors of the Company. Under the directors plan, each new, non-employee director receives a one-time grant of options to purchase 23,040 shares of common stock, of which options to purchase 11,520 shares vest immediately, with the balance vesting in two equal allotments on the first and second anniversaries of joining the Board. All non-employee directors automatically receive options to purchase up to 5,760 shares each year (such that the amount received under the directors plan when added to all prior options granted to a director which vest in that year total 5,760) on the date of the annual meeting of the stockholders commencing in 1997. Options under the directors plan are granted at the fair market value of the Company's common stock on the date of the grant. In 2000, the Company's stockholders approved an amendment to the directors plan that changed the method for determining the number of shares granted under the plan, and lengthened the vesting date for the new director's initial and first annual grants of options. Under the amendment, the number of shares that are granted will be equal to the lesser of the number determined by dividing $200,000 by the fair market value of our common stock on the date of grant, or 10,000 shares. The amendment also revised the vesting date for

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

initial options that are granted when a new director joins our Board such that 50% of a new director's option will vest one year after the grant date and the other 50% will vest two years after the grant date. A total of 438,240 shares of common stock have been reserved for issuance under the directors plan, of which options to purchase 147,155 shares were outstanding at December 31, 2001.

In 1999, the Company adopted a Scientific Advisory Board/Consultants Stock Option Plan that provides for periodic grants of non-qualified stock options to members of the Company's scientific advisory board and allows the Board of Directors to approve grants of stock options to consultants. A total of 30,000 shares of common stock have been reserved for issuance under the Scientific Advisory Board/ Consultants Stock Option Plan, of which options to purchase 17,000 shares were outstanding at December 31, 2001.

During 2001, the Company granted 12,000 stock options under the Scientific Advisory Board/Consultants Stock Option Plan all of which become exercisable in April 2002. In connection with these grants, the Company recorded deferred compensation of $79,265 representing the fair value of the options granted in accordance with SFAS 123. This deferred compensation is periodically re-measured until the underlying options vest in accordance with EITF 96-18. The fair value of these options was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions: 1 year for the expected life of the option, 5.07% risk-free interest rate, and .8518 volatility rate. During 2001, the Company recorded $26,422 in amortization of deferred compensation related to grants to non-employees.

The directors plan, the employee plan, and the options granted to an officer and director to purchase 2,000,000 shares (as described above) provide for the acceleration of vesting of options upon certain specified events.

The Company values employee stock options using the intrinsic method of APB 25, rather than the fair value method of SFAS 123. Nevertheless, the Company is required for purposes of comparison to present net loss and loss per share on a pro forma basis as if the fair value method had been used. The fair value for employee stock options was estimated at the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Year Ended December 31,		
	2001	2000	1999
Volatility	1.17	1.38	1.64
Risk-free interest rate	5.13%	6.14%	6.25%
Dividend yield	—	—	—
Expected life of option	2.3 years	2.6 years	2.5 years

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

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. Because SFAS 123 is applicable only to options granted subsequent to December 15, 1994, the pro forma adjustment to net income was not fully reflected until fiscal year 1999.

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company's pro forma information follows (in thousands, except for per share information):

	Year Ended December 31,		
	2001	2000	1999
Net loss as reported	$(36,472)	$(22,253)	$(18,547)
Pro forma net loss	(52,894)	(42,717)	(19,484)
Basic and diluted net loss per share as reported	(2.26)	(1.65)	(1.43)
Pro forma basic and diluted net loss per share	(3.27)	(3.18)	(1.50)

A summary of the Company's stock option activity, and related information follows:

	Year Ended December 31,					
	2001		2000		1999	
	Number of Shares	Weighted-Average Exercise Price	Number of Shares	Weighted-Average Exercise Price	Number of Shares	Weighted-Average Exercise Price
Options outstanding at beginning of period	2,566,379	$20.10	1,779,324	$ 3.80	1,583,558	$4.03
Options granted	3,387,750	$10.25	1,500,275	$31.80	776,720	$3.77
Options exercised	(71,860)	$ 3.87	(562,722)	$ 3.29	(144,466)	$1.96
Options canceled	(257,928)	$21.31	(150,498)	$ 7.19	(436,488)	$5.18
Options outstanding at end of period	5,624,341	$14.32	2,566,379	$20.10	1,779,324	$3.80

The following table summarizes information about stock options outstanding and exercisable at December 31, 2001:

	Options Outstanding			Options Exercisable	
Range of Exercise Price	Number of Shares	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number of Shares	Weighted-Average Exercise Price
$ 1.56 – $ 4.17	600,256	5.26	$ 2.92	449,814	$ 2.80
4.44 – 7.82	312,108	7.58	5.54	174,058	5.33
8.02 – 8.64	1,114,476	9.32	8.60	86,676	8.33
8.67 – 10.40	456,266	9.44	10.14	10,666	9.45
10.44 – 10.44	985,320	9.58	10.44	0	0.00
10.49 – 12.50	747,460	9.14	12.23	209,000	12.42
12.56 – 29.81	345,380	8.77	25.44	122,039	26.19
31.69 – 31.69	1,000,000	8.08	31.69	666,666	31.69
32.03 – 95.19	60,075	8.52	43.67	28,875	46.55
101.44 – 101.44	3,000	8.16	101.44	750	101.44
	5,624,341	8.56	$ 14.32	1,748,544	$ 17.93

The weighted-average grant-date fair value of options granted during the years ended December 31, 2001, 2000 and 1999 was $8.23, $22.90 and $3.52, respectively.

Employee Stock Purchase Plan

In 1998, the Company's stockholders approved an Employee Stock Purchase Plan, covering an aggregate of 50,000 shares of the Company's common stock. Each quarter, an eligible employee may elect to purchase shares of the Company's stock through payroll deductions at a price equal to the lower of 85% of the fair value of the stock as of the first business day of the quarter or the last business day. In 1999, the Company's stockholders approved an amendment to the Company's Employee Stock Purchase Plan that increased the maximum number of shares of common stock available for purchase under the Plan from 50,000 to 250,000. In the year ended December 31, 2001, 67,674 shares of the Company's stock were sold under the Employee Stock Purchase Plan at a weighted-average price of $8.20 per share.

9. Income Taxes

The reconciliation between the amount computed by applying the U.S. federal statutory tax rate of 34% to income taxes and the actual provision for income taxes as of December 31, 2001 follows (in thousands):

Income tax at statutory rate (34%)	(12,500)
Net losses and temporary differences for which no current benefit is recognized	12,580
Permanent differences	(80)
Income tax expense reported	—

As of December 31, 2001, the Company had federal and state net operating loss carryforwards of approximately $107.7 million and $23.0 million, respectively. The Company also had federal and California research and development tax credit carryforwards of approximately $2.5 million and $2.3 million, respectively. The federal net operating loss and credit carryforwards will expire at various dates beginning in the year 2008 through 2021, if not utilized. The State of California net operating losses will expire at various dates beginning in 2001 through 2011, if not utilized. The California Research Credits carryforward indefinitely.

Utilization of the Company's net operating loss carryforwards and credits may be subject to an annual limitation due to the "change in ownership" provisions of the Internal Revenue Code of 1986 and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets for financial reporting and the amount used for income tax purposes. Significant components of the Company's deferred tax assets for federal and state income taxes are as follows (in thousands):

	Year Ended December 31,	
	2001	2000
Deferred Tax Assets:		
Net operating loss carryforwards	$ 37,970	$ 28,971
Research and other credits	4,422	6,564
Capitalized research expenses	2,446	856
Accrued expenses and reserves	3,921	1,362
Deferred revenue	1,475	—
Total deferred tax assets	50,234	37,753
Valuation allowance	(50,234)	(37,753)
Net deferred tax assets	$ —	$ —

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Deferred tax assets are reduced by a valuation allowance as management believes that it is more likely than not that the deferred tax assets will not be realized. The net valuation allowance increased by $12.5 million, $15.7 million and $8.3 million for the fiscal years ended December 31, 2001, 2000 and 1999, respectively.

Approximately $12.2 million of the federal net operating losses and $6.6 million of the state net operating losses relate to deductions from stock based compensation. No income statement benefit will result from the realization of these losses.

10. Transactions with Related Parties

As of December 31, 2001, 2000 and 1999, the Company had outstanding accounts payable balances of approximately $3,000, $45,000, and $86,000 respectively, for professional services rendered by a law firm of which the spouse of the Company's former President and Chief Executive Officer was a member. The Company incurred legal fees and costs to this law firm of approximately $57,000, $400,000, and $441,000 for the years ended December 31, 2001, 2000 and 1999, respectively.

In August 2001, the Company received a commitment from its Chairman to provide a second line of credit of up to $20.0 million in aggregate principal amount, secured by a promissory note and available for draw down through August 5, 2003. The Chairman has also agreed to provide financing to fund operating activities as needed through 2001. Amounts outstanding under the line of credit bear interest at prime plus 1% and are payable in 48 equal monthly installments beginning upon the expiration date of August 5, 2003. The promissory note issued pursuant to such line of credit may be converted into shares of its common stock at any time upon the agreement of us and Dr. Rathmann at a price based upon the average price of our common stock over the 20-day period prior to such conversion or, if in connection with an equity financing, at the offering price. In February 2002, we drew down $4.0 million of the $20.0 million line of credit.

Our Chairman guaranteed our 985 Almanor lease (up to a certain maximum amount) and provided the collateral for the Company's $4.0 million letter of credit under this lease. Our Chairman also guaranteed our Humboldt Court lease (to a certain maximum amount) and provided the collateral for the Company's $2.0 million letter of credit under this lease.

The Chairman receives no cash compensation as an employee and instead receives options to purchase 3,000 shares per month. In August 2001, the Board also granted the Chairman an option to purchase an additional 1,000,000 shares. However, to date, at the request of the Chairman, the Company has not granted the Chairman any equity incentives in recognition of the lines of credits that the Chairman made available to the Company, the Chairman's guarantee of the Company's real estate leases, the Chairman's provision of collateral for two of the Company's letters of credit under facilities leases, or the occasional use of the Chairman's private jet for Company business. The Company believes that the Board is likely to take action in the future to provide appropriate incentives to the Chairman in order to ensure his continued active involvement in the Company.

11. Selected Quarterly Financial Data (Unaudited)

Summarized selected quarterly financial data is as follows (in thousands):

	Quarter Ended			
	December 31, 2001	September 30, 2001	June 30, 2001	March 31, 2001
Contract revenues	$ 7,069	$ 5,872	$ 5,981	$ 5,668
Loss from operations	(11,553)	(9,905)	(8,349)	(6,386)
Net loss	(11,357)	(10,008)	(8,427)	(6,679)
Basic and diluted net loss per share*	(0.61)	(0.59)	(0.55)	(0.49)

HYSEQ PHARMACEUTICALS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Quarter Ended			
	December 31, 2000	September 30, 2000	June 30, 2000	March 31, 2000
Contract revenues	$ 4,289	$ 5,936	$ 3,574	$ 1,805
Loss from operations	(6,627)	(4,199)	(5,331)	(6,572)
Net loss	(6,695)	(4,116)	(5,112)	(6,330)
Basic and diluted net loss per share	(0.49)	(0.30)	(0.38)	(0.48)

* The sum of earnings per share for the four quarters of 2001 is different from the full year amount as a result of computing the quarterly and full year amounts on the weighted average number of common shares outstanding in the respective periods.

Historically, the Company's revenues have varied considerably from period to period due to the nature of the Company's collaborative arrangements. As a consequence, the Company's results in any one quarter are not necessarily indicative of results to be expected for a full year.

The third quarter of 2001 included a reclass of restructuring cost of $ 825,000 from other income expenses to operations.

The fourth quarter of 2001 included (i) an adjustment to increase contract revenues of approximately $402,000 and (ii) the write-off of certain capitalized software costs of approximately $1,087,000.

12. Subsequent Events (Unaudited)

In January 2002, the Company entered into collaboration with Amgen, Inc. to develop and commercialize alfimeprase, a novel acting thrombolytic, for the treatment of PAO and other cardiovascular indications. Under the terms of the agreement, Hyseq will lead development and be responsible for all clinical development activities, while Amgen will be responsible for manufacturing activities. Alfimeprase, a product candidate that was identified through Amgen's research program, is a derivative of the fibrolase enzyme and is being developed for the treatment of PAO. PAO of the lower extremity is a significant cause of morbidity and amputation in the United States with over 100,000 cases reported annually. Pre-clinical studies indicate that alfimeprase is a promising agent for dissolving clots (clot lysis), and may be particularly well suited for the PAO indication. An IND for alfimeprase has been filed, and Hyseq anticipates initiating clinical studies in the second quarter of 2002.

In January 2002, the Company, through its subsidiary Callida, entered into a collaborative agreement with Intel Corporation to develop technology for the detection, identification, and analysis of DNA or other biomolecules. The goal of this research collaboration is to explore new technologies for biomolecule detection and identification. Callida will focus on developing novel approaches to DNA sequencing, and Intel will focus on developing devices and protocols for detecting and reading the data.

In February 2002, the company drew down $4.0 million of the $20.0 million line of credit that it received from its Chairman in August 2001.

In February 2002, the Company entered into a research agreement with Genetastix, a privately held biotechnology company, to use Genetastix's HuMYTech™ technology to generate fully human monoclonal antibodies against a proprietary antigen.

Item 9. ***Changes in and Disagreements With Accountants on Accounting and Financial Disclosure***

Not applicable.

PART III

Item 10. ***Directors and Executive Officers of the Registrant***

The response to this item is incorporated by reference to "General Information" and "Section 16(a) Beneficial Ownership Reporting Compliance" under Proposal No. 1 and "Certain Information with Respect to Executive Officers" in our Definitive Proxy Statement to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, relating to the Company's Annual Meeting of Stockholders to be held on May 29, 2002.

Item 11. ***Executive Compensation***

The response to this item is incorporated by reference to "Executive Compensation" in the Company's Definitive Proxy Statement to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, relating to the Company's Annual Meeting of Stockholders to be held on May 29, 2002.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management***

The response to this item is incorporated by reference to "Security Ownership of Certain Beneficial Owners and Management" in the Company's Definitive Proxy Statement to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, relating to the Company's Annual Meeting of Stockholders to be held on May 29, 2002.

Item 13. ***Certain Relationships and Related Transactions***

The response to this item is incorporated by reference to "Certain Relationships and Related Transactions" in the Company's Definitive Proxy Statement to be filed pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, relating to the Company's Annual Meeting of Stockholders to be held on May 29, 2002.

PART IV

Item 14. ***Exhibits, Financial Statement Schedules, and Reports on Form 8-K***

(a)(1) The Financial Statements and report of independent auditors required by this Item are submitted in a separate section, beginning on page 39 of this Report.

(a)(2) The schedules have been omitted because they are not applicable or are not required or the information required to be set forth therein is included in the Financial Statements or notes thereto.

(a)(3) *Exhibits*

The following documents are filed as part of this annual report on Form 10-K. The Company will furnish a copy of any exhibit listed to requesting stockholders upon payment of the Company's reasonable expenses in furnishing those materials.

Exhibit Number	Description
3.1	Amended and Restated Articles of Incorporation of the Company, as amended(1)
3.2	Amended and Restated By-Laws of the Company(9)
3.3	Amendment No. 3 to Amended and Restated Articles of Incorporation of Hyseq, Inc.(10)
4.1	Specimen Common Stock certificate(1)
4.2	Form of Registration Rights Agreement(1)
4.3	Form of Warrant Agreement(1)
4.4	Rights Agreement between Hyseq, Inc. and U.S. Stock Transfer dated June 5, 1998(2)
4.5	Form of Securities Purchase Agreement, dated as of August 28, 2001, by and among Hyseq, Inc. and the investors party thereto.(10)
4.6	Form of Registration Rights Agreement, dated as of August 28, 2001, by and among Hyseq, Inc. and the investors party thereto.(10)
4.7	Form of Warrant, dated as of August 28, 2001(10)
4.8	Hyseq Promissory Note, dated as of November 13, 2001, in the principal amount of $4,000,000
4.9	Registration Rights Agreement, dated as of November 13, 2001, by and between Hyseq, Inc. and Affymetrix, Inc.
4.10	Pledge and Security Agreement, dated as of November 13, 2001, by and between Hyseq, Inc. and Affymetrix, Inc.
10.1	Form of Indemnification Agreement between the Company and each of its directors and officers(1)
10.2	Stock Option Plan, as amended†(3)
10.3	Non-Employee Director Stock Option Plan, as amended†(4)
10.4	Patent License Agreement between Arch Development Corporation and Hyseq, Inc. dated June 7, 1994(1)

Exhibit Number	Description
10.5	Stock Purchase Agreement for Series B Convertible Preferred Stock dated May 28, 1997(1)
10.6	Collaboration and License Agreement between Hyseq Inc. and Chiron Corporation dated May 30, 1997(1)
10.7	Collaboration Agreement between Hyseq Inc. and The Perkin-Elmer Corporation dated May 30, 1997(1)
10.8	Employee Stock Purchase Plan†(5)
10.9	Non-Qualified Employee Stock Purchase Plan(8)
10.10	Scientific Advisory Board/ Consultants Stock Option Plan(8)
10.11	Collaboration and License Agreement between Hyseq, Inc. and American Cyanamid Company dated December 10, 1999(6)
10.12	Line of Credit Agreement between Hyseq, Inc. and Dr. George B. Rathmann dated November 10, 2000(7)
10.13	Employment and Confidential Information Agreement between Hyseq, Inc. and Ted W. Love dated January 11, 2001(9)
10.14	Industrial Multi-Tenant Lease by and between AMB Property, L.P. and Hyseq, Inc. dated June 23, 2000, as amended(9)
10.15	Lease between The Irvine Company and Hyseq, Inc. dated as of April 30, 2001(11)
10.16	Collaboration and License Agreement, dated as of June 29, 2001, by and between Hyseq, Inc. and Aurora Biosciences Corporation
10.17	Collaboration Agreement, dated as of August 21, 2001, by and between Hyseq, Inc. and Kirin Brewery Company, Ltd.
10.18	Secreted Protein Development and Collaboration Agreement, dated as of October 9, 2001, by and between Hyseq, Inc. and Deltagen, Inc.
10.19	Line of Credit Agreement, dated as of August 6, 2001, by and between Hyseq, Inc. and Dr. George B. Rathmann
10.20	Settlement Agreement, dated as of October 24, 2001, by and between Hyseq, Inc. and Affymetrix, Inc.
10.21	Interference Settlement Agreement, dated as of October 24, 2001, by and between Hyseq, Inc. and Affymetrix, Inc.
10.22	Product Development and Supply Agreement, dated as of October 24, 2001, by and between N-Mer, Inc. and Affymetrix, Inc.
10.23	Product Solicitation Agreement, dated as of October 24, 2001, by and between N-Mer, Inc. and Affymetrix, Inc.
10.24	Option Agreement, dated as of October 24, 2001, by and among Affymetrix, Inc, Hyseq, Inc., Callida Genomics, Inc., and N-Mer, Inc.
10.25	Stock Option Agreement, dated as of February 1, 2000 by and between Hyseq, Inc. and Dr. George B. Rathmann
10.26	Stock Option Agreement, dated as of August 21, 2001 by and between Hyseq, Inc. and Dr. George B. Rathmann
21.1	Subsidiaries of Hyseq, Inc. as of December 31, 2001: Callida Genomics, Inc., a Delaware corporation; N-Mer, Inc., a Delaware corporations; Hyseq Diagnostics, Inc., a Nevada corporation
23.1	Consent of KPMG LLP, Independent Auditors
23.2	Consent of Ernst & Young LLP, Independent Auditors

(1) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Registration Statement filed on Form S-1, as amended, File No. 333-29091.

(2) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Form 8-K, filed on July 31, 1998, File No. 00-22873.

(3) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Registration Statement on Form S-8, File No. 333-41663.

(4) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Registration Statement on Form S-8, File No. 333-53089.

(5) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Registration Statement on Form S-8, File No. 333-53087.

(6) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's report on Form 8-K/ A, filed on March 17, 2000, File No. 00-22873.

(7) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's report on Form 8-K, filed on December 14, 2000, File No. 000-22873.

(8) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 1999, File No. 000-22873.

(9) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 2000, File No. 000-22873.

(10) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's Registration Statement on Form S-3, as amended, filed on September 25, 2001, File No. 333-70134.

(11) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from the Company's report on Form 8-K, filed on May 21, 2001, File No. 000-22873

† Denotes compensation plan in which an executive officer or director participates.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Sunnyvale, State of California, on March 29, 2002.

HYSEQ, INC.
d/b/a HYSEQ PHARMACEUTICALS, INC.

By: /s/ PETER S. GARCIA

Peter S. Garcia
Senior Vice President and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of Hyseq, Inc. in the capacities indicated on March 29, 2002.

Signature	Title
/s/ TED W. LOVE	President and Chief Executive Officer (Principal Executive Officer), Director
Ted W. Love	
/s/ PETER S. GARCIA	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
Peter S. Garcia	
/s/ GEORGE B. RATHMANN	Chairman of the Board
George B. Rathmann	
/s/ ROBERT D. WEIST	Vice Chairman of the Board of Directors
Robert D. Weist	
/s/ RAYMOND F. BADDOUR	Director
Raymond F. Baddour	
/s/ THOMAS N. MCCARTER III	Director
Thomas N. McCarter III	
/s/ ERNST SCHWEIZER	Director
Ernst Schweizer	

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(11) Previously filed with the Commission as an Exhibit to and incorporated herein by reference from our report on Form 8-K, filed on May 21, 2001, File No. 000-22873

† Denotes compensation plan in which an executive officer or director participates.

THIS PROMISSORY NOTE AND ANY COMMON STOCK ISSUABLE UPON REPAYMENT HEREOF HAVE NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM.

HYSEQ, INC.
PROMISSORY NOTE

Note No. 1

$4,000,000 November 13, 2001
Sunnyvale, California

FOR VALUE RECEIVED, Hyseq, Inc., a Nevada corporation, promises to pay to Affymetrix, Inc., a Delaware corporation ("Affymetrix"), or its permitted assigns (each of Affymetrix and any such assign, a "Holder"), the principal sum of $4,000,000, or such lesser amount as shall then equal the outstanding principal amount hereof, together with interest from the date of this Promissory Note on the unpaid principal balance at a rate equal to 7.50% per annum, computed on the basis of the actual number of days elapsed and a year of 360 days consisting of twelve 30-day months. All unpaid principal, together with any then unpaid and accrued interest, shall be due and payable on the earlier of (i) November 13, 2006 (the "Maturity Date") or (ii) the acceleration of the maturity thereof in accordance with Section 6 of this Promissory Note.

The obligations of the Company represented by this Promissory Note are secured by a security interest as set forth in the Pledge and Security Agreement, dated November 13, 2001 (the "Security Agreement"), between the Company and Affymetrix.

The Company has entered into a Registration Rights Agreement, dated as of November 13, 2001 (the "Registration Rights Agreement"), with the Holder providing for resales of all Common Stock held by the Holder issuable pursuant to this Promissory Note.

The following is a statement of the rights of the Holder and the conditions to which this Promissory Note is subject, and to which the Holder hereof, by the acceptance of this Promissory Note, agrees:

1. Definitions. As used in this Promissory Note, the following terms shall have the meanings set forth below:

(a) "Affiliate" shall mean with respect to any Person (i) any other Person that directly or indirectly through one or more intermediaries controls or is controlled by or is under common control with such Person, (ii) any other Person owning or controlling 25% or more of the outstanding voting securities of or other ownership interest in such Person or (iii) any officer, director, general partner, managing partner or member of such Person.

(b) "Aggregate Amount Outstanding" shall mean an amount equal to the sum of (i) the outstanding principal amount hereunder, together with any unpaid and accrued interest thereon, and (ii) the Other Amounts Outstanding.

(c) "Ancillary Agreements" shall have the meaning ascribed to such term in the Stock Purchase Agreement.

(d) "Beneficial Owner" (and, with correlative meanings, "Beneficially Own" and "Beneficial Ownership") of any interest shall mean a Person who, together with his or its Affiliates, is or may be deemed a beneficial owner of such interest for purposes of Rule 13d-3 or 13d-5 under the Securities Exchange Act of 1934.

(e) "Capital Lease Obligations" shall mean, with respect to any Person, the obligation of such Person to pay rent or other amounts under any lease with respect to any property (whether real, personal or mixed) acquired or leased by such Person that is required to be accounted for under GAAP as a liability on a consolidated balance sheet of such Person.

(f) "CGI" shall mean Callida Genomics, Inc., a Delaware corporation.

(g) "Change-in-Control" shall mean (i) (x) any consolidation or merger of the Company with or into any other corporation or other entity or Person, or any other corporate reorganization, in which the stockholders of the Company immediately prior to such consolidation, merger or reorganization own less than 50% of the Company's voting power or the voting power of the surviving entity or the ultimate parent of the surviving entity immediately after such consolidation, merger or reorganization, or (y) any transaction or series of related transactions not included in clause (x) to which the Company is a party in which in excess of 50% of the Company's voting power is transferred to another corporation, Person, entity or group for purposes of Section 13(d) under the Securities Exchange Act of 1934, as amended, or (ii) a sale, lease or other disposition of all or substantially all of the assets of the Company to any other corporation, entity or Person; provided, however, that the consummation by the Company of (A) a consolidation, merger, reorganization or other transaction in which in excess of 50% the voting power of the surviving entity or the ultimate parent of the surviving entity is owned, directly or indirectly, by George B. Rathmann, Ph.D. (or any trust of which he is a trustee) immediately after such consolidation, merger, reorganization or other transaction or (B) the sale, lease or other disposition of all or substantially all of the Company's assets to an entity in which in excess of 50% the voting power of such entity or the ultimate parent of such entity is owned, directly or indirectly, by George B. Rathmann, Ph.D. (or any trust of which he is a trustee) immediately after such sale, lease or other disposition shall not be deemed a Change of Control even if such consolidation, merger, reorganization or other transaction or sale, lease or other disposition of assets would otherwise be deemed a Change of Control pursuant to clause (i) or (ii) of this definition.

(h) "Closing Price Per Share" shall mean, with respect to the Common Stock, for any day, (i) the last reported sale price regular way on the Nasdaq National Market or (ii) if the Common Stock is not quoted on the Nasdaq National Market, the last reported sale price regular way per share or, in case no such reported sale takes place on such day, the average of

the reported closing bid and asked prices regular way, in either case, on the principal national securities exchange on which the Common Stock is listed or admitted to trading.

(i) "Collateral" shall have the meaning ascribed to such term in the Security Agreement.

(j) "Common Stock" shall mean the Common Stock, par value $0.001 per share, of the Company authorized at the date hereof.

(k) "Company" includes the corporation initially executing this Promissory Note and any Person that shall succeed to or assume the obligations of the Company under this Promissory Note.

(l) "Determination Date" shall mean each day commencing on the eleventh Trading Day after the date hereof and ending on the Maturity Date, other than a Saturday or Sunday on which commercial banks in New York, New York are not required or permitted under applicable laws or regulations to close.

(m) "ECM Amount Due" shall mean an amount equal to the product of (i) the Aggregate Amount Outstanding on any Determination Date minus (ii) the product of the Equity Market Capitalization on any Determination Date multiplied by 10%.

(n) "Equity Market Capitalization", as of any Determination Date, shall mean the product of (i) the average of the Closing Prices Per Share of the Common Stock for the twenty (20) consecutive Trading Days immediately preceding but excluding such Determination Date, multiplied by (ii) the number of shares of Common Stock issued and outstanding as of such Determination Date.

(o) "GAAP" or "Generally Accepted Accounting Principles" shall mean generally accepted accounting principles as in effect from time to time in the United States.

(p) "Governmental Body" shall mean any foreign or domestic government; court; federal, state, county, municipal or other department, commission, board, bureau, agency, administrator, public authority or instrumentality; arbitrator; mediator; or other governmental regulator or authority.

(q) "Indebtedness" shall mean, with respect to any Person, (i) all obligations of such Person for borrowed money or for the deferred purchase price of property or services (including all obligations, contingent or otherwise, of such Person in connection with letters of credit, bankers' acceptances, Interest Rate Protection Agreement or other similar instruments, including currency swaps) other than indebtedness to trade creditors and service providers incurred in the ordinary course of business and payable on usual and customary terms, (ii) all obligations of such Person evidenced by bonds, notes, debentures or other similar instruments, (iii) all indebtedness created or arising under any conditional sale or other title retention agreement with respect to property acquired by such Person (even though the remedies available to the seller or lender under such agreement are limited to repossession or sale of such property), (iv) all Capital Lease Obligations of such Person, (v) all obligations of the types described in clauses (i), (ii), (iii) or (iv) above secured by (or for which the obligee has an existing right,

contingent or otherwise, to be secured by) any Lien upon or in any property (including accounts, contract rights and other intangibles) owned by such Person, even though such Person has not assumed or become liable for the payment of such Indebtedness, (vi) all preferred stock issued by such Person which is redeemable, prior to full satisfaction of the Company's obligations under this Promissory Note, other than at the option of such Person, (vii) all Indebtedness of others subject to a Third Party Guaranty by such Person and (viii) all Indebtedness of any partnership of which such Person is a general partner.

(r) "Interest Rate Protection Agreement" shall mean any interest rate swap agreement, interest rate cap agreement or similar hedging arrangement used by a Person to fix or cap a floating rate of interest on Indebtedness to a negotiated maximum rate or amount.

(s) "Lien" or "Liens" shall mean, with respect to any Person, any security interest, pledge, mortgage, charge, option, assignment, hypothecation, encumbrance, attachment, garnishment, sequestration, forfeiture, execution or other voluntary or involuntary lien upon or affecting the revenues of such Person or any real or personal property in which such Person has or hereafter acquires any interest.

(t) "Material Adverse Effect" shall mean an adverse effect upon the business, financial condition, results of operations or prospects of the Company, or upon the ability of the Company to perform its obligations hereunder or under the Security Agreement, which adverse effect would be viewed as material by a reasonably prudent lender.

(u) "national securities exchange" shall mean a national securities exchange registered under Section 6 of the Securities Exchange Act of 1934, as amended.

(v) "Note Percentage" shall mean the quotient obtained by dividing (i) the outstanding principal amount hereunder, together with any unpaid and accrued interest thereon, by (ii) the Aggregate Amount Outstanding.

(w) "Option" shall have the meaning ascribed to such term in the Option Agreement, dated as of October 24, 2001, among CGI, N-Mer, Inc. and Affymetrix.

(x) "Other Amounts Outstanding" shall mean the aggregate principal amount outstanding under all promissory notes (other than this Promissory Note) of the Company in favor of the Holder, together with any unpaid and accrued interest thereon.

(y) "Person" shall mean an individual, corporation (including any non-profit corporation), association, general or limited partnership, organization, business, firm, limited liability company, joint venture, trust, estate, or other entity, association or organization, whether constituting a separate legal entity or not.

(z) "Product Solicitation Agreement" shall have the meaning ascribed to such term in the Stock Purchase Agreement.

(aa) "Related Person" shall mean any Person with whom the Company or one of its Affiliates has a contractual, licensing, collaborative, partnership, joint venture or other similar relationship and any of such Person's Affiliates.

(bb) "Related Agreements" shall have the meaning ascribed to such term in the Stock Purchase Agreement.

(cc) "Stock Purchase Agreement" shall mean the Preferred Stock Purchase Agreement, dated as of October 24, 2001, among CGI, Affymetrix and the Company.

(dd) "Supply Agreement" shall have the meaning ascribed to such term in the Stock Purchase Agreement.

(ee) "Third Party Guaranty" means, with respect to any Person, any obligation, contingent or otherwise, of such Person guaranteeing or having the economic effect of guaranteeing any Indebtedness of any other Person (the "primary obligor") in any manner, whether directly or indirectly, and including any obligation of such Person, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness, (ii) to purchase property, securities or services for the purpose of assuring the holder of such Indebtedness of the payment of such Indebtedness of (iii) to maintain working capital, equity capital or the financial condition or liquidity of the primary obligor so as to enable the primary obligor to pay such Indebtedness.

(ff) "Trading Day" means (i) if the Common Stock is quoted on the Nasdaq National Market, days on which trades may be effected through such system or (ii) if the Common Stock is listed or admitted for trading on any national securities exchange, days on which such national securities exchange is open for business.

2. INTEREST. Accrued interest on this Promissory Note shall be payable at such time as the outstanding principal amount hereof shall be paid in full; provided, however, that in the event the principal amount hereof is not repaid in full on the Maturity Date, accrued but unpaid interest on this Promissory Note shall thereafter be paid in cash on the Maturity Date, the last business day of each calendar month thereafter and on such date as the outstanding principal amount hereof shall be paid in full.

3. PREPAYMENT. This Promissory Note may be prepaid by the Company at any time in whole or in part without prepayment fee, premium or penalty by payment of the unpaid principal amount, or part thereof, together with accrued but unpaid interest. Any such prepayment shall be applied first to interest and then to principal, or in such other order as the Holder may, in its sole discretion, determine.

4. REPRESENTATIONS AND WARRANTIES. The Company represents and warrants to the Holder, as of the date of making this Promissory Note, as follows:

(a) GOOD STANDING AND POWER. The Company and each of its subsidiaries is a corporation, duly incorporated and validly existing in good standing under the laws of the jurisdiction of its incorporation; each has the corporate power to own its property and to carry on its business as now being conducted; and each is duly qualified to do business and is in good standing in each jurisdiction in which the character of the properties owned or leased by it therein or in which the transaction of its business makes such qualification necessary, except where the failure to be so qualified, or to be in good standing, individually or in the aggregate, could not reasonably be expected to have a Material Adverse Effect.

(b) CORPORATE AUTHORITY. The Company has full corporate power and authority to execute and deliver, and to incur and perform its obligations under, this Promissory Note and the Security Agreement, which have been duly authorized by all proper and necessary corporate action. No consent or approval of stockholders is required as a condition to the validity or performance of, or the exercise by the Holder of any of its rights or remedies under, this Promissory Note or the Security Agreement.

(c) AUTHORIZATIONS. All authorizations, consents, approvals, registrations, notices, filings, exemptions and licenses (collectively "Authorizations") with or from any Governmental Body or other Person necessary for the execution, delivery and performance by the Company of, and the incurrence and performance of its obligations under, each of this Promissory Note and the Security Agreement, and the exercise by the Holder of its remedies under each of this Promissory Note and the Security Agreement have been effected or obtained and are in full force and effect, other than (i) such Authorizations as may be required under applicable federal or state securities laws, which Authorizations shall be obtained prior to the time required under such securities laws, and (ii) such Authorizations as shall be required for the perfection of the security interests under the Security Agreement, which shall be obtained in accordance with the terms of the Security Agreement.

(d) BINDING OBLIGATION. This Promissory Note and the Security Agreement constitute the valid and legally binding obligations of the Company enforceable in accordance with their terms, subject as to enforcement to bankruptcy, insolvency, reorganization, moratorium and similar laws of general applicability relating to or affecting creditors' rights and to general equity principles.

(e) NO CONFLICTS. There is no statute, regulation, rule, order or judgment, and no provision of any agreement or instrument binding upon the Company or any of its subsidiaries, or affecting their properties, and no provision of the certificate of incorporation or by-laws (or similar constitutive instruments) of the Company or any of its subsidiaries, that would prohibit, conflict with or in any way impair the execution or delivery of, or the incurrence or performance of any obligations of the Company under, this Promissory Note or the Security Agreement, or result in or require the creation or imposition of any Lien on property of the Company or any of its subsidiaries as a consequence of the execution, delivery and performance of this Promissory Note or the Security Agreement, other than in respect of the Authorizations referenced in Section 4(c) hereof.

(f) USE OF PROCEEDS. The proceeds of this Promissory Note will be used by the Company exclusively for the purchase of shares of Series A Preferred Stock, par value $0.001 per share, of CGI pursuant to the Stock Purchase Agreement. The Company hereby authorizes and instructs Affymetrix to remit the proceeds of this Promissory Note to CGI or its designee on behalf of the Company. The Company acknowledges and agrees that CGI has authorized and instructed Affymetrix to remit the proceeds of this Promissory Note to N-Mer, Inc. pursuant to the Stock Purchase Agreement.

(g) MARGIN REGULATIONS. This Promissory Note and the use of the proceeds hereof as contemplated herein will not violate or be inconsistent with any of the provisions of Regulation U, T or X (or any successor regulations) of the Federal Reserve Board.

(h) COMPLIANCE WITH LAWS AND CHARTER DOCUMENTS.

(i) Neither the Company nor any of its subsidiaries is, or as a result of performing any of its obligations under this Promissory Note or the Security Agreement will be, in violation of (a) any law, statute, rule, regulation or order of any Governmental Body applicable to it or its properties or assets or (b) its certificate of incorporation, by-laws or any similar document.

(ii) The Company and each of its subsidiaries each has all authorizations, consents, approvals, registrations, franchises, licenses and permits, with or from Governmental Bodies and other Persons as are necessary for it to own its properties and conduct its business as now conducted and the absence of which could reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

All representations and warranties made by the Company in this Promissory Note shall (i) be considered to have been relied upon by the Holder, (ii) survive this Promissory Note regardless of any investigation made by, or on behalf of, the Holder, and (iii) continue in full force and effect as long as any amount payable under this Promissory Note remains unpaid.

5. EVENTS OF DEFAULT. Each of the following constitutes an event of default under this Promissory Note (an "Event of Default"):

(a) The Company shall fail duly to pay any principal hereof when due, whether at maturity, by notice of intention to prepay or otherwise; or

(b) The Company shall fail duly to pay any interest, fee or any other amount payable under this Promissory Note within two (2) days after the same shall be due; or

(c) The Company shall fail duly to observe or perform any term, covenant or agreement contained in, and required to be observed or performed by it under, this Promissory Note or the Security Agreement, and such failure shall have continued unremedied for a period of thirty (30) days after written notice thereof; or

(d) Any representation or warranty made by the Company in this Promissory Note or the Security Agreement shall prove to have been false or misleading in any material respect when so made or deemed made; or

(e) A default or defaults under any bond(s), debentures(s), note(s) or other evidence(s) of Indebtedness by the Company or any subsidiary of the Company or under any mortgage(s), indenture(s) or instrument(s) under which there may be issued or by which there may be secured or evidenced any Indebtedness of such type by the Company or any such subsidiary with a principal amount then outstanding, individually or in the aggregate, in excess of $1,000,000, whether such Indebtedness now exists or shall hereafter be created, which default with the passing of time or the giving of notice, or both, shall give the holders of such bond(s), debenture(s), note(s), or other evidence(s) or such Indebtedness the right to declare such obligation due and payable prior to the date on which it would otherwise have become due and payable; or

(f) There shall be an event of default, default or breach under any other promissory note of the Company in favor of the Holder; or

(g) An involuntary case or other proceeding shall be commenced against the Company or any of its subsidiaries seeking liquidation, reorganization or other relief with respect to it or its debts under any applicable bankruptcy, insolvency, reorganization or similar law or seeking the appointment of a custodian, receiver, liquidator, assignee, trustee, sequestrator or similar official of it or any substantial part of its property, and such involuntary case or other proceeding shall remain undismissed and unstayed or unbonded for a period of more than sixty (60) days; or an order or decree approving or ordering any of the foregoing shall be entered and continued unstayed and in effect; or

(h) The Company or any of its subsidiaries shall commence a voluntary case or proceeding under any applicable bankruptcy, insolvency, reorganization or similar law or any other case or proceeding to be adjudicated a bankrupt or insolvent, or any of them shall consent to the entry of a decree or order for relief in respect of the Company or any of its subsidiaries in an involuntary case or proceeding under any applicable bankruptcy, insolvency, reorganization or other similar law or to the commencement of any bankruptcy or insolvency case or proceeding against any of them, or any of them shall file a petition or answer or consent seeking reorganization or relief under any such applicable law, or any of them shall consent to the filing of such petition or to the appointment of or taking possession by a custodian, receiver, liquidator, assignee, trustee, sequestrator or similar official of the Company or any of its subsidiaries or any substantial part of their respective property, or any of them shall make a general assignment for the benefit of creditors, or any of them shall admit in writing its inability to pay its debts generally as they become due, or the Company or any of its subsidiaries shall take corporate action in furtherance of any such action; or

(i) One or more judgments against the Company or any of its subsidiaries or attachments against its property, which at any time exceed in the aggregate $1,000,000, or the operation or result of which is reasonably likely to interfere materially and adversely with the conduct of the business of the Company or any of its subsidiaries, remain unpaid, unstayed on appeal, undischarged, unbonded, or undismissed for a period of more than sixty (60) days; or

(j) Any court or governmental or regulatory authority shall have enacted, issued, promulgated, enforced or entered any statute, rule, regulation, judgment, decree, injunction or other order (whether temporary, preliminary or permanent) which is in effect and which prohibits, enjoins or otherwise restricts the Company or any of its subsidiaries, in a manner that, individually or in the aggregate, could reasonably be expected to have (i) a Material Adverse Effect or (ii) an adverse effect upon the validity or enforceability of this Promissory Note or the Security Agreement or upon the rights of the Holder hereunder or under the Security Agreement, which adverse effect would be viewed as material by a reasonably prudent lender.

With respect to any Event of Default, (i) in any such event described in Section 5(g) or (h), the principal amount hereof, together with any then unpaid and accrued interest thereon, shall automatically be due and payable without notice or demand or any action whatsoever by the Holder; and (ii) in all other Events of Default the Holder may, upon written notice to the Company, declare the principal amount hereof, together with any then unpaid and accrued

interest thereon (or any part thereof), to be forthwith due and payable without presentment, demand, protest or further notice of any kind, all of which are hereby expressly waived by the Company.

In addition, upon any Event of Default, the Holder may without prior notice or demand, exercise any and all rights available to it under this Promissory Note or the Security Agreement in equity or by applicable law. No action taken by the Holder shall be deemed to be an election of remedies by the Holder, it being the intent of the parties that the Holder shall be entitled repeatedly to exercise all remedies separately or concurrently and in any manner allowed by law.

6. ACCELERATION OF MATURITY.

(a) EXERCISE OF OPTION. Upon the exercise by Affymetrix of the Option, the outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, shall automatically be due and payable without notice or demand or any action whatsoever by the Holder.

(b) CHANGE-IN-CONTROL. Upon a Change-in-Control, the outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, shall automatically be due and payable without notice or demand or any action whatsoever by the Holder.

(c) DELISTING OF COMMON STOCK. If at any time the Common Stock is not approved for quotation on the Nasdaq National Market or listed on a national securities exchange, the outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, shall automatically be due and payable without notice or demand or any action whatsoever by the Holder.

(d) IMPAIRMENT. If the Equity Market Capitalization on any Determination Date is less than $50 million and the loan evidenced hereby (after considering the realizable value of the Collateral) is impaired such that Affymetrix reasonably determines that carrying the outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, on Affymetrix' balance sheet at a value equal to the aggregate amount of principal and interest outstanding under this Promissory Note is not in conformity with GAAP, the Holder may, upon written notice to the Company, declare the outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, to be forthwith due and payable.

(e) BANKRUPTCY OF CGI. The outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, shall automatically be due and payable without notice or demand or any action whatsoever by the Holder if: (i) an involuntary case or other proceeding shall be commenced against CGI or any of its subsidiaries seeking liquidation, reorganization or other relief with respect to it or its debts under any applicable bankruptcy, insolvency, reorganization or similar law or seeking the appointment of a custodian, receiver, liquidator, assignee, trustee, sequestrator or similar official of it or any substantial part of its property, and such involuntary case or other proceeding shall remain undismissed and unstayed or unbonded for a period of more than sixty (60) days; or an order or decree approving or ordering any of the foregoing shall be entered and continued unstayed and in effect; or (ii) CGI

or any of its subsidiaries shall commence a voluntary case or proceeding under any applicable bankruptcy, insolvency, reorganization or similar law or any other case or proceeding to be adjudicated a bankrupt or insolvent, or any of them shall consent to the entry of a decree or order for relief in respect of CGI or any of its subsidiaries in an involuntary case or proceeding under any applicable bankruptcy, insolvency, reorganization or other similar law or to the commencement of any bankruptcy or insolvency case or proceeding against any of them, or any of them shall file a petition or answer or consent seeking reorganization or relief under any such applicable law, or any of them shall consent to the filing of such petition or to the appointment of or taking possession by a custodian, receiver, liquidator, assignee, trustee, sequestrator or similar official of CGI or any of its subsidiaries or any substantial part of their respective property, or any of them shall make a general assignment for the benefit of creditors, or any of them shall admit in writing its inability to pay its debts generally as they become due, or CGI or any of its subsidiaries shall take corporate action in furtherance of any such action; or (iii) CGI or any of its subsidiaries shall be dissolved, liquidated or wound up or CGI or any of its subsidiaries shall take corporate action in furtherance of any such action.

(f) LITIGATION AGAINST AFFYMETRIX. If the Company or any of its Affiliates or any Related Person commences any suit, action, litigation or administrative or judicial action or proceeding or arbitration proceeding (each a "Proceeding") against Affymetrix or any of its Affiliates in connection with Affymetrix' investment or proposed investment in, or relationship or licensing arrangement with, the Company, CGI or N-Mer, Inc., excluding any Proceeding arising solely out of any breach or alleged breach by Affymetrix under any of the Related Agreements, the Ancillary Agreements or the Confidentiality Agreement, dated August 22, 2001, between the Company and Affymetrix, the Holder may, upon written notice to the Company, declare the outstanding principal amount hereof, together with any then unpaid and accrued interest thereon, to be forthwith due and payable.

(g) SALE OF INTEREST IN CGI. Upon the sale, assignment, transfer or other disposition by the Company of any securities of CGI held by the Company, an amount of outstanding principal hereof, together with any then unpaid and accrued interest thereon, equal to the product of (i) the Note Percentage and (ii) the aggregate amount of gross proceeds (net of discounts, commissions or fees paid to brokers by the Company) received by the Company upon such sale, assignment, transfer or other disposition shall automatically be due and payable without notice or demand or any action whatsoever by the Holder.

(h) EQUITY MARKET CAPITALIZATION. If the Aggregate Amount Outstanding on any Determination Date is more than 10% of the Equity Market Capitalization on such Determination Date, an amount of outstanding principal hereof, together with any then unpaid and accrued interest thereon, equal to the product of (i) the Note Percentage and (ii) the ECM Amount Due shall automatically be due and payable without notice or demand or any action whatsoever by the Holder.

7. SUCCESSORS AND ASSIGNS. Subject to the restrictions on transfer described in Section 9 below, the rights and obligations of the Company and the Holder shall be binding upon and benefit the successors, assigns, heirs, administrators and transferees of the parties.

8. WAIVER AND AMENDMENT. Any provision of this Promissory Note may be amended, waived or modified upon the written consent of the Company and Affymetrix.

9. ASSIGNMENT. Neither this Promissory Note nor the Security Agreement, and none of the rights, interests or obligations hereunder or thereunder, may be assigned, by operation of law or otherwise, in whole or in part, by the Company without the prior written consent of the Holder. This Promissory Note and the Security Agreement, and all of the rights, interests or obligations hereunder or thereunder, may be assigned, sold or transferred by operation of law or otherwise, in whole or in part, by the Holder; provided that prior thereto, if reasonably requested by the Company, the Holder shall furnish the Company with an opinion of counsel or other information or documentation, reasonably satisfactory to the Company, that such assignment, sale or transfer will not require registration of this Promissory Note under the Securities Act. It is agreed that the Company will not require opinions of counsel for transactions made pursuant to Rule 144 except in unusual circumstances. Any assignment contrary to the provisions of this Section 9 shall be null and void.

10. ADDRESSES FOR NOTICES, ETC. Any notices and other communications required or permitted under this Agreement shall be effective if in writing and delivered personally or sent by telecopier, Federal Express or registered or certified mail, postage prepaid, addressed as follows:

If to the Holder, to:
Affymetrix, Inc.
3380 Central Expressway
Santa Clara, California 95051
Telephone: (408) 731-5000
Telecopier: (408) 731-5394
Attention: General Counsel

with a copy to:
Sullivan & Cromwell
1870 Embarcadero Road
Palo Alto, California 94303
Telephone: (650) 461-5600
Telecopier: (650) 461-5700
Attention: John L. Savva, Esq.

If to the Company, to:
Hyseq, Inc.
670 Almanor Avenue
Sunnyvale, California 94085
Telephone: (408) 524-8100
Telecopier: (408) 524-8141
Attention: General Counsel

with a copy to: Latham & Watkins
135 Commonwealth Drive
Menlo Park, California 94025
Telephone: (650) 328-4600
Telecopier: (650) 463-1600
Attention: Alan C. Mendelson, Esq.

Unless otherwise specified herein, such notices or other communications shall be deemed effective (a) on the date delivered, if delivered personally, (b) two business days after being sent, if sent by Federal Express or other commercial overnight delivery service, (c) one business day after being sent, if sent by telecopier with confirmation of good transmission and receipt, and (d) three business days after being sent, if sent by registered or certified mail. Each of the parties hereto shall be entitled to specify another address by giving notice as aforesaid to each of the other parties hereto.

11. PAYMENT. Payments of principal and interest pursuant to this Promissory Note shall be made by the Company in lawful tender of the United States in immediately available funds.

12. EXCHANGE.

(a) RIGHT TO EXCHANGE. The Company shall have the right, at its option, at any time prior to payment in full of the principal balance of, and all interest accrued on, this Note, to exchange this Note, in accordance with the provisions of this Section 12, in whole or in part, into fully paid and nonassessable shares of Common Stock. The number of shares of Common Stock (the "Exchange Shares") deliverable upon exchange of such amount of principal and interest (the "Exchange Amount") shall be such number of shares as has a fair market value as of the date of exchange (the "Exchange Date") equal to the Exchange Amount. For purposes of this Section 12, the fair market value of shares of Common Stock shall be deemed equal to 90% of the average of the Closing Prices Per Share of the Common Stock for the ten (10) consecutive Trading Days immediately preceding and including the second Trading Day prior to the Exchange Date.

(b) EXCHANGE CONDITIONS. The right of the Company to undertake an exchange pursuant to this Section 12 shall be subject to satisfaction or waiver by the Holder of the following conditions:

(i) Issuance of Exchange Shares to the Holder in the exchange shall not cause the Holder to Beneficially Own a number of shares of Common Stock that exceeds the product of (i) 19% multiplied by (ii) the number of shares of Common Stock outstanding on the Exchange Date;

(ii) (A) The Company shall have filed a registration statement pursuant to Rule 415 under the Securities Act (the "Shelf Registration Statement") with the Securities and Exchange Commission (the "Commission"), which Shelf Registration Statement provides for resales of all Registrable Securities (as such term is defined in the Registration Rights Agreement) held by the Holder issued or issuable pursuant to this Promissory Note,

(B) such Shelf Registration Statement has been declared effective by the Commission and is effective at the time of delivery of such Registrable Securities pursuant to this Section 12, (C) such Shelf Registration Statement and the related prospectus is usable for resales of Registrable Securities by the Holder at the time of delivery of Registrable Securities pursuant to this Section 12 (it being understood that a Shelf Registration Statement shall not be deemed unusable because of the failure by the Holder to furnish information, following a written request by the Company, required for inclusion therein) and (D) such Shelf Registration Statement conforms with the requirements of the Registration Rights Agreement and the Securities Act and the rules and regulations of the Commission promulgated thereunder as announced from time to time;

(iii) Any registration with or approval of any governmental authority under any state law or any federal law required in connection with the valid issuance and delivery of the Exchange Shares shall have been completed and become effective;

(iv) (A) The Exchange Shares shall, subject to notice of issuance, have been approved for quotation on the Nasdaq National Market or listed on a national securities exchange and (B) any required approvals for quotation of the Exchange Shares on the Nasdaq National Market (or, if the Common Stock is then listed on a national securities exchange, any required approvals for listing of the Exchange Shares on such exchange), shall have been obtained;

(v) The Exchange Shares shall be issued out of the Company's authorized but unissued Common Stock and shall, upon issue, be duly and validly issued and fully paid and non-assessable and free of any preemptive or similar rights; and

(vi) The Company and its Board of Directors shall have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's Certificate of Incorporation (or similar charter documents) or the laws of its state of incorporation or any other jurisdiction (collectively, "Anti-Takeover Provisions") that is or could reasonably be expected to become applicable to the Holder as a result of the Company and the Holder fulfilling their obligations or exercising their rights under this Promissory Note and the Registration Rights Agreement, including, without limitation, the Company's issuance of Exchange Shares pursuant to this Section 12 and the Holders' ownership of such Exchange Shares. The Company agrees that no claim shall be made or enforced by the Company that the Holder is an "Acquiring Person" (or similar triggering person) under any shareholders rights plan or other Anti-Takeover Provision in effect or hereafter adopted by the Company, or that the Holder could be deemed to trigger the provisions of any such plan or arrangement, by virtue of receiving Exchange Shares pursuant to this Section 12.

(c) EXCHANGE PROCEDURE. Written notice (an "Exchange Notice") of the Company's election to exchange shall be delivered to the Holder pursuant to Section 10 hereof notifying the Holder of the exchange, specifying the principal amount of, and accrued interest on, the Note to be exchanged, the date on which such exchange is expected to occur and calling upon the Holder to surrender to the Company, in the manner and at the place designated, this

Promissory Note. As soon as practicable following surrender by the Holder of this Promissory Note, the Company shall issue and deliver to the Holder a certificate or certificates for the number of Exchange Shares to which the Holder shall be entitled upon such exchange (bearing such legends as are required under applicable state and federal securities laws), together with a new Promissory Note representing any amounts of principal and interest then outstanding under this Promissory Note and not then exchanged and a check payable to the Holder for any cash amounts payable as described in Section 12(d).

(d) FRACTIONAL SHARES; EFFECT OF EXCHANGE. No fractional shares shall be issued upon exchange of this Promissory Note. In lieu thereof, the Company shall pay to the Holder an amount equal to the product obtained by multiplying (i) the average of the Closing Prices Per Share of the Common Stock for the ten (10) consecutive Trading Days immediately preceding and including the second Trading Day prior to the Exchange Date by (ii) the fraction of a share not issued pursuant to the previous sentence. Upon exchange of this Promissory Note in full and the payment of the amounts specified in this Section 12(d), the Company shall be forever released from all its obligations and liabilities under this Promissory Note (except for liabilities arising out of or relating to the breach of any representation, warranty, covenant or agreement by the Company contained in this Promissory Note).

(e) SHELF REGISTRATION STATEMENT. Notwithstanding any provision to the contrary contained in the Registration Rights Agreement, the Company shall keep the Shelf Registration Statement continuously effective for a period of sixty (60) days from the time of delivery of Registrable Securities pursuant to this Section 12 and shall ensure that such Shelf Registration Statement and the related prospectus are continuously usable during such period for resales by the Holders of Registrable Securities.

13. MAXIMUM AMOUNT OF INTEREST. Notwithstanding any contrary provision, the total liability of the Company for payment of interest hereunder shall not exceed the maximum amount of interest permitted by law, and if any payment made by the Company includes interest in excess of such a maximum amount, the Holder shall at any time before or after default apply such excess to the reduction of principal hereunder.

14. SET-OFF. The Company hereby authorizes the Holder upon the occurrence of an Event of Default and at any time and from time to time during the continuance thereof, to the fullest extent permitted by law, to set-off and apply any and all Indebtedness at any time owing by such Holder to or for the credit or the account of the Company against any of the obligations of the Company, now or hereafter existing under this Promissory Note, irrespective of whether the Holder shall have made any demand under this Promissory Note and although such obligations may be unmatured. The rights of the Holder under this Section 14 are in addition to other rights and remedies (including other rights of set-off) which the Holder may have. The Holder shall give notice thereof to the Company concurrently with or prior to the exercise of such rights; provided, however, that failure to give such notice shall not affect the validity of such exercise.

15. SEVERABILITY. The holding of any provision of this Promissory Note to be invalid or unenforceable by a court of competent jurisdiction shall not affect any other provisions and the other provisions of this Promissory Note shall remain in full force and effect.

16. GOVERNING LAW; VENUE. This Promissory Note shall be governed by and construed and enforced in accordance with the internal laws of the State of California. This Promissory Note shall be deemed to have been made in California and the validity of this Promissory Note, its construction, interpretation and enforcement, shall be determined under, governed by and construed in accordance with the laws of California. In any court proceeding, the Company agrees to submit to the jurisdiction of the state or federal court selected by the Holder, and venue of any action concerning this Promissory Note or the Security Agreement shall be in the county of Santa Clara in the State of California. The Company hereby irrevocably waives to the fullest extent permitted by law any objection which it may now or hereafter have to the laying of such venue and any claim that any such forum is an inconvenient forum. Nothing in this Section 16 shall impair the right of the Holder to bring any action or proceeding against the Company or its property in the courts of any other county or jurisdiction.

17. EXPENSES. The Company agrees to pay all out-of-pocket expenses of the Holder (including the reasonable fees and expenses of Sullivan & Cromwell, as counsel for Affymetrix) in connection with the enforcement of any provision of this Promissory Note and the Security Agreement and any amendment or supplement hereto or thereto and the collection of this Promissory Note.

IN WITNESS WHEREOF, the Company has caused this Promissory Note to be issued as of the date first written above.

HYSEQ, INC.,
a Nevada corporation

By: /s/ GEORGE B. RATHMANN

Name: George B. Rathmann
Title: Chairman of the Board
of Directors

EXHIBIT 4.9

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "Agreement") is made and entered into as of November 13, 2001, among Hyseq, Inc., a Nevada corporation (the "Company"), and Affymetrix, Inc. a Delaware corporation (the "Investor").

WHEREAS, pursuant to the Preferred Stock Purchase Agreement, dated as of the date hereof (the "Stock Purchase Agreement"), by and among Callida Genomics, Inc., a Delaware corporation, the Investor and the Company, the Investor has agreed to extend credit to the Company and to purchase one or more Promissory Notes of the Company (collectively, the "Promissory Notes"); and

WHEREAS, the extension of credit to the Company pursuant to the Promissory Notes and the purchase of the Promissory Notes is conditioned upon the execution and delivery by the Company of this Agreement.

NOW THEREFORE, the Company and the Investor hereby agree as follows:

1. DEFINITIONS.

Terms used and not otherwise defined herein that are defined in the Promissory Notes, shall have the meanings given such terms in the Promissory Notes. As used in this Agreement, the following terms shall have the following meanings:

"Closing Date" shall have the meaning ascribed to such term in the Stock Purchase Agreement.

"Commission" means the United States Securities and Exchange Commission, or any other federal agency at the time administering the Exchange Act or the Securities Act, whichever is the relevant statute for the particular purpose.

"Common Stock" means the Company's common stock, par value $0.001 per share.

"Effectiveness Date" means the 180th day following the Closing Date.

"Effectiveness Period" shall have the meaning set forth in Section 2(a).

"Event" shall have the meaning set forth in Section 2(b).

"Event Date" shall have the meaning set forth in Section 2(b).

"Event Notice Date" shall have the meaning set forth in Section 2(b).

"Exchange Act" means the United States Securities Exchange Act of 1934, as amended.

"Exercise Notice" shall have the meaning set forth in Section 2(b).

"Filing Date" means the 60th day following the Closing Date.

"Holder" means the beneficial owner of Registrable Securities. For all purposes of this Agreement, the Company shall be permitted to treat the record owner of Registrable Securities as the beneficial owner thereof unless the Company has been given written notice of the existence and identity of a different beneficial owner.

"Indemnified Party" shall have the meaning set forth in Section 5(c).

"Indemnifying Party" shall have the meaning set forth in Section 5(c).

"Losses" shall have the meaning set forth in Section 5(a).

"Materially Detrimental" means, in the good faith judgment of the Board of Directors of the Company as set forth in a certificate signed by the President, Chief Financial Officer or General Counsel of the Company, the filing in question would be materially detrimental to the Company by reason of (i) any Proceeding before, or material event involving, the Food and Drug Administration, or (ii) any proposal or plan of the Company or any of its subsidiaries to engage in any sale, acquisition, merger, consolidation, reorganization, tender offer or similar transaction.

"Note Holder" means the beneficial owner of a Promissory Note. For all purposes of this Agreement, the Company shall be permitted to treat the record owner of Promissory Notes as the beneficial owner thereof unless the Company has been given written notice of the existence and identity of a different beneficial owner.

"Option Price" as of a specified date means the quotient obtained by dividing (i) the aggregate principal and interest under Promissory Notes that has theretofore been exchanged for the Option Shares and (ii) the total number of Option Shares (as adjusted for stock splits, stock dividends, recapitalizations and the like) theretofore issued.

"Option Shares" shall have the meaning set forth in Section 2(b).

"Person" shall mean an individual, corporation (including any non-profit corporation), association, general or limited partnership, organization, business, firm, limited liability company, joint venture, trust, estate, or other entity, association or organization, whether constituting a separate legal entity or not.

"Proceeding" means an action, claim, suit, investigation or proceeding (including, without limitation, an investigation or partial proceeding, such as a deposition), whether commenced or threatened.

"Promissory Notes" shall have the meaning set forth in the recitals hereto.

"Prospectus" means the prospectus included in a Registration Statement (including, without limitation, a prospectus that includes any information previously omitted from a prospectus filed as part of an effective registration statement in reliance upon Rule 430A promulgated under the Securities Act), as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by the Registration Statement, and all other amendments and supplements to the Prospectus, including post-effective amendments, and all material incorporated by reference or deemed to be incorporated by reference in such Prospectus.

"Put Period" means a period of sixty (60) days commencing at the time each Registrable Security is delivered to a Holder pursuant to the Promissory Notes.

"Puttable Securities" shall have the meaning set forth in Section 2(b).

"Registrable Securities" means any Security except any Security which (i) has been effectively registered under the Securities Act and sold in a manner contemplated by a Registration Statement or (ii) has been transferred in compliance with Rule 144 or is transferable pursuant to paragraph (k) of Rule 144.

"Registration Statement" means the registration statement required to be filed hereunder including the Prospectus, amendments and supplements to such registration statement or Prospectus, including pre- and post-effective amendments, all exhibits thereto, and all material incorporated by reference or deemed to be incorporated by reference in such registration statement.

"Rule 144" means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"Rule 415" means Rule 415 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"Rule 424" means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

"Security" and "Securities" means all or any portion of the shares of Common Stock issued or issuable from time to time in exchange for any amounts due under the Promissory Notes; and any securities issued successively in exchange for or in respect of any of the foregoing, whether pursuant to a merger or consolidation, as a result of any successive stock split or reclassification of, or stock dividend on, any of the foregoing or otherwise.

"Securities Act" means the United States Securities Act of 1933, as amended.

"Special Counsel" means Sullivan & Cromwell, special counsel to the Investor, for so long as the Investor shall be a Holder or a Note Holder.

"Stock Purchase Agreement" shall have the meaning set forth in the recitals hereto.

"Trading Market" means the Nasdaq National Market or any national securities exchange, market or trading or quotation facility on which the Common Stock is then listed or quoted.

2. REGISTRATION.

(a) On or prior to the Filing Date, the Company shall prepare and file with the Commission a Registration Statement covering the offer and sale of all Registrable Securities for an offering to be made on a continuous or delayed basis by the Holders pursuant to Rule 415 (if the Company files such Registration Statement without affording the Holders the opportunity to review and comment on the same as required by Section 3(a) hereof, the Company shall not be deemed to have satisfied this requirement). The Registration Statement shall be on Form S-3 (except if such form is not then available to the Company, in which case such registration shall be on another appropriate form in accordance herewith) and shall contain (except if otherwise directed by the Holders) the "Plan Of Distribution" attached hereto as Annex A. The Company shall use commercially reasonable efforts to cause the Registration Statement to be declared effective under the Securities Act prior to the Effectiveness Date, and shall use commercially reasonable efforts to keep the Registration Statement continuously effective under the Securities Act for so long as there shall remain outstanding any Registrable Securities or any principal or interest is outstanding under the Promissory Notes (the "Effectiveness Period"); provided, that the Company shall not be deemed to have used its commercially reasonable efforts to keep the Registration Statement effective during the Effectiveness Period if it voluntarily takes any action that would result in the Holders not being able to sell the Registrable Securities covered by such Registration Statement during the Effectiveness Period, unless such action is required under applicable law or the Company has filed a post-effective amendment to the Registration Statement and the Commission has not declared it effective.

(b) If, at any time during a Put Period, (i) a Registration Statement ceases to be effective as to all Registrable Securities to which it is required to relate at any time prior to the expiration of the Effectiveness Period without being succeeded within ten Trading Days, or if it would be Materially Detrimental, twenty Trading Days, by an amendment to such Registration Statement or by a subsequent Registration Statement filed with and declared effective by the Commission, (ii) an amendment to a Registration Statement is not filed by the Company with the Commission within ten Trading Days or if it would be Materially Detrimental, twenty Trading Days, of the Commission's notifying the Company that such amendment is required in order for such

Registration Statement to be declared effective, (iii) the Common Stock is not listed or quoted, or is suspended from trading, on the Trading Market for a period of three Trading Days in such Put Period (which need not be consecutive Trading Days) or (iv) the Company at any time fails to comply with Section 3(l) hereof (any such failure or breach being referred to as an "Event" and for purposes of clauses (i) and (ii) the date on which the applicable Trading Day-period is exceeded, or for purposes of clause (iii) the date on which such three Trading Day period is exceeded, or for purposes of clause (iv) the date on which the Company fails to comply with Section 3(l) hereof, being referred to as an "Event Date"), then each Holder, in addition to such other remedies as may be available at law, in equity or hereunder, shall have the right, at such Holder's option, to sell to the Company all or a portion of the Registrable Securities delivered to such Holder at the commencement of, or at any time during, the Put Period (such Registrable Securities being referred to herein as the "Puttable Securities") on the following terms and conditions:

(A) The Company shall deliver each Holder written notice of each Event within three (3) days of such Event (the date of delivery of such notice is referred to herein as the "Event Notice Date").

(B) Each Holder may exercise its option to sell Puttable Securities to the Company under this Section 2(b) at any time during the period commencing on the Event Date and ending on the date that is thirty (30) days after the Event Notice Date, by providing written notice of such exercise to the Company (the "Exercise Notice"), which notice shall include the number of Puttable Securities such Holder elects to sell to the Company pursuant to this Section 2(b) (the "Option Shares"). The delivery of an Exercise Notice by a Holder shall constitute an irrevocable commitment by such Holder to sell, and a binding obligation of the Company to purchase, such Holder's Option Shares on the terms and subject to the conditions set forth in this Section 2(b).

(C) The purchase price per Option Share to be sold to the Company under this Section 2(b) shall be the Option Price as of the date of the Exercise Notice.

(D) The Company shall reimburse each Holder for any and all fees and expenses, including reasonable legal fees and expenses, incurred pursuant to the exercise or the attempted exercise of such Holder's rights under this Section 2(b).

(E) The Company shall, within three (3) days of receipt of an Exercise Notice and receipt of the certificate or certificates for the Option Shares to be sold by a Holder under this Section 2(b), pay to the Holder the aggregate purchase price therefor and the amount of fees and expenses reimbursable under this Agreement in lawful tender of the United States in immediately available funds.

3. REGISTRATION PROCEDURES.

In connection with the Company's registration obligations hereunder, the Company shall:

(a) Not less than (i) five Trading Days prior to the filing of the Registration Statement or any related Prospectus, (ii) three Trading Days prior to the filing of any pre-effective or post effective amendment to the Registration Statement or (iii) one Trading Day prior to the filing of any supplement to the Registration Statement (other than a prospectus supplement the principal purpose of which is to update the list of selling stock holders), the Company shall, (A) furnish to the Holders (or, if there is no Holder, the Note Holders) and the Special Counsel copies of all such documents proposed to be filed (including documents incorporated by reference and not available on the EDGAR system) which documents will be subject to the review of such Holders (or, if there is no Holder, the Note Holders) and the Special Counsel, and (B) cause its officers and directors, counsel and independent certified public accountants to respond to such inquiries as shall be necessary to conduct a reasonable investigation within the meaning of the Securities Act. The Company shall not file the Registration Statement or any such Prospectus or any amendments or supplements thereto to which the Holders of a majority of the Registrable Securities (or, if there is no Holder, the Note Holders) and the Special Counsel shall reasonably object in good faith.

(b) (i) Prepare and file with the Commission such amendments, including post-effective amendments, to the Registration Statement and the Prospectus used in connection therewith as may be necessary to keep the Registration Statement continuously effective as to the applicable Registrable Securities for the Effectiveness Period and prepare and file with the Commission such additional Registration Statements in order to register for resale under the Securities Act all of the Registrable Securities; (ii) cause the related Prospectus to be amended or supplemented by any required Prospectus supplement, and as so supplemented or amended to be filed pursuant to Rule 424; (iii) respond as promptly as reasonably possible, and in any event within ten Trading Days, to any comments received from the Commission with respect to the Registration Statement or any amendment thereto and, as promptly as reasonably possible provide the Holders (or, if there is no Holder, the Note Holders) true and complete copies of all correspondence from and to the Commission relating to the Registration Statement; and (iv) promptly take such action as may be necessary so that each of the Registration Statement and any amendment thereto and the Prospectus and any amendment or supplement thereto comply in all material respects with the provisions of the Securities Act and the Exchange Act and the respective rules and regulations thereunder.

(c) Notify the Holders of Registrable Securities to be sold (or, if there is no Holder, the Note Holders) and the Special Counsel as promptly as reasonably possible (and, in the case of a post-effective amendment provided for in (i)(A) below, not less than three Trading Days prior to such filing) and (if requested by any such Person) confirm such notice in writing no later than one Trading Day following the day (i)(A)

when a Prospectus or any Prospectus supplement (other than a prospectus supplement the principal purpose of which is to update the list of selling stock holders) or post-effective amendment to the Registration Statement is proposed to be filed; (B) when the Commission notifies the Company whether there will be a "review" of such Registration Statement and whenever the Commission comments in writing on such Registration Statement (the Company shall provide true and complete copies thereof and all written responses thereto to each of the Holders); and (C) with respect to the Registration Statement or any post-effective amendment, when the same has become effective; (ii) of any request by the Commission or any other Federal or state governmental authority for amendments or supplements to the Registration Statement or Prospectus or for additional information; (iii) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement covering any or all of the Registrable Securities or the initiation of any Proceedings for that purpose; (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Registrable Securities for sale in any jurisdiction, or the initiation or threatening of any Proceeding for such purpose; and (v) of the occurrence of any event or passage of time that makes the financial statements included in the Registration Statement ineligible for inclusion therein or any statement made in the Registration Statement or Prospectus or any document incorporated or deemed to be incorporated therein by reference and not superseded untrue in any material respect or that requires any post-effective amendment to the Registration Statement or Prospectus so that, in the case of the Registration Statement or the Prospectus, as the case may be, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(d) Use its commercially reasonable efforts to avoid the issuance of, or, if issued, obtain the withdrawal of (i) any Commission order suspending the effectiveness of the Registration Statement, or (ii) any suspension of the qualification (or exemption from qualification) of any of the Registrable Securities for sale in any jurisdiction, at the earliest practicable moment.

(e) Furnish to each Note Holder and each Holder and the Special Counsel, without charge (i) at least one conformed copy of each Registration Statement and each amendment thereto, including financial statements and schedules and (ii) all documents incorporated or deemed to be incorporated therein by reference, and all exhibits to the extent requested by such Person (including those previously furnished or incorporated by reference) promptly after the filing of such documents with the Commission; provided, that the Company shall have no obligation to provide any document that is available on the EDGAR system.

(f) Subject to the provisions of Sections 3(c) and 6(d), the Company (i) shall promptly deliver to each Note Holder and each Holder and the Special Counsel, without charge, as many copies of the Prospectus or Prospectuses (including each form of prospectus) and each amendment or supplement thereto as such Persons may reasonably

request, and (ii) hereby consents to the use of such Prospectus and each amendment or supplement thereto by each of the selling Holders in connection with the offering and sale of the Registrable Securities covered by such Prospectus and any amendment or supplement thereto.

(g) Prior to any public offering of Registrable Securities, use its commercially reasonable efforts to register or qualify or cooperate with the selling Holders and the Special Counsel in connection with the registration or qualification (or exemption from such registration or qualification) of such Registrable Securities for offer and sale under the securities or Blue Sky laws of such jurisdictions within the United States as any Holder reasonably requests in writing, to keep each such registration or qualification (or exemption therefrom) effective during the Effectiveness Period and to do any and all other acts or things necessary or advisable to enable the disposition in such jurisdictions of the Registrable Securities covered by a Registration Statement; provided, that the Company shall not be required to qualify generally to do business in any jurisdiction where it is not then so qualified or subject the Company to any material tax in any such jurisdiction where it is not then so subject.

(h) Cooperate with the Holders to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be delivered to a transferee pursuant to a Registration Statement, which certificates shall be free of all restrictive legends, and to enable such Registrable Securities to be in such denominations and registered in such names as any such Holders may request.

(i) Upon the occurrence of any event contemplated by Section 3(c)(v), as promptly as reasonably possible, prepare a supplement or amendment, including a post-effective amendment, to the Registration Statement or a supplement to the related Prospectus or any document incorporated or deemed to be incorporated therein by reference, and file any other required document so that, as thereafter delivered, neither the Registration Statement nor such Prospectus will contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(j) Comply with all applicable rules and regulations of the Commission, and make generally available to its securityholders as soon as practicable, but in any event not later than eighteen months after (i) the effective date (as defined in Rule 158(c) under the Securities Act) of the Registration Statement, (ii) the effective date of each post-effective amendment to the Registration Statement, and (iii) the date of each filing by the Company with the Commission of an Annual Report on Form 10-K that is incorporated by reference in the Registration Statement, an earning statement of the Company and its subsidiaries complying with Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder (including, at the option of the Company, Rule 158).

(k) The Company may require each selling Holder to furnish to the Company a certified statement as to the number of shares of Common Stock beneficially owned by such Holder and, if requested by the Commission, the controlling person thereof.

(l) Notwithstanding any provision to the contrary contained in this Agreement, keep the Registration Statement continuously effective for a period of not less than sixty (60) days from each time of delivery of Registrable Securities pursuant to the Promissory Note and ensure that such Registration Statement and the related Prospectus are continuously usable during such period for resales by the Holders of Common Stock.

(m) Use its commercially reasonable efforts to take all other steps necessary to effect the registration and offering of the Registrable Securities covered by the Registration Statement contemplated hereby.

4. REGISTRATION EXPENSES.

All fees and expenses incident to the performance of or compliance with this Agreement by the Company shall be borne by the Company whether or not any Registrable Securities are sold pursuant to the Registration Statement. The fees and expenses referred to in the foregoing sentence shall include, without limitation, (i) all registration and filing fees (including, without limitation, fees and expenses (A) with respect to filings required to be made with the Trading Market on which the Common Stock is then listed for trading, and (B) in compliance with applicable state securities or Blue Sky laws), (ii) printing expenses (including, without limitation, expenses of printing certificates for Registrable Securities and of printing prospectuses if the printing of prospectuses is reasonably requested by the holders of a majority of the Registrable Securities included in the Registration Statement), (iii) messenger, telephone and delivery expenses, (iv) fees and disbursements of counsel for the Company, (v) Securities Act liability insurance, if the Company so desires such insurance, and (vi) fees and expenses of all other Persons retained by the Company in connection with the consummation of the transactions contemplated by this Agreement. In addition, the Company shall be responsible for all of its internal expenses incurred in connection with the consummation of the transactions contemplated by this Agreement (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit and the fees and expenses incurred in connection with the listing of the Registrable Securities on any securities exchange as required hereunder.

5. INDEMNIFICATION.

(a) Indemnification by the Company. The Company shall, notwithstanding any termination of this Agreement, indemnify and hold harmless each Holder, the officers, directors, agents, brokers (including brokers who offer and sell Registrable Securities as principal as a result of a pledge or any failure to perform under a

margin call of Common Stock), investment advisors and employees of each of them, each Person who controls any such Holder (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) and the officers, directors, agents and employees of each such controlling Person, to the fullest extent permitted by applicable law, from and against any and all losses, claims, damages, liabilities, costs (including, without limitation, reasonable costs of preparation and reasonable attorneys' fees) and expenses (collectively, "Losses"), as incurred, arising out of or relating to any untrue or alleged untrue statement of a material fact contained in the Registration Statement, any Prospectus or in any amendment or supplement thereto or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading, except to the extent, but only to the extent, that (i) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in the Registration Statement, such Prospectus or in any amendment or supplement thereto (it being understood that the Holder has approved Annex A hereto for this purpose) or (ii) the use by such Holder of an outdated or defective Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated or defective and prior to the receipt by such Holder of the Advice contemplated in Section 6(d). The Company shall notify the Holders promptly of the institution, threat or assertion of any Proceeding of which the Company is aware in connection with the transactions contemplated by this Agreement.

(b) Indemnification by Holders. Each Holder shall, severally and not jointly, indemnify and hold harmless the Company, its directors, officers, agents and employees, each Person who controls the Company (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents or employees of such controlling Persons, to the fullest extent permitted by applicable law, from and against all Losses, as incurred, arising solely out of or based solely upon: (i) such Holder's failure to comply with the prospectus delivery requirements of the Securities Act (provided that the Company has delivered a Prospectus to such Holder or a Prospectus is otherwise available via the EDGAR system) or (ii) any untrue statement of a material fact contained in any Registration Statement, any Prospectus, or in any amendment or supplement thereto, or arising solely out of or based solely upon any omission of a material fact required to be stated therein or necessary to make the statements therein not misleading to the extent, but only to the extent, that such untrue statement or omission is contained in any information so furnished in writing by such Holder to the Company specifically for inclusion in such Registration Statement or such Prospectus or to the extent that (A) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and

was reviewed and expressly approved in writing by such Holder expressly for use in the Registration Statement (it being understood that the Holder has approved Annex A hereto for this purpose), such Prospectus or in any amendment or supplement thereto or (B) the use by such Holder of an outdated or defective Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated or defective and prior to the receipt by such Holder of the Advice contemplated in Section 6(d). In no event shall the liability of any selling Holder hereunder be greater in amount than the dollar amount of the net proceeds received by such Holder upon the sale of the Registrable Securities giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. If any Proceeding shall be brought or asserted against any Person entitled to indemnity hereunder (an "Indemnified Party"), such Indemnified Party shall promptly notify the Person from whom indemnity is sought (the "Indemnifying Party") in writing, and the Indemnifying Party shall assume the defense thereof, including the employment of counsel reasonably satisfactory to the Indemnified Party and the payment of all fees and expenses incurred in connection with defense thereof; provided, that the failure of any Indemnified Party to give such notice shall not relieve the Indemnifying Party of its obligations or liabilities pursuant to this Agreement, except (and only) to the extent that such failure shall have proximately and materially adversely prejudiced the Indemnifying Party. An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless: (i) the Indemnifying Party has agreed in writing to pay such fees and expenses; (ii) the Indemnifying Party shall have failed promptly to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding; or (iii) the named parties to any such Proceeding (including any impleaded parties) include both such Indemnified Party and the Indemnifying Party, and such Indemnified Party shall have been advised in writing by counsel that a conflict of interest is likely to exist if the same counsel were to represent such Indemnified Party and the Indemnifying Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and such counsel shall be at the expense of the Indemnifying Party); provided, that the Indemnifying Party shall not be liable for the fees and expenses of more than one separate firm of attorneys at any time for all indemnified parties. The Indemnifying Party shall not be liable for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding. All fees and expenses of the Indemnified Party (including reasonable fees and expenses to the extent incurred in connection with investigating or preparing to defend such Proceeding in a manner not inconsistent with this Section) shall be paid to the Indemnified Party, as incurred, within

ten Trading Days of written notice and reasonable documentation thereof to the Indemnifying Party (regardless of whether it is ultimately determined that an Indemnified Party is not entitled to indemnification hereunder; provided, that the Indemnified Party shall reimburse all such fees and expenses to the extent it is finally judicially determined that such Indemnified Party is not entitled to indemnification hereunder).

(d) Contribution. If a claim for indemnification under Section 5(a) or 5(b) is unavailable to an Indemnified Party (by reason of public policy or otherwise), then each Indemnifying Party, in lieu of indemnifying such Indemnified Party, shall contribute to the amount paid or payable by such Indemnified Party as a result of such Losses, in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party and Indemnified Party in connection with the actions, statements or omissions that resulted in such Losses as well as any other relevant equitable considerations. The relative fault of such Indemnifying Party and Indemnified Party shall be determined by reference to, among other things, whether any action in question, including any untrue or alleged untrue statement of a material fact or omission or alleged omission of a material fact, has been taken or made by, or relates to information supplied by, such Indemnifying Party or Indemnified Party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such action, statement or omission. The amount paid or payable by a party as a result of any Losses shall be deemed to include, subject to the limitations set forth in Section 5(c), any reasonable attorneys' or other reasonable fees or expenses incurred by such party in connection with any Proceeding to the extent such party would have been indemnified for such fees or expenses if the indemnification provided for in this Section was available to such party in accordance with its terms. The parties hereto agree that it would not be just and equitable if contribution pursuant to this Section 5(d) were determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to in this Section 5(d). No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. Notwithstanding the provisions of this Section 5(d), no Holder shall be required to contribute, in the aggregate, any amount in excess of the amount by which the proceeds actually received by such Holder from the sale of the Registrable Securities subject to the Proceeding exceeds the amount of any damages that such Holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission.

(e) The indemnity and contribution agreements contained in this Section 5 are in addition to any liability that the Indemnifying Parties may have to the Indemnified Parties. The remedies provided in this Section 5 are not exclusive and shall not limit any rights or remedies which may otherwise be available to an indemnified party at law or in equity.

6. MISCELLANEOUS.

(a) Remedies. In the event of a breach by the Company or by the Investor or by a Holder of any of their obligations under this Agreement, the Investor, each Holder or the Company, as the case may be, in addition to being entitled to exercise all rights granted by law and under this Agreement, including recovery of damages, will be entitled to specific performance of its rights under this Agreement. The Company, the Investor and each Holder agree that monetary damages would not provide adequate compensation for any losses incurred by reason of a breach by it of any of the provisions of this Agreement and hereby further agrees that, in the event of any action for specific performance in respect of such breach, it shall waive the defense that a remedy at law would be adequate.

(b) No Piggyback on Registrations. Neither the Company nor any of its security holders (other than the Holders in such capacity pursuant hereto) may include securities of the Company in the Registration Statement other than the Registrable Securities, and the Company shall not after the date hereof enter into any agreement providing any such right to any of its security holders.

(c) Compliance. Each Holder covenants and agrees that it will comply with the prospectus delivery requirements of the Securities Act as applicable to it in connection with sales of Registrable Securities pursuant to the Registration Statement, provided that the Company has delivered a Prospectus to such Holder or a Prospectus is otherwise available via the EDGAR system.

(d) Discontinued Disposition. Each Holder agrees by its acquisition of such Registrable Securities that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 3(c) but subject to Section 3(l), such Holder will forthwith discontinue disposition of such Registrable Securities under the Registration Statement until such Holder's receipt of the copies of the supplemented Prospectus and/or amended Registration Statement or until it is advised in writing (the "Advice") by the Company that the use of the applicable Prospectus may be resumed, and, in either case, has received copies of any additional or supplemental filings that are incorporated or deemed to be incorporated by reference in such Prospectus or Registration Statement. The Company may provide appropriate stop orders to enforce the provisions of this paragraph.

(e) Piggy-Back Registrations. If at any time during the Effectiveness Period there is not an effective Registration Statement covering all of the Registrable Securities and the Company shall determine to prepare and file with the Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its equity securities, other than on Form S-4 or Form S-8 (each as promulgated under the Securities Act) or their then equivalents relating to equity securities to be issued solely in connection with any acquisition of any entity or business or equity securities issuable in connection with stock option or other employee

benefit plans, then the Company shall send to each Holder written notice of such determination and, if within fifteen days after receipt of such notice, any such Holder shall so request in writing, the Company shall include in such registration statement all or any part of such Registrable Securities such holder requests to be registered, subject to customary underwriter cutbacks applicable to all holders of registration rights.

(f) Amendments and Waivers. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given, unless the same shall be in writing and signed by the Company and the Holders of the then outstanding Registrable Securities (or, if there is no Holder, the Note Holders). Notwithstanding the foregoing, a waiver or consent to depart from the provisions hereof with respect to a matter that relates exclusively to the rights of certain Holders and that does not directly or indirectly affect the rights of other Holders may be given by Holders of at least a majority of the Registrable Securities to which such waiver or consent relates; provided, however, that the provisions of this sentence may not be amended, modified, or supplemented except in accordance with the provisions of the immediately preceding sentence.

(g) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile telephone number specified in this Section prior to 6:30 p.m. (New York City time) on a Trading Day, (ii) the Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile telephone number specified in this Agreement later than 6:30 p.m. (New York City time) on any date and earlier than 11:59 p.m. (New York City time) on such date, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as follows:

If to the Company:	HYSEQ, Inc. 670 Almanor Avenue, Sunnyvale, California 94085 Facsimile No.: (408) 524-8141 Attn: General Counsel
With a copy to:	Latham & Watkins 135 Commonwealth Drive Menlo Park, California 94025 Attn: Alan C. Mendelson Facsimile No.: (650) 463-2600

If to the Investor: Affymetrix, Inc.
3380 Central Expressway
Santa Clara, California 95051
Attn: General Counsel
Facsimile No.:

With a copy to: Sullivan & Cromwell
1870 Embarcadero Road
Palo Alto, California 94303
Attention: John L. Savva, Esq.
Facsimile No.: (650) 461-5700

If to any other Person who is then a registered Holder:

To the address of such Holder as it appears in the stock transfer books of the Company or such other address as may be designated in writing hereafter, in the same manner, by such Person.

(h) Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of each of the parties and shall inure to the benefit of each Holder. The Company may not assign its rights or obligations hereunder without the prior written consent of each Holder of the then outstanding Registrable Securities (or, if there is no Holder, the Note Holders). Each Note Holder and each Holder may assign their respective rights hereunder in the manner and to the Persons as permitted under the Promissory Notes.

(i) Execution and Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same Agreement. In the event that any signature is delivered by facsimile transmission, such signature shall create a valid binding obligation of the party executing (or on whose behalf such signature is executed) the same with the same force and effect as if such facsimile signature were the original thereof.

(j) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein

(including with respect to the enforcement of this Agreement), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, or such New York Courts are an improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Each party hereto (including its affiliates, agents, officers, directors and employees) hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby. If either party shall commence an action or proceeding to enforce any provisions of this Agreement, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(k) Cumulative Remedies. The remedies provided herein are cumulative and not exclusive of any remedies provided by law.

(l) Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

(m) Headings. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(n) Survival. The respective indemnities, agreements, representations, warranties and other provisions set forth in this Agreement or made pursuant hereto shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of any Holder, any director, officer or partner of such Holder, any agent or underwriter, any director, officer or partner of such agent or underwriter, or any controlling person of any of the foregoing, and shall survive the transfer and registration of the Registrable Securities of such Holder.

(o) Independent Nature of Holders' Obligations and Rights. The obligations of each Holder hereunder is several and not joint with the obligations of any other Holder hereunder, and no Holder shall be responsible in any way for the performance of the obligations of any other Holder hereunder. Nothing contained herein or in any other agreement or document delivered at any closing, and no action taken by any Holder pursuant hereto or thereto, shall be deemed to constitute the Holders as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Holders are in any way acting in concert with respect to such obligations or the transactions contemplated by this Agreement. Each Holder shall be entitled to protect and enforce its rights, including without limitation the rights arising out of this Agreement, and it shall not be necessary for any other Holder to be joined as an additional party in any proceeding for such purpose.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGES TO FOLLOW]

IN WITNESS WHEREOF, the parties have executed this Registration Rights Agreement as of the date first written above.

HYSEQ, INC.

By /s/ PETER S. GARCIA

Name: Peter S. Garcia
Title: Sr. VP & CFO

AFFYMETRIX, INC.

By: /s/ BARBARA A. CAULFIELD

Name: Barbara A. Caulfield
Title: Exec. V.P. and General Counsel

PLAN OF DISTRIBUTION

The common stock is being registered to permit public secondary trading of these securities by the holders thereof from time to time after the date of this prospectus. The Company will not receive any of the proceeds from the offering of the common stock by selling securityholders.

The selling securityholders, including their pledgees or donees, may sell the common stock directly to purchasers or through underwriters, broker-dealers or agents. If the common stock is sold through underwriters or broker-dealers, the selling securityholder will be responsible for underwriting discounts or commissions or agent's commissions. These discounts, concessions or commissions as to any particular underwriter, broker-dealer or agent may be in excess of those customary in the types of transactions involved.

The common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of sale, at varying prices determined at the time of sale, or at negotiated prices. Such sales may be effected in transactions, which may involve block transactions:

- on any national securities exchange or quotation service on which the common stock may be listed or quoted at the time of sale;

- in the over-the-counter market;

- in transactions otherwise than on such exchanges or services or in the over-the-counter market; or

- through the writing of options.

In connection with sales of the common stock or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling securityholders may also sell short the common stock and deliver the common stock to close out short positions, or loan or pledge the common stock to broker-dealers that in turn may sell such securities.

The aggregate proceeds to the selling securityholders from the sale of the common stock offered by them hereby will be the purchase price of the common stock less discounts and commissions, if any. Each of the selling securityholders reserves the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. The Company will not receive any of the proceeds from this offering.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

The selling securityholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock may be "underwriters" within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling securityholders who are "underwriters" within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act. The selling securityholders have acknowledged that they understand their obligations to comply with the provisions of the Exchange Act and the rules thereunder relating to stock manipulation, particularly Regulation M.

In addition, any securities covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus. A selling securityholder may not sell any common stock described in this prospectus and may not transfer, devise or gift these securities by other means not described in this prospectus.

To the extent required, the specific common stock to be sold, the names of the selling securityholders, the respective purchase prices and public offering prices, the names of any agent, dealer or underwriter and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement of which this prospectus is a part.

The Company entered into a registration rights agreement for the benefit of the selling securityholders to register their common stock under applicable federal and state securities laws under specific circumstances and at specific times. The registration rights agreement provides for cross-indemnification of the selling securityholders and the Company and their and the Company's respective directors, officers and controlling persons against specific liabilities in connection with the offer and sale of the common stock, including liabilities under the Securities Act. The Company has agreed, among other things, to bear all expenses (other than underwriting discounts and selling commissions) in connection with the registration and sale of the common stock covered by this prospectus.

EXHIBIT 4.10

PLEDGE AND SECURITY AGREEMENT

PLEDGE AND SECURITY AGREEMENT, dated as of November 13, 2001, between HYSEQ, INC., a Nevada corporation ("Pledgor"), and AFFYMETRIX, INC., a Delaware corporation ("Affymetrix").

WITNESSETH:

WHEREAS, pursuant to the Preferred Stock Purchase Agreement, dated as of the date hereof (the "Stock Purchase Agreement"), by and among Callida Genomics, Inc., a Delaware corporation, Affymetrix and Pledgor, Affymetrix has agreed to extend credit to the Pledgor pursuant to one or more Promissory Notes of the Pledgor (collectively, the "Promissory Notes"); and

WHEREAS, the purchase of the Promissory Notes by Affymetrix is conditioned upon the execution and delivery by Pledgor of this Pledge and Security Agreement to secure the due and punctual payment of the obligations of Pledgor to Affymetrix described below.

NOW THEREFORE, the parties hereto agree as follows:

1. Pledgor's Grant of Security Interest in Collateral. For value received and to induce Affymetrix to extend credit to Pledgor pursuant to the Promissory Notes, Pledgor hereby grants to Affymetrix, as security for all obligations and liabilities of Pledgor on account of principal, interest and all other obligations and liabilities pursuant to the Promissory Notes (the "Obligations"), a security interest in Pledgor's right, title and interest in the property described in Schedule A hereto (collectively referred to as the "Collateral").

2. Delivery of Collateral. Any Pledged Securities (as defined in Schedule A hereto) shall be evidenced by certificates, all of which shall be delivered to and held in the possession of Affymetrix or a third party acting on its behalf pursuant hereto. Upon delivery to Affymetrix, any Pledged Securities in certificated form shall be in suitable form for transfer by delivery or shall be accompanied by duly executed instruments of transfer or assignment in blank, all in form and substance reasonably satisfactory to Affymetrix.

3. Warranties, Covenants and Agreements of Pledgor. Pledgor warrants, covenants and agrees that:

(a) Pledgor has full corporate power and authority to enter into this Pledge and Security Agreement and to grant to Affymetrix a security interest therein as herein provided, all of which have been duly authorized by all necessary corporate action; the execution and delivery and the performance hereof are not in contravention of any charter or by-law provision or of any indenture, agreement or undertaking to which Pledgor is a party or by which Pledgor or its property are bound; this Pledge and Security Agreement constitutes the valid and legally binding obligation of Pledgor enforceable in accordance with its terms, subject, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or

affecting creditors' rights and, as to enforcement, to general equity principles; and Pledgor owns the Collateral free and clear of any lien, claim or encumbrance.

(b) (i) As long as any amount remains unpaid on any of the Obligations or any additional borrowings may be made by Pledgor under any agreements entered into in connection with the Obligations, except as expressly permitted by any such agreements, (a) Pledgor will not enter into or execute any security agreement or any financing statement covering the Collateral, other than those security agreements and financing statements in favor of Affymetrix hereunder, and further (b) Pledgor shall not file in any public office any financing statement or statements (or any documents or papers filed as such) covering the Collateral, other than financing statements in favor of Affymetrix hereunder, unless in any case the prior written consent of Affymetrix shall have been obtained.

(ii) Pledgor authorizes Affymetrix to file, in its discretion, in jurisdictions where this authorization will be given effect, a financing statement signed only by Affymetrix covering the Collateral, and hereby appoints Affymetrix as Pledgor's attorney-in-fact to sign and file any such financing statements covering the Collateral. At the request of Affymetrix, Pledgor will join Affymetrix in executing such documents as Affymetrix may reasonably determine, from time to time to be necessary or desirable under provisions of any applicable Uniform Commercial Code in effect where the Collateral is located or where Pledgor conducts business; without limiting the generality of the foregoing, Pledgor agrees to join Affymetrix, at Affymetrix' request, in executing one or more financing statements in form reasonably satisfactory to Affymetrix, and Pledgor will pay the costs of filing or recording the same, or of filing or recording this Pledge and Security Agreement, in all public offices at any time and from time to time, whenever filing or recording of any such financing statement or of this Pledge and Security Agreement is deemed by Affymetrix to be necessary or desirable. In connection with the foregoing, it is agreed and understood between the parties hereto (and Affymetrix is hereby authorized to carry out and implement this agreement and understanding and Pledgor hereby agrees to pay the costs thereof) that Affymetrix may, at any time or times, file as a financing statement any counterpart, copy or reproduction of this Pledge and Security Agreement.

4. Rights of Affymetrix and Pledgor Related to Collateral. Affymetrix may from time to time:

(a) At any time, with respect to Pledged Securities (upon execution of the documentation requested by Pledgor in accordance with Section 4(d)(ii) hereof) and following the occurrence and during the continuance of an Event of Default, in the case of all other Collateral, transfer any of the Collateral into the name of Affymetrix or its nominee.

(b) Following the occurrence of an Event of Default, notify parties obligated on any of the Collateral to make payment to Affymetrix of any amounts due or to become due thereunder.

(c) Following the occurrence of an Event of Default, enforce collection of any of the Collateral by suit or otherwise; surrender, release or exchange all or any part thereof,

or compromise or extend or renew for any period (whether or not longer than the original period) any obligation of any nature of any party with respect thereto in a commercially reasonable manner; and exercise all other rights of Pledgor in any of the Collateral, except as hereinafter provided with respect to income from or interest on the Collateral.

(d) Following the occurrence and during the continuance of an Event of Default, take possession or control of any proceeds of the Collateral.

Until the occurrence of an Event of Default Pledgor shall have the right to receive all income from or interest on the Collateral, and if Affymetrix receives any such income or interest prior to the occurrence of an Event of Default, Affymetrix shall pay the same promptly to Pledgor, except that in the case of securities or other property distributed by way of a dividend or otherwise with respect to the Collateral, such securities or other property shall be promptly delivered to Affymetrix in the manner described in Section 2 hereof to be held as Pledged Securities or other Collateral hereunder. Upon the occurrence and during the continuance of an Event of Default, if Pledgor receives any income or interest on the Collateral, the same shall be held by Pledgor in trust for Affymetrix in the same medium in which received, shall not be commingled with any assets of Pledgor and shall be delivered to Affymetrix in the form received, properly endorsed to permit collection, not later than the next business day following the day of its receipt. Affymetrix shall apply the net cash received from such income or interest to payment of any of the Obligations, provided that Affymetrix shall account for and pay over to Pledgor any such income or interest remaining after payment in full of the Obligations then outstanding.

So long as no Event of Default shall have occurred and be continuing:

(i) The Pledgor shall be entitled to exercise any and all voting and other consensual rights pertaining to the Collateral or any part thereof for any purpose not inconsistent with the terms of this Pledge and Security Agreement or the Promissory Notes; provided, however, that Pledgor shall not take any action which materially and adversely affects the value of the Collateral or Pledgor's ability to repay the Promissory Notes.

(ii) Affymetrix shall execute and deliver (or cause to be executed and delivered) to Pledgor all such proxies and other instruments as Pledgor may reasonably request for the purpose of enabling Pledgor to exercise the voting and other rights which it is entitled to exercise pursuant to paragraph (i).

Affymetrix shall be under no obligation to collect, attempt to collect, protect or enforce the Collateral or any security therefor, which Pledgor agrees and undertakes to do at Pledgor's expense, but Affymetrix may do so in its reasonable discretion at any time after the occurrence and during the continuance of an Event of Default and at such time Affymetrix shall have the right to take any steps not inconsistent with the provisions of the Uniform Commercial Code and this Pledge and Security Agreement, by judicial process or otherwise, it may deem proper to effect the collection of all or any portion of the Collateral or to protect or to enforce the Collateral or any security therefor. All reasonable expenses (including, without limitation, reasonable attorneys' fees and expenses) incurred or paid by Affymetrix in connection

with or incident to any such collection or such attempt to collect the Collateral or such actions to protect or enforce the Collateral or any security therefor shall be borne by Pledgor or reimbursed by Pledgor to Affymetrix upon written request therefor. The proceeds received by Affymetrix as a result of any such actions in collecting or enforcing or protecting the Collateral shall be held by Affymetrix without liability for interest thereon and shall be applied by Affymetrix as provided by Section 9.

In the event Affymetrix shall reasonably pay any taxes, assessments, interests, costs, penalties or expenses incident to or in connection with the collection of the Collateral or protection or enforcement of the Collateral, Pledgor, promptly following written request of Affymetrix, shall pay to Affymetrix the full amount thereof and so long as Affymetrix shall be entitled to any such payment, this Pledge and Security Agreement shall operate as security therefor as fully and to the same extent as it operates as security for payment of the other Obligations secured hereunder, and for the enforcement of such repayment Affymetrix shall have every right and remedy provided for enforcement of payment of the Obligations.

5. Further Assurances; Affymetrix as Agent. Pledgor agrees to take such actions and to execute such stock or bond powers and such other or different writings as Affymetrix may reasonably request (and in the event it shall fail to do so, or if there shall occurred and be continuing an Event of Default, irrevocably authorizes Affymetrix to execute such writings as Pledgor's agent and attorney-in-fact) further to perfect, confirm and assure Affymetrix's security interest in the Collateral pursuant hereto and to assist Affymetrix' realization thereon including, without limitation, the right to receive, indorse, and collect all instruments made payable to Pledgor representing any dividend, interest payment or other distribution in respect of the Collateral or any part thereof to the extent provided herein.

6. Events of Default. The occurrence of any "Event of Default" pursuant to Section 5 of the Promissory Notes constitutes an event of default under this Pledge and Security Agreement (an "Event of Default").

7. Rights and Remedies of Affymetrix Upon Default. If an Event of Default shall have occurred and be continuing:

(a) Affymetrix shall have and may exercise with reference to the Collateral and the Obligations any or all of the rights and remedies of a secured party under the Uniform Commercial Code in effect in the State of California, and as otherwise granted herein or under any other applicable law or under any other agreement now or hereafter in effect executed by Pledgor in favor of Affymetrix, including, without limitation, the right and power to sell, at public or private sale or sales, or otherwise dispose of, or otherwise utilize the Collateral and any part or parts thereof in any manner authorized or permitted under said Uniform Commercial Code after default by a debtor, and to apply the proceeds thereof toward payment of any reasonable costs and expenses and reasonable attorneys' fees and expenses thereby incurred by Affymetrix and toward payment of the Obligations as provided in Section 9. Specifically and without limiting the foregoing, Affymetrix shall have the right to take possession of all or any part of the Collateral, and for such purpose may enter upon any premises upon which any of the Collateral or any security therefor are situated and remove the same therefrom without any

liability for trespass or damages thereby occasioned, if it proceeds without breach of the peace. To the extent permitted by law, Pledgor expressly waives any notice of sale or other disposition of the Collateral and all other rights or remedies of Pledgor or formalities prescribed by law relative to sale or disposition of the Collateral or exercise of any other right or remedy of Affymetrix existing after default hereunder; and to the extent any such notice is required and cannot be waived, Pledgor agrees that if such notice is given in the manner provided in Section 13 hereof at least ten (10) calendar days before the time of the sale or disposition, such notice shall be deemed reasonable and shall fully satisfy any requirement for giving of said notice. Affymetrix shall not be obligated to make any sale of Collateral regardless of notice of sale having been given. Affymetrix may adjourn any public or private sale.

(b) Upon notice by Affymetrix to Pledgor, Affymetrix or its nominee or nominees shall have the sole and exclusive right to exercise all voting and consensual powers pertaining to the Collateral or any part thereof and may exercise such powers in such manner as Affymetrix may elect.

(c) All dividends, payments of interest and other distributions of every character made upon or in respect of the Collateral or any part thereof shall be deemed to be Collateral and shall be paid directly to and shall be held by Affymetrix as additional Collateral pledged under and subject to this Pledge and Security Agreement.

(d) All rights to marshalling of assets of Pledgor, including any such right with respects to the Collateral, are hereby waived by Pledgor.

(e) All recitals in any instrument of assignment or any other instrument executed by Affymetrix incident to sale, lease, transfer, assignment or other disposition, lease or utilization of the Collateral or any part thereof hereunder shall be full proof of the matters stated therein and no other proof shall be requisite to establish full legal propriety of the sale or other action taken by Affymetrix or of any fact, condition or thing incident thereto and all prerequisites of such sale or other action or of any fact, condition or thing incident thereto shall be presumed conclusively to have been performed or to have occurred.

8. Special Provisions for Pledged Securities.

(a) Pledgor hereby acknowledges that the sale by Affymetrix of any Pledged Securities pursuant to the terms hereof in compliance with the Securities Act of 1933 (as now in effect or as hereafter amended, or any similar statute hereafter adopted with similar purpose or effect, the "Securities Act"), as well as applicable Blue Sky or other state securities laws may require strict limitations as to the manner in which Affymetrix or any subsequent transferee of Pledged Securities may dispose of such securities. Pledgor understands that in order to protect Affymetrix's interest it may be necessary to sell the Pledged Securities at a price less than the maximum price attainable if a sale were delayed or were made in another manner, such as a public offering requested under the Securities Act. Pledgor has no objection to sale in such a manner and agrees that Affymetrix shall have no obligation to obtain the maximum possible price for the Pledged Securities.

(b) Pledgor agrees that, upon the occurrence and during the continuance of an Event of Default, if for any reason Affymetrix desires to sell any Pledged Securities at a

public or private sale and in connection with such sale, in the opinion of outside counsel from a nationally recognized U.S. law firm, no exemption from the registration provisions of the Securities Act is available, Pledgor will, upon the written request of Affymetrix and receipt of a written copy of such legal opinion, at Pledgor's own expense:

(i) use its best efforts to cause such Pledged Securities to be registered under the provisions of the Securities Act, and to cause the registration statement relating thereto to become effective and to remain effective for such period as prospectuses are required by law to be furnished, and to make all amendments and supplements thereto and to the related prospectus which, in the opinion of Affymetrix, are necessary or advisable, all in conformity with the requirements of the Securities Act and the rules and regulations of the Securities and Exchange Commission applicable thereto;

(ii) indemnify, defend and hold harmless Affymetrix and any underwriter from and against all losses, liability, reasonable expenses, reasonable costs, reasonable fees and reasonable disbursements of counsel (including, without limitation, a reasonable estimate of the cost to Affymetrix of legal counsel), and claims (including the costs of investigation) which they may incur insofar as such loss, liability, expense or claim arises out of or is based upon any alleged untrue statement of a material fact contained in any prospectus (or any amendment or supplement thereto) or in any notification or offering circular, or arises out of or is based upon any alleged omission to state a material fact required to be stated therein or necessary to make the statements in any thereof not misleading, except insofar as the same may have been caused by any untrue statement or omission based upon information furnished in writing to the Pledgor or the issuer of such Pledged Securities by Affymetrix expressly for use therein;

(iii) use its best efforts to qualify such Pledged Securities under the state securities or "Blue Sky" laws and to obtain all necessary governmental approvals for the sale of such Pledged Securities, as requested by Affymetrix;

(iv) use its best efforts to cause each such issuer of such Pledged Securities to make available to its security holders, as soon as practicable, an earning statement which will satisfy the provisions of Section 11(a) of the Securities Act;

(v) bear all costs and expenses of carrying out its obligations under this Section 8; and

(vi) use its best efforts to do or cause to be done all such other acts and things as may be necessary to make such sale of Pledged Securities or any part thereof valid and binding and in compliance with all applicable law.

Nothing in this subsection (b) shall in any way alter the rights of Affymetrix under subsection (a) above. Pledgor acknowledges that there is no adequate remedy at law for failure by it to comply with the provisions of this Section and that such failure would not be adequately compensable in damages, and therefore agrees that its agreements contained in this Section 8 may be specifically enforced.

9. Application of Proceeds by Affymetrix. In the event Affymetrix sells or otherwise disposes of or realizes on the Collateral in the course of exercising the remedies provided for herein, any amounts held, realized or received by Affymetrix pursuant to the provisions hereof, including the proceeds of the sale of any of the Collateral or any part thereof, shall be applied by Affymetrix first toward the payment of any reasonable costs and expenses incurred by Affymetrix in enforcing this Pledge and Security Agreement, in realizing on or protecting any Collateral and in enforcing or collecting any Obligations or any guaranty thereof, including, without limitation, the actual reasonable attorney's fees and expenses incurred by Affymetrix (all of which costs and expenses are secured by the Collateral), all of which costs and expenses Pledgor agrees to pay, and then between interest and principal as Affymetrix may elect. Any amounts and any Collateral remaining after such application and after payment to Affymetrix of all of the Obligations in full shall be paid or delivered to Pledgor, its successor or assigns, or as a court of competent jurisdiction may direct.

To the fullest extent permitted by applicable law, Affymetrix shall be deemed to have exercised reasonable care in the custody and preservation of the Collateral in its possession if the Collateral is accorded treatment substantially equal to that which Affymetrix accords its own property, it being understood that Affymetrix shall not have any responsibility for (i) ascertaining or taking action with respect to calls, conversions, exchanges, maturities, tenders or other matters relative to any Collateral, whether or not Affymetrix has or is deemed to have knowledge of such matters, or (ii) taking any necessary steps to preserve rights against any parties with respect to any Collateral.

10. Pledgor Fully Liable. This Pledge and Security Agreement shall not be construed as relieving Pledgor from full liability on the Obligations and any and all future and other indebtedness secured hereby and for any deficiency thereon.

11. Termination. This Pledge and Security Agreement and the security interest created hereunder shall terminate when all the Obligations have been indefeasibly paid in full and when Affymetrix has no further obligation to extend credit under the Stock Purchase Agreement, the Promissory Notes or any other written agreement relating to the Obligations, at which time Affymetrix shall execute and deliver to Pledgor all documents which Pledgor shall reasonably request to evidence termination of such security interest and shall return physical possession of any Collateral then held by Affymetrix to Pledgor; provided, however, that all indemnities of the Pledgor contained in this Pledge and Security Agreement shall survive, and remain in full force and effect regardless of the termination of the security interest or this Pledge and Security Agreement.

12. Additional Information. Pledgor agrees to furnish Affymetrix from time to time with such additional information and copies of such documents relating to this Pledge and Security Agreement, the Collateral and the Obligations as Affymetrix may reasonably request.

13. Notices. Any notices and other communications required or permitted under this Pledge and Security Agreement shall be effective if in writing and delivered personally or

sent by telecopier, Federal Express or registered or certified mail, postage prepaid, addressed as follows:

If to Affymetrix, to:	Affymetrix, Inc. 3380 Central Expressway Santa Clara, California 95051 Telephone: (408) 731-5000 Telecopier: (408) 731-5394 Attention: General Counsel
with a copy to(which shall not constitute notice):	Sullivan & Cromwell 1870 Embarcadero Road Palo Alto, California 94303 Telephone: (650) 461-5600 Telecopier: (650) 461-5700 Attention: John L. Savva, Esq.
If to the Pledgor, to:	Hyseq, Inc. 670 Almanor Avenue Sunnyvale, California 94085 Telephone: (408) 524-8100 Telecopier: (408) 524-8141 Attention: General Counsel
with a copy to (which shall not constitute notice):	Latham & Watkins 135 Commonwealth Drive Menlo Park, California 94025 Telephone: (650) 328-4600 Telecopier: (650) 463-1600 Attention: Alan C. Mendelson, Esq.

Unless otherwise specified herein, such notices or other communications shall be deemed effective (a) on the date delivered, if delivered personally, (b) two business days after being sent, if sent by Federal Express or other commercial overnight delivery service, (c) one business day after being sent, if sent by telecopier with confirmation of good transmission and receipt, and (d) three business days after being sent, if sent by registered or certified mail. Each of the parties hereto shall be entitled to specify another address by giving notice as aforesaid to each of the other parties hereto.

14. Indemnity and Expenses. Pledgor agrees to indemnify Affymetrix from and against any and all claims, losses and liabilities growing out of or resulting from this Pledge and Security Agreement (including, without limitation, enforcement of the Promissory Notes or this Pledge and Security Agreement and all claims and demands of all persons at any time claiming the Collateral or any interest therein), except claims, losses or liabilities resulting from Affymetrix's gross negligence or willful misconduct. Pledgor agrees to promptly pay upon written request all reasonable out-of-pocket expenses (including the reasonable fees and

expenses of Affymetrix's counsel, experts and agents) in any way relating to the enforcement or protection of the rights of Affymetrix hereunder and further agrees that the Collateral secures such payment.

15. No Waiver; Cumulative Rights. No failure on the part of Affymetrix to exercise, and no delay in exercising, any right, remedy or power hereunder shall operate as a waiver thereof, nor shall any single or partial exercise by Affymetrix of any right, remedy or power hereunder preclude any other or future exercise of any other right, remedy or power. Each and every right, remedy and power hereby granted to Affymetrix or allowed it by law or other agreement shall be cumulative and not exclusive the one of any other, and may be exercised by Affymetrix from time to time.

16. Submission to Jurisdiction; Waiver of Jury Trial. (a) THIS PLEDGE AND SECURITY AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF CALIFORNIA. TO INDUCE AFFYMETRIX TO ENTER INTO THIS PLEDGE AND SECURITY AGREEMENT, PLEDGOR HEREBY IRREVOCABLY AGREES THAT, SUBJECT TO AFFYMETRIX' SOLE AND ABSOLUTE ELECTION, ALL ACTIONS OR PROCEEDINGS WHICH IN ANY MANNER ARISE OUT OF OR IN CONNECTION WITH OR ARE IN ANY WAY RELATED TO THIS PLEDGE AND SECURITY AGREEMENT SHALL BE LITIGATED IN COURTS HAVING SITUS WITHIN THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA. PLEDGOR HEREBY CONSENTS TO THE JURISDICTION OF ANY STATE OR FEDERAL COURT LOCATED WITHIN THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA. PLEDGOR HEREBY WAIVES ANY RIGHT IT MAY HAVE TO TRANSFER OR CHANGE THE VENUE OF ANY LITIGATION BETWEEN PLEDGOR AND AFFYMETRIX IN ACCORDANCE WITH THIS PARAGRAPH.

(b) EACH OF PLEDGOR AND AFFYMETRIX HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHT TO TRIAL BY JURY IN ANY ACTION OR PROCEEDING WHICH IN ANY MANNER ARISES OUT OF OR IN CONNECTION WITH OR IS IN ANY WAY RELATED TO THIS PLEDGE AND SECURITY AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREIN.

(c) THE PROVISIONS OF THIS SECTION 16 ARE A MATERIAL INDUCEMENT FOR AFFYMETRIX ENTERING INTO THE PROMISSORY NOTES AND THE TRANSACTIONS CONTEMPLATED HEREIN. PLEDGOR HEREBY ACKNOWLEDGES THAT IT HAS REVIEWED THE PROVISIONS OF THIS SECTION 16 WITH ITS COUNSEL.

17. Execution in Counterparts. This Pledge and Security Agreement may be executed in any number of counterparts, each of which shall be an original, but such counterparts shall together constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties have caused this Pledge and Security Agreement to be duly executed as of the date first above written.

HYSEQ, INC.

By /s/ PETER S. GARCIA

Name: Peter S. Garcia
Title: Sr. VP & CFO

AFFYMETRIX, INC.

By: /s/ BARBARA A. CAULFIELD

Name: Barbara A. Caulfield
Title: Exec. V.P. and General Counsel

SCHEDULE A

COLLATERAL

Pledged Securities. All outstanding shares of capital stock (the "Pledged Stock") of Callida Genomics, Inc., a Delaware corporation ("CGI"), held by Pledgor or any affiliate or agent of Pledgor, including, without limitation, 3,600,000 shares of Series A Preferred Stock, par value $0.001 per share, of CGI held by Pledgor on the date hereof and any shares of capital stock of CGI issued to Pledgor or any affiliate or agent of Pledgor in the future pursuant to the Stock Purchase Agreement or otherwise; and

Any securities (together with the Pledged Stock, the "Pledged Securities"), cash or property issued in exchange for the Pledged Securities in a merger, consolidation, reorganization, recapitalization or otherwise, or as a dividend or distribution on the Pledged Securities; and

All additions to and all replacements of and substitutions for any property described on this Schedule A; and

All policies of insurance covering or relating in any manner to any of the property described on this Schedule A, all of which policies are hereby assigned to Affymetrix as security for the Obligations; and

All proceeds (including insurance proceeds) from the sale, destruction, loss, or other disposition of any nature of any of the above; and

All products and produce of any of the above.

COLLABORATION AND LICENSE AGREEMENT

THIS COLLABORATION AND LICENSE AGREEMENT (the "Agreement") is made as of June 29, 2001 (the "Effective Date") by and between AURORA BIOSCIENCES CORPORATION, a Delaware corporation ("Aurora"), and HYSEQ, INC., a Nevada corporation ("Hyseq").

RECITALS

WHEREAS, Aurora and Hyseq wish to enter into a collaboration to (i) screen proteins within Hyseq's [***] protein [***] collection using Aurora's proprietary CellSensor(TM) panel (the "CellSensor Panel") to identify OSPs of interest as potential therapeutics, (ii) generate information that enhances the utility of Hyseq's cDNA collection and database, and (iii) develop assays for and screen, potentially novel drug targets selected from Hyseq's cDNA collection with small molecule compounds of interest; and

WHEREAS, Aurora wishes to grant to Hyseq, and Hyseq wishes to obtain from Aurora, a non-exclusive license under the Aurora Patents and Stanford Patents (both defined below) on the terms and subject to the conditions set forth herein.

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants and agreements contained herein, the parties hereby agree as follows:

AGREEMENT

ARTICLE 1
DEFINITIONS

1.1 "ACTIVE CLONING POOL" means up to [***] cDNA sequences selected by [***] from the Hyseq Gene Sequences which are being [***] at any given time under the Target Program.

1.2 "AFFILIATE" means an individual, trust, business trust, joint venture, partnership, corporation, association or any other entity which owns, is owned by or is under common ownership with, a party. For the purposes of this definition only, the term "owns" (including, with correlative meanings, the terms "owned by" and "under common ownership with") as used with respect to any party, will mean the possession (directly or indirectly) of more than 50% of the outstanding voting securities of a corporation or comparable equity interest in any other type of entity.

1.3 "AURORA ASSAY" means any assay that is developed and validated by Aurora under the Collaboration and that incorporates [***] or more Hyseq Targets.

1.4 "AURORA COMPOUND LIBRARY" means the collection of compounds owned by, or licensed to Aurora during the Term, and [***] thereof.

1.5 "AURORA MUTANT GFP" means any mutant [***] fluorescent protein, or any polynucleotide encoding any mutant [***] fluorescent protein, which is covered by the Aurora

Patents or the Stanford Patents, and which is (i) supplied by Aurora, (ii) supplied by a bona fide licensee of Aurora licensed under the Aurora Patents or the Stanford Patents to sell Aurora Mutant GFP, or (iii) internally developed by Hyseq.

1.6 "AURORA PATENTS" means the patents and patent applications listed on Exhibit A, which is attached hereto and incorporated herein by reference, and any continuations, divisions, reissues, extensions or continuations-in-part with respect thereto, and all United States patents issuing therefrom.

1.7 "AURORA PRODUCT" means (i) any small molecule compound, or analog or derivative thereof, which is identified, developed or discovered by Aurora as active against a Hyseq Target using an Aurora Assay, and pursued and developed for that Hyseq Target, or (ii) any small molecule compound, or analog or derivative thereof, that is determined [***] under the Collaboration to affect the activity of (1) an [***], or (2) an [***].

1.8 "AURORA TECHNOLOGY" means any of the polynucleotides listed on Exhibit C, which is attached hereto and incorporated herein by reference, and Aurora's proprietary technical manual for use of the same.

1.9 "BLA" means a Biologics License Application filed pursuant to the requirements of the FDA, or the equivalent application in any other country or jurisdiction.

1.10 "COLLABORATION" means the activities of the parties carried out in performance of, and the relationship between the parties established by, this Agreement.

1.11 "COLLABORATION PERIOD" means the period beginning on the Effective Date and ending upon the later of: (i) two years thereafter, or (ii) [***] following (1) receipt by Aurora of the final batch of OSPs for screening, (2) Hyseq's selection of the final OSP for creation of a Data Package, or (3) Aurora's receipt of the final Hyseq Target, or (iii) such other period established by mutual written agreement of the parties.

1.12 "COMMERCIALLY REASONABLE AND DILIGENT EFFORTS" means, unless the parties agree otherwise in writing, [***].

1.13 "CONFIDENTIAL INFORMATION" means any proprietary, confidential or trade secret information of a party disclosed during the Term and identified as Confidential, including, without limitation, the terms of this Agreement and information relating to any use, process, method, compound, research project, work in process, future development, scientific, engineering, manufacturing, marketing, business plan, financial or personnel matter relating to the disclosing party, its present or future products, sales, suppliers, customers, employees, investors or business, whether in oral, written, graphic or electronic form. The Hyseq Gene Sequences, the Hyseq Targets and Hyseq's proprietary OSP collection will be considered Confidential Information of Hyseq under this Agreement, regardless of whether identified as Confidential. Notwithstanding the foregoing, Confidential Information will not include any information which the receiving party can prove by contemporaneous evidence:

(a) is now, or hereafter becomes, through no act or failure to act on the part of the receiving party, generally known or available to Third Parties;

(b) is known by the receiving party at the time of receiving such information, as evidenced by its records;

(c) is hereafter furnished to the receiving party by a Third Party, as a matter of right and without restriction on disclosure;

(d) is independently developed by the receiving party, as evidenced by its records, without knowledge of, and without the aid, application or use of, the disclosing party's Confidential Information; or

(e) is the subject of a written permission to disclose provided by the disclosing party.

1.14 "CONTROL" means possession of the ability of either party to grant a license or sublicense to the other party as provided for herein without violating the terms of any agreement or other arrangement with any Third Party.

1.15 "DATA PACKAGE" means all data and results obtained by Aurora from screening an OSP, including, without limitation, information described on Exhibit D, which is attached hereto and incorporated herein by reference, relating to [***].

1.16 "EXCLUDED FIELD" means any activities outside the Field, including, but not limited to: (i) providing services to Third Parties; (ii) the use of [***]; (iii) transfer to a Third Party of any product, process, method, composition of matter and/or biological material covered under the Aurora Patents or the Stanford Patents or incorporating the Aurora Technology; (iv) any non-pharmaceutical research; (v) [***] of chemicals (e.g. proteins or small molecules); (vi) [***] of chemicals (e.g. proteins or small molecules); (vii) diagnostics; (viii) use of [***]; (ix) use in or with [***] (including [***] cells); or (x) detection of [***]. In addition, the Stanford Patents may not be practiced in the field of [***].

1.17 "EXCLUSIVITY PERIOD" means, for each Hyseq Target, the period beginning on receipt by Aurora of such Hyseq Target, and ending [***] thereafter, unless extended in accordance with Section 5.4 (a).

1.18 "FDA" means the United States Food and Drug Administration.

1.19 "FIELD" means internal use of Aurora Mutant GFP (i) to perform [***], and (ii) to create [***] for basic research (e.g., [***]).

1.20 "FIRST COMMERCIAL SALE" means the first sale for use or consumption of a Product. Sale to a sublicensee will not constitute a First Commercial Sale unless the sublicensee is the end user of such Product.

1.21 "GFP MATERIALS" means Materials that contain Aurora Mutant GFP.

1.22 "HYSEQ GENE SEQUENCES" mean [***] gene sequences from Hyseq's cDNA database, which are identified using criteria determined jointly by Aurora and Hyseq scientists, and which are provided by Hyseq to Aurora under the Collaboration. [***].

1.23 "HYSEQ PATENTS" means all patents or patent applications, and any continuations, continuations-in-part, divisions, reissues, substitutes, renewals or extensions thereof, and all patents issuing therefrom, which claim any Hyseq Targets, OSPs or OSP Receptors and which are under the Control of Hyseq during the Term.

1.24 "HYSEQ PRODUCT" means (i) any of the OSPs provided to Aurora by Hyseq and screened under the Collaboration by Aurora and active in Aurora's CellSensor Panel, as disclosed to Hyseq hereunder, or any mutation, fragment, analog or derivative of such OSPs, (ii) any other product identified, discovered or developed [***] under the OSP Program, such as [***], or (iii) any biological product identified, discovered or developed [***] under the Target Program, such as [***].

1.25 "HYSEQ TARGET" means an [***] protein or cloned and sequence verified full-length cDNA, which is selected by [***] from the Active Cloning Pool and provided to Aurora by Hyseq.

1.26 "IMPROVEMENTS" means [***].

1.27 "JOINT INVENTIONS" has the meaning set forth in Article 7.

1.28 "JOINT RESEARCH AND DEVELOPMENT COMMITTEE" or "JRDC" means the committee established pursuant to Section 2.1.

1.29 "LICENSE PERIOD" means the period beginning on the Effective Date and ending [***] thereafter, unless extended by mutual written agreement.

1.30 "MATERIALS" means any reagents, promoters, enhancers, vectors, plasmids, genes, polynucleotides, cells, proteins and fragments thereof, peptides, antigens, antibodies, antagonists, agonists, inhibitors and chemicals.

1.31 "NDA" means a New Drug Application filed pursuant to the requirements of the FDA, or the equivalent application in any other country or jurisdiction.

1.32 "NET SALES" means, with respect to any Product, the gross amount invoiced by either party or any of its sublicensees on sales or other transfers of such Product, less [***]. If either party distributes a Product to any of its sublicensees for end use by such sublicensee, then such distribution will be considered a sale at list price normally charged to an independent Third Party and the other party will be entitled to collect a royalty on such sale in accordance with Section 5.1(g) or Section 5.2(f), as applicable, so long as no royalty is applied to future resales. Such amounts will be determined from the books and records of the party distributing such Product and/or its sublicensees, such books and records being maintained in accordance with GAAP.

1.33 "OSPS" means any gene sequence, including [***] to encode a protein or peptide [***] to be expressed in either membrane-bound or secreted form that is provided to Aurora by Hyseq for screening and evaluation under the Collaboration.

1.34 "OSP PROGRAM" has the meaning set forth in Section 3.2.

1.35 "OSP RECEPTORS" mean a receptor of an OSP, identified under the Collaboration.

1.36 "PHASE I" means that portion of the clinical development program which generally provides for the first introduction into humans of a Product with the primary purpose of determining safety, metabolism, pharmacokinetic properties and clinical pharmacology of the Product, as more specifically defined by the rules and regulations of the FDA and corresponding rules and regulations in other countries or jurisdictions.

1.37 "PHASE III" means that portion of the clinical development program which provides for the continued trials of a Product on sufficient numbers of patients to establish the safety and efficacy of a Product for the desired claims and indications, as more specifically defined by the rules and regulations of the FDA and corresponding rules and regulations in other countries or jurisdictions.

1.38 "PRIMARY SCREENING" means use of an Aurora Assay to determine potential therapeutic or pharmaceutical activity or efficacy of compounds in the Aurora Compound Library.

1.39 "PRODUCT" means an Aurora Product or a Hyseq Product, as applicable.

1.40 "RESEARCH PROGRAMS" means the OSP Program and the Target Program.

1.41 "ROYALTY TERM" means, for the convenience of the parties, the period of time commencing on the First Commercial Sale of a Product in any country and ending upon the later of [***] the expiration of the last to expire patent covering such Product in such country.

1.42 "SECONDARY SCREENING" means the (i) [***] of compounds identified as [***] in Primary Screening and/or (ii) the screening of compounds identified as active in Primary Screening against a [***] Hyseq Target to determine [***].

1.43 "STANFORD AGREEMENT" means that certain exclusive license agreement between Aurora and The Board of Trustees of the Leland Stanford Junior University ("Stanford") dated April 25, 1998.

1.44 "STANFORD LICENSED PRODUCT" means any product or process, or part thereof, in the Field, or whose manufacture, use or sale is covered by a valid claim of an issued, unexpired Stanford Patent and will be presumed to be valid unless and until it has been held to be invalid by a final judgment of a court of competent jurisdiction from which no appeal can be or has been taken.

1.45 "STANFORD PATENTS" means the U.S. patents and applications listed on Exhibit B, attached hereto and incorporated herein by reference, and continuations, divisions, reissues,

extensions or continuations-in-part with respect thereto, and all United States patents issuing therefrom.

1.46 "TARGET PROGRAM" has the meaning set forth in Section 3.3.

1.47 "TERRITORY" means [***].

1.48 "TERM" has the meaning set forth in Section 10.1.

1.49 "THIRD PARTY" means any entity other than Aurora or Hyseq.

ARTICLE 2
JOINT RESEARCH AND DEVELOPMENT COMMITTEE

2.1 FORMATION. Within 30 days after the Effective Date, the parties will establish a joint research and development committee (the "JRDC"). The JRDC will consist of two senior scientists and one business representative designated by Aurora and two senior scientists and one business representative designated by Hyseq. Either party may appoint substitute or replacement members of the JRDC to serve as their representatives upon notice to the other party. The JRDC will have the responsibility and authority to (a) manage the Research Programs, (b) assign tasks and responsibilities under the Research Programs consistent with the terms of this Agreement to Aurora and Hyseq, respectively, and (c) review and modify the Research Programs, as it deems appropriate to achieve the parties' objectives under this Agreement.

2.2 MEETINGS. The JRDC will meet at least once per quarter at locations and times to be determined by the JRDC, with the intent of meeting at alternating locations in San Diego, California and Sunnyvale, California or by tele- or video-conference. Each party will bear all travel and related costs for its representatives. On an alternating basis, a party will promptly prepare and deliver to the members of the JRDC minutes of such meetings for review and approval of the parties.

2.3 DECISION-MAKING PROCESS. Each party will have [***] on the JRDC, and decisions by the JRDC will be made [***]. [***] disagreement [***] will be resolved within the JRDC based on the efficient achievement of the objectives of this Agreement. Any disagreement, which cannot be resolved by the JRDC, will be referred to the appropriate chief executive officers of Aurora and Hyseq for resolution. It is the intent of the parties to resolve issues through the JRDC whenever possible and to refer issues to the officers of Aurora and Hyseq only when resolution through the JRDC cannot be achieved, however, this shall not in any event limit or waive any other rights or remedies otherwise available to the parties.

ARTICLE 3
SCOPE OF COLLABORATION; ACTIVITIES UNDER THE COLLABORATION

3.1 OBJECTIVES; LIMITATIONS. During the Collaboration Period, Aurora will have [***] for the activities described in Sections 3.2(a) and 3.3(a), and Hyseq will have [***] for the activities described in Section 3.2(b) and 3.3(b). Except as specifically provided herein, all activities of the parties outside of the Collaboration are outside of the scope of this Agreement,

and nothing contained herein is intended to limit either party from using any intellectual property Controlled by such party for other purposes.

3.2 OSP PROGRAM. During the Collaboration Period, Aurora and Hyseq will conduct research and development of Hyseq Products pursuant to a detailed research and development program (the "OSP Program"), a copy of which is attached hereto and incorporated herein by reference as Exhibit D. Any inconsistency between the provisions in this Agreement and Exhibit D will be resolved in favor of the main body of this Agreement.

(a) AURORA CONTRIBUTIONS. Aurora will (i) use its CellSensor Panel to screen a minimum of [***] OSPs during each year of the Collaboration Period (but no more than a total of [***] OSPs during the Collaboration Period), (ii) provide all such initial screening data to Hyseq within [***] after delivery of such OSPs to Aurora, and (iii) provide to Hyseq a Data Package for each OSP selected by Hyseq based on such initial screening data, within [***] following receipt of written notice from Hyseq of its desire to receive a Data Package for such OSP.

(b) HYSEQ CONTRIBUTIONS. During the Collaboration Period, Hyseq (i) will provide to Aurora between [***] and [***] full-length cDNAs from its OSP collection of [***] gene sequences for screening using Aurora's CellSensor Panel, delivered in an initial block of [***] OSPs and minimum blocks of [***] OSPs thereafter, and (ii) upon review of the initial screening data, will select a minimum of [***] OSPs during the Collaboration Period for which Hyseq desires to receive Data Packages from Aurora and will provide Aurora written notice of such selection. Hyseq will own the Data Packages and they will be Confidential Information of Hyseq hereunder, regardless of whether they have been identified as such.

3.3 TARGET PROGRAM. During the Collaboration Period, Aurora and Hyseq will conduct research and development of Aurora Products pursuant to a detailed research and development program (the "Target Program"), a copy of which is attached hereto and incorporated herein by reference as Exhibit E. Any inconsistency between the provisions in this Agreement and Exhibit E will be resolved in favor of the main body of this Agreement.

(a) AURORA CONTRIBUTIONS. Aurora will (i) develop between [***] and [***] Aurora Assays during each year of the Collaboration Period using up to [***] Hyseq Targets chosen by Aurora, (ii) screen the Aurora Assays during the Collaboration Period against [***] compounds from the Aurora Compound Library, and (iii) provide to the JRDC, all data and results generated by Aurora during the Collaboration Period (other than [***]) and, (iv) if reasonably requested by Hyseq, the [***] of compounds identified by Aurora in Primary Screening and confirmed in Secondary Screening [***], or as agreed to by the parties hereunder. Aurora will provide to the JRDC any additional data or results which identify or correct inaccuracies in or conflicts between previous data and results provided by Aurora to the JRDC under this Section 3.3(a). Aurora will own all data and results generated by Aurora under the Target Program and hereby grants to Hyseq the non-exclusive, non-transferable right to use the same to support the prosecution of patent applications on Hyseq Targets. Such data and results will be considered Confidential Information of Aurora hereunder, regardless of whether it has been identified as Confidential Information, however Hyseq is entitled to use such Confidential Information in accordance with the terms of this Agreement.

Aurora will notify Hyseq in writing [***] after which Hyseq will have the right to use such information to support the prosecution of patent applications on Hyseq Targets. Notwithstanding the foregoing, Aurora retains the right to file patent applications covering the [***].

(b) HYSEQ CONTRIBUTIONS. Hyseq (i) will provide Aurora access to the Hyseq Gene Sequences from which Aurora, with Hyseq's support and assistance, will during the Collaboration Period, select and prioritize members of the Active Cloning Pool, from which Hyseq will clone Hyseq Targets for the Target Program, (ii) will deliver to Aurora from the Active Cloning Pool full-length, sequence-verified cDNAs for between [***] and [***] Hyseq Targets during each year of the Collaboration Period, for a total of at least [***] and up to [***] Hyseq Targets during the Collaboration Period; provided, however, that Hyseq will be required to provide no more than [***] Hyseq Targets to Aurora in any given month, and (iii) will regularly provide Aurora and the JRDC, access to [***], as well as any other relevant and unrestricted biological data in Hyseq's Control all of which is Confidential Information of Hyseq, regardless of whether it is identified as such, during the Collaboration Period, unless otherwise extended for up to two additional years pursuant to Section 5.4(b) for use in Aurora's selection of Hyseq Targets and the development of Aurora Products. Any Hyseq Target delivered to Aurora under Section 3.3(b)(ii) above will be removed from the Active Cloning Pool and may be replaced at Aurora's election in the Active Cloning Pool with another gene sequence from the Hyseq Gene Sequences selected by Aurora.

3.4 COMMERCIALLY REASONABLE AND DILIGENT EFFORTS. Each party will use Commercially Reasonable and Diligent Efforts to perform its responsibilities under the Research Programs.

3.5 AVAILABILITY OF RESOURCES; COOPERATION. Each party will maintain laboratories, offices and/or other facilities reasonably necessary to carry out the activities to be performed by such party pursuant to the Research Programs. Unless otherwise agreed to in writing by Hyseq, Aurora will perform all of its obligations under the OSP Program and the Target Program at [***]. Upon reasonable advance notice, each party agrees to make its employees, agents and consultants reasonably available at their respective places of employment to consult with the other party during the Collaboration Period on issues arising during the Collaboration and in connection with any request from any regulatory agency, including, without limitation, regulatory, scientific, technical and clinical testing issues

3.6 DISCLOSURE; REPORTS. During the Collaboration Period, each party will share all research data and results with the other party relating to the Research Programs promptly after such data and results become available. During the Collaboration Period, the parties will exchange, at a minimum, [***] written reports presenting a meaningful summary of the activities performed and the results obtained by such party pursuant to the Research Programs. In addition, on reasonable request by either party, the other party will [***] to inform such party of the details of the work performed under this Agreement. Information disclosed by either party to the other party pursuant hereto may include Confidential Information of the disclosing party and, whether Confidential Information or not, may be used only in accordance with the rights granted under Article 4 and Article 5 of this Agreement.

ARTICLE 4
GRANT OF LICENSES

4.1 NON-EXCLUSIVE LICENSE UNDER THE AURORA PATENTS. Subject to the terms and conditions of this Agreement, Aurora hereby grants to Hyseq a non-exclusive, non-transferable license under the Aurora Patents to make, use and import Aurora Mutant GFP and Improvements made by Aurora during the License Period in the Territory for use in the Field during the License Period.

4.2 NON-EXCLUSIVE LICENSE UNDER THE STANFORD PATENTS. Subject to the terms and conditions of this Agreement, Aurora hereby grants to Hyseq a non-exclusive, non-transferable license under the Stanford Patents to make, use and import Aurora Mutant GFP and Improvements made by Aurora during the License Period in the Territory for use in the Field during the License Period.

4.3 NON-EXCLUSIVE LICENSE TO AURORA TECHNOLOGY. Subject to the terms and conditions of this Agreement, Aurora hereby grants to Hyseq a non-exclusive, non-transferable license to make, use and import the Aurora Technology and Improvements made by Aurora during the License Period in the Territory for use in the Field during the License Period.

4.4 LIMITATIONS. Except as otherwise expressly provided in this Agreement, nothing in this Agreement is intended to convey or transfer ownership by either party to the other party of any rights, title or interest in any Confidential Information, patent rights, copyrights, trade secrets or other intellectual property rights owned or Controlled by such party. Except as expressly provided for in this Agreement, nothing in this Agreement will be construed as a license or sublicense by either party to the other party of any patent rights, copyrights, trade secrets or other intellectual property rights owned or Controlled by such party. Aurora retains all rights that are not expressly licensed by Aurora to Hyseq hereunder, including without limitation, right to any Improvements made by Aurora during the License Period. Hyseq retains all rights that are not expressly licensed by Hyseq to Aurora hereunder, including, without limitation, rights to any Improvement made by Hyseq during the License Period, and any products resulting from Hyseq's activities with Aurora Mutant GFP and Improvements. Notwithstanding anything contained herein to the contrary, the license rights granted to Hyseq in Sections 4.1, 4.2 and 4.3 do not include (a) the right to grant sublicenses, (b) the right to conduct any activities outside the Field or outside the Territory under the Aurora Patents or the Stanford Patents or with the Aurora Technology, (c) the right to transfer any Material containing Aurora Technology (or any portion thereof) to any Third Party, other than to an Affiliate of Hyseq, or (d) the right to conduct activities within the Excluded Fields under the Aurora Patents or the Stanford Patents or with the Aurora Technology.

4.5 IMPROVEMENTS. Hyseq hereby grants to Aurora a worldwide, fully paid, perpetual, non-exclusive license, including the right to grant sublicenses, to make, have made, use, offer for sale, sell and import any Improvements made by Hyseq during the License Period. Each party will promptly notify the other party of the reduction to practice of such Improvements. Each party, to the extent it has Control, will provide to the other party any tangible Materials related to Improvements made by such party during the License Period. For clarity, Aurora is [***] Improvements to Hyseq that were [***].

4.6 SERVICE. Aurora will prepare, aliquot and deliver the Aurora Technology to Hyseq within 30 days after the Effective Date in the quantities described on Exhibit C, and will offer Hyseq technical support in the use of Aurora Technology through its help line. In the event of [***].

4.7 LICENSE FOR TARGETS. Hyseq owns the Hyseq Targets and subject to the terms and conditions of this Agreement, Hyseq hereby grants to Aurora a worldwide license, including the right to grant sublicenses as set forth below, under the Hyseq Patents to use the Hyseq Targets to identify, discover, develop, make, have made, use, offer for sale, sell and import Aurora Products. With respect to each Hyseq Target, such license will be exclusive during the Exclusivity Period and will become non-exclusive thereafter; provided, however, unless extended pursuant to Section 5.4(a), if Aurora (a) fails to develop an Aurora Assay within [***] after receipt of the cDNA for a Hyseq Target, the exclusive license for such Hyseq Target will terminate, or (b) fails to complete Primary Screening and Secondary Screening of a Hyseq Target within [***] after receipt of the cDNA for such Hyseq Target, then the exclusive license for such Hyseq Target becomes a non-exclusive license for the Term of this Agreement; provided further that, Aurora will not have the right to grant sublicenses under a non-exclusive license until [***]. In no event does Aurora have the right to license the Hyseq Targets on a stand-alone basis, independently from Aurora technology or an Aurora Product. Aurora [***], and will notify Hyseq of each sublicensee granted a license within (30) days after execution of each sublicense agreement hereunder.

4.8 RIGHTS TO OSPS. Hyseq owns and will own all right, title and interest in and to any and all OSPs, provided by Hyseq to Aurora under the OSP Program, including all rights to any data generated by Aurora from screening such OSPs under the OSP Program, including, without limitation, the Data Packages.

4.9 RIGHTS TO OSP RECEPTORS. Aurora will notify Hyseq in writing of its desire to clone any OSP Receptor. Within [***] following receipt of such notice, Hyseq will notify Aurora in writing of (i) the exercise of its option under Section 5.3(c) to have Aurora clone such OSP Receptors, or (ii) that it is or plans to clone such OSP Receptor on its own or with a Third Party. If Hyseq provides written notice that it is exercising its option under Section 5.3(c) within such [***] period, then Hyseq will own all right, title and interest in and to any such OSP Receptor. If Hyseq notifies Aurora that it is or will clone such OSP Receptor on its own, or with a Third Party, then Aurora will not attempt to clone the OSP Receptor with an OSP provided by Hyseq. If Hyseq notifies Aurora in writing that it does not wish to exercise its option or is not or does not plan to clone such OSP Receptors and gives Aurora permission to clone such OSP Receptor, or if Hyseq fails to notify Aurora in writing of the exercise of the option or that it is or will clone such OSP Receptor within such [***] period, then, Aurora will have the right to attempt to clone such OSP Receptor and will own all right, title and interest in and to such OSP Receptors cloned. Subject to the terms and conditions of this Agreement, Aurora hereby grants to Hyseq a worldwide, non-exclusive, non-transferable license to use any such cloned OSP Receptor to identify, discover, develop, and commercialize Hyseq Products. Subject to the terms and conditions of this Agreement, Hyseq hereby grants to Aurora a worldwide, non-exclusive, non-transferable license, during the Term, under the Hyseq Patents to use the specific OSP

necessary to clone a corresponding OSP Receptor as indicated herein and to use such OSP that forms the OSP/OSP Receptor pair with any cloned OSP Receptor owned by Aurora hereunder pursuant to 4.9(b) to, during the Term, (i) develop such cloned OSP Receptor into assays and (ii) screen such OSP Receptor to identify, develop and commercialize Aurora Products.

ARTICLE 5
PAYMENT OBLIGATIONS; OPTIONS

5.1 PAYMENTS TO AURORA.

(a) LICENSE FEE. In consideration for the licenses granted to Hyseq under Section 4.1, 4.2 and 4.3, Hyseq will pay to Aurora a non-creditable, non-refundable license fee of [***] payable as follows: [***] within 10 days after the Effective Date and [***] upon [***] of the Effective Date.

(b) TECHNOLOGY ACCESS FEE. In consideration for the service of the preparation and delivery of the Aurora Technology to Hyseq under Section 4.6, Hyseq will pay to Aurora a non-creditable, non-refundable technology access fee of [***] within [***] after delivery of the Aurora Technology to Hyseq.

(c) SCREENING OF OSPS. In consideration for screening OSPs under the Collaboration, Hyseq will pay to Aurora a non-creditable, non-refundable payment of [***] for each OSP screened by Aurora under the Collaboration. Such payments will be calculated and reported for each calendar quarter during the Collaboration Period. All payments due under this Section 5.1(c) will be paid within [***] after the end of each calendar quarter.

(d) DATA PACKAGES. In consideration for providing Data Packages to Hyseq under the Collaboration, Hyseq will pay to Aurora a non-creditable, non-refundable payment of [***] within [***] after delivery of each Data Package to Hyseq. Notwithstanding the foregoing, Hyseq will pay to Aurora a minimum of [***] during the Collaboration Period under this Section 5.1(d).

(e) PERFORMANCE MILESTONE. Hyseq will pay to Aurora (i) a one-time, non-creditable, non-refundable milestone payment of [***] within [***] after Aurora completes screening of the first [***] OSPs using [***] approaches thus demonstrating the feasibility of such approach (ii) a one-time, non-creditable, non-refundable milestone payment of [***] within [***] after Aurora completes screening of [***] OSPs provided by Hyseq to Aurora under the Collaboration.

(f) CLINICAL MILESTONES. Hyseq will pay to Aurora the following non-creditable, non-refundable milestone payments for the first, and only the first, Hyseq Product within [***] following achievement of each of the following milestone events:

Milestone	Payment
[***]	[***]

(g) ROYALTIES. Hyseq will pay to Aurora a royalty equal to [***] of Net Sales of each Hyseq Product sold by Hyseq or its sublicensees. Royalties for sales of a Hyseq Product in any given country will be paid for a period equal to the Royalty Term for such Hyseq Product in such country.

5.2 PAYMENTS TO HYSEQ.

(a) DATABASE ACCESS FEE. In consideration for access to Hyseq's cDNA database under Section 3.3(b), Aurora will pay to Hyseq a non-creditable, non-refundable payment of [***] within [***] after the Effective Date.

(b) LICENSE FEE. In consideration for the license granted to Aurora under Section 4.7, Aurora will pay to Hyseq a non-creditable, non-refundable license fee of [***] within [***] after the Effective Date.

(c) HYSEQ TARGETS SELECTED FOR SCREENING. Aurora will pay to Hyseq a non-creditable, non-refundable payment of [***] for each Hyseq Target for which Aurora develops an Aurora Assay during the Collaboration Period. Such payments will be calculated and reported for each calendar quarter during the Collaboration Period. All payments due under this Section 5.2(c) will be paid within [***] after the end of each calendar quarter. Notwithstanding the foregoing, Aurora will pay to Hyseq a minimum of [***] during the Collaboration Period under this Section 5.2(c).

(d) PERFORMANCE MILESTONE. If, during the Collaboration Period, Aurora identifies chemical entities for at least [***] of the Hyseq Targets screened by Aurora under the Target Program which demonstrate at least a [***] over related public domain targets (as defined in the Target Program), then Aurora will pay to Hyseq a one-time, non-creditable, non-refundable milestone payment of [***] within [***] after the final report for the Target Program has been received by Hyseq from Aurora.

(e) CLINICAL MILESTONES. For each Hyseq Target, Aurora will pay to Hyseq the following non-creditable, non-refundable milestone payments for the first, and only the first, Aurora Product to achieve such milestone. This payment will be made within [***] following achievement of each of the following milestone events:

Milestone	Payment
[***]	[***]

(f) ROYALTIES. Aurora will pay to Hyseq a royalty equal to [***] of Net Sales for each Aurora Product sold by Aurora or its sublicensees. Royalties for sales of an Aurora Product in any given country will be paid for a period equal to the Royalty Term for such Aurora Product in such country.

5.3 GRANT OF OPTIONS TO HYSEQ. Aurora hereby grants to Hyseq non-transferable options exercisable by Hyseq during the Collaboration Period, or as extended in Section 5.3(c):

(a) to receive a non-exclusive, non-transferable, worldwide license to any cell-based assay used by Aurora in the performance of the Collaboration for internal use by Hyseq to optimize, develop and commercialize Hyseq Products for [***] per cell line;

(b) to purchase from Aurora single mg quantities of up to [***] of Hyseq's OSPs, synthesized by a third party, for internal use (non-GMP) to optimize, develop and commercialize Hyseq Products at [***];

(c) for a period of [***] following the Collaboration Period, to have Aurora clone OSP Receptors [***] for Hyseq for [***] per OSP Receptor, payable as follows: an upfront, non-refundable, non-creditable payment of [***], and [***] upon delivery; and/or

(d) to have Aurora use its CellSensor Panel to screen up to [***] additional OSPs (over and above the [***] OSPs set forth in Section 3.2(a)) during the Collaboration Period for [***] per OSP.

5.4 GRANT OF OPTIONS TO AURORA. Hyseq hereby grants to Aurora non-transferable options exercisable by Aurora during the Collaboration Period, except as set forth in Section 5.4(b):

(a) to extend the Exclusivity Period, the time to complete assay development under Section 4.7, and the time to complete Primary Screening and Secondary Screening under Section 4.7 on a Hyseq Target-by-Hyseq Target basis by [***] for [***] per Hyseq Target;

(b) for a period of [***] following the Collaboration Period, to have Hyseq perform bioinformatics efforts utilizing Hyseq informatics tools and database to support the Target Program [***] on Aurora's behalf on a [***] basis in an amount equal to [***] per FTE per year prorated on a per hour worked basis; and/or

(c) to obtain additional Hyseq Targets (over and above the [***] Hyseq Targets set forth in Section 3.3(b)) for assay development and screening under the same terms and conditions as set forth in this Agreement, for [***] per Hyseq Target.

5.5 RIGHT OF FIRST NEGOTIATION. During the Exclusivity Period for any Hyseq Target, Hyseq will provide written notice to Aurora of its intention to license such Hyseq Target for

[***] applications. During the [***] period following such written notice from Hyseq, Aurora will have the first right to negotiate an exclusive license to such Hyseq Target for [***] applications that are [***] used in clinical applications of Aurora Products related to such Hyseq Target upon [***] terms [***].

ARTICLE 6
PAYMENTS; RECORDS; AUDITS

6.1 PAYMENT; REPORTS. Royalty payments will be calculated and reported for each calendar quarter. All royalty payments due under this Agreement will be paid within [***] after the end of each calendar quarter, unless otherwise specifically provided herein. Each payment of royalties will be accompanied by a report in sufficient detail to permit confirmation of the accuracy of the royalty payment made, including, without limitation, Net Sales, the royalties payable in United States dollars, the method used to calculate the royalty and the exchange rates used.

6.2 EXCHANGE RATE; MANNER AND PLACE OF PAYMENT. All payments hereunder will be payable in United States dollars. With respect to each quarter, for countries other than the United States, whenever conversion of payments from any foreign currency will be required, such conversion will be made at the rate of exchange reported in The Wall Street Journal on the last business day of the applicable reporting period. Any payment due under this Agreement will be made by wire transfer to a bank account designated by the party receiving such payment, unless otherwise specified in writing by such party.

6.3 LATE PAYMENTS. In the event that any payment, including royalty payments, due hereunder is not made when due, the payment will accrue interest from that date due at the rate of [***] per month; provided however, that in no event will such rate exceed the maximum legal annual interest rate for the state in which the party is located. The payment of such interest will not limit the party receiving such payment from exercising any other rights it may have as a consequence of the lateness of any payment.

6.4 RECORDS AND AUDITS. During the Royalty Term and for a period of [***] thereafter, each party will keep complete and accurate records in sufficient detail to permit the other party to confirm the accuracy of all royalty payments due to the other party hereunder. A party due royalty payments will have the right to cause an independent, certified public accountant reasonably acceptable to the other party to audit such records to confirm royalty payments due under this Agreement. Such audits may be exercised during normal business hours no more than [***] in any 12-month period upon at least [***] prior written notice to the other party. The party exercising such audit right will bear the full cost of such audit, unless such audit discloses an underpayment by more than [***] of the amount due under this Agreement. In such case, the other party will bear the full cost of such audit. In all events, the other party will pay any underpayment with interest in accordance with Section 6.3.

6.5 TAXES. All taxes levied on account of the royalties and other payments accruing to each party under this Agreement shall be paid by the party receiving such royalty or other payment for its own account, including taxes levied thereon as income to the receiving party. If provision is made in law or regulation for withholding, such tax shall be deducted from the

royalty or other payment made by the party making such payment to the proper taxing authority and a receipt of payment of the tax secured and promptly delivered to the party entitled to the royalty. Each party agrees to assist the other party in claiming exemption from such deductions or withholdings under any double taxation or similar agreement or treaty from time to time in force.

6.6 PROHIBITED PAYMENTS. Notwithstanding any other provision of this Agreement, if either party is prevented from paying any royalty due hereunder by virtue of the statutes, laws, codes or governmental regulations of the country from which the payment is to be made, then such royalty may be paid by depositing funds in the currency in which accrued to the other party's account in a bank acceptable to the other party in the country whose currency is involved.

ARTICLE 7
OWNERSHIP OF INVENTIONS

Ownership of patentable subject matter conceived of or reduced to practice in performance of the Collaboration will be determined in accordance with the rules of inventorship under United States patent laws. Subject to Article 4, Aurora will own all inventions conceived and reduced to practice during performance of the Collaboration solely by its employees and agents, and all patent applications and patents claiming such inventions. Subject to Article 4, Hyseq will own all inventions conceived and reduced to practice during performance of the Collaboration solely by its employees and agents, and all patent applications and patents claiming such inventions. The parties agree to promptly exert all reasonable efforts, including the execution and delivery of any and all papers, instruments or affidavits necessary to effectuate the ownership rights stated in Article 4. Subject to Article 4, all inventions conceived and reduced to practice during performance of the Collaboration jointly by employees or agents of Aurora and employees or agents of Hyseq, and all patent applications and patents claiming such inventions, will be owned jointly by Aurora and Hyseq ("Joint Inventions"). The parties will determine via the JRDC which party will be responsible for the filing, prosecution and maintenance of jointly owned patent applications and patents. Each party (a) will [***] regarding the filing, prosecution and maintenance of patent applications claiming Joint Inventions, and (b) will keep the other party advised of the status of such filing, prosecution and maintenance. Each party agrees to cooperate fully in the preparation, filing and prosecution of patent applications claiming Joint Inventions, including, without limitation, (i) executing all papers and instruments, or requiring its employees or agents, to execute such papers and instruments, so as to enable the other party to apply for and to prosecute patent applications claiming Joint Inventions in any country, and (ii) promptly informing the other party of any matters coming to such party's attention that may affect the preparation, filing or prosecution of an such patent applications.

ARTICLE 8
CONFIDENTIALITY; PUBLICATIONS

8.1 NONDISCLOSURE. During the Term and for a period of [***] thereafter, each party will maintain all Confidential Information of the other party as confidential and will not disclose any such Confidential Information or any summary or part thereof, to any Third Party or use, or enable any Third Party to use, any such Confidential Information for any purpose, except (a) as

expressly authorized by this Agreement, or (b) to the extent such use or disclosure is reasonably necessary in filing or prosecuting patent applications, [***], complying with applicable law, governmental regulation or court order, submitting information to tax or other governmental authorities, making a permitted sublicense or otherwise exercising its rights hereunder; provided, however, that if a party is required to make any such disclosure of the other party's Confidential Information, other than pursuant to a confidentiality agreement, it will give reasonable advance written notice to the other party of such disclosure, and will use [***] efforts to secure confidential treatment of such information prior to its disclosure (whether through protective orders or otherwise). Each party may disclose Confidential Information of the other party to its sublicensees, employees, agents, consultants and other representatives to the extent required to accomplish the purposes of this Agreement, so long as such persons are under an obligation of confidentiality no less stringent than as set forth herein. Each party will use at least the same standard of care as it uses to protect its own Confidential Information and will remain liable in the event any sublicensees, employees, agents, consultants and other representatives make any unauthorized use or disclosure of the other party's Confidential Information. Each party will promptly notify the other party upon discovery of any unauthorized use or disclosure of the other party's Confidential Information.

8.2 PUBLICATIONS. Each party recognizes that the publication of papers regarding results of the research and development activities performed under the Collaboration, including oral presentations and abstracts, may be beneficial to both parties provided such publications are subject to reasonable controls to protect Confidential Information. In particular, it is the intent of the parties to maintain the confidentiality of any Confidential Information included in any foreign patent application until such foreign patent application has been published. Accordingly, each party will have the right to review and approve any paper proposed for publication by the other party, including oral presentations and abstracts, which utilizes data generated from the Collaboration and/or includes Confidential Information of the other party. Before any such paper is submitted for publication, the party proposing publication will deliver a complete copy to the other party at least [***] prior to submitting the paper to a publisher. The receiving party will review any such paper and give its comments to the publishing party within [***] of the delivery of such paper to the receiving party. With respect to oral presentation materials and abstracts, the parties will make reasonable efforts to expedite review of such materials and abstracts, and will return such items as soon as practicable to the publishing party with appropriate comments, if any, but in no event later than [***] from the date of delivery to the receiving party. The publishing party will comply with the other party's request to delete references to such other party's Confidential Information in any such paper and agrees to withhold publication of such paper for an additional [***] to permit the parties to obtain patent protection, if either party deem it necessary, in accordance with the terms of this Agreement.

ARTICLE 9
REPRESENTATIONS, WARRANTIES AND COVENANTS

9.1 CORPORATE POWER. Each party hereby represents and warrants that such party is duly organized and validly existing under the laws of the state of its incorporation and has full corporate power and authority to enter into this Agreement and to carry out the provisions hereof.

9.2 DUE AUTHORIZATION. Each party hereby represents and warrants that such party is duly authorized to execute and deliver this Agreement and to perform its obligations hereunder. Each party represents and warrants to the other party that it has the necessary authority to grant the licenses to the other party contained herein.

9.3 BINDING OBLIGATION. Each party hereby represents and warrants that this Agreement is a legal and valid obligation binding upon it and is enforceable in accordance with its terms. The execution, delivery and performance of this Agreement by such party does not conflict with any agreement, instrument or understanding, oral or written, to which it is a party or by which it may be bound, or, to its knowledge, violate any law or regulation of any court, governmental body or administrative or other agency having authority over it.

9.4 COVENANT NOT TO [***]. Neither party will [***].

9.5 AURORA TECHNOLOGY. Except as expressly licensed herein, [***].

9.6 LIMITATION ON WARRANTIES. Except as expressly set forth in this Agreement, nothing herein will be construed as a representation or warranty by either party that use of any intellectual property transferred, licensed or otherwise made available hereunder does not infringe any intellectual property right of any Third Party. Neither party makes any warranties, express or implied, concerning the success of the Research Programs or the commercial utility of any Product. [***].

9.7 DISCLAIMER OF WARRANTIES. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR WARRANTY TO THE OTHER PARTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

9.8 LIMITATION OF LIABILITY. NEITHER PARTY WILL BE ENTITLED TO RECOVER FROM THE OTHER PARTY ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES IN CONNECTION WITH THIS AGREEMENT OR ANY LICENSE GRANTED HEREUNDER.

9.9 MUTUAL INDEMNIFICATION. Each party hereby agrees to save, defend, indemnify and hold harmless the other party and its officers, directors, employees, consultants and agents from and against any and all losses, damages, liabilities, expenses and costs, including reasonable legal expense and attorneys' fees ("Losses"), to which the indemnified party may become subject as a result of any claim, demand, action or other proceeding by any Third Party to the extent such Losses arise directly or indirectly out of (a) [***] the indemnifying party hereunder, or (b) [***] by such indemnified party or sublicensees, except to the extent such Losses result from the gross negligence or willful misconduct of the party claiming a right of indemnification under this Section 9.9. In the event either party seeks indemnification under this Section 9.9, it will inform the other party of a claim as soon as reasonably practicable after it receives notice of the claim, will permit the other party to assume direction and control of the defense of the claim (including the right to settle the claim

solely for monetary consideration), and will cooperate as requested (at the expense of the other party) in the defense of the claim.

ARTICLE 10
TERM AND TERMINATION

10.1 TERM. This Agreement will commence on the Effective Date and will continue until (i) the expiration of the last to expire of the Aurora Patents, the Stanford Patents or the Hyseq Patents, or (ii) the last royalty obligation due hereunder is paid, whichever is later, unless terminated earlier as provided herein (the "Term").

10.2 TERMINATION FOR CAUSE. Either party may terminate this Agreement prior to the expiration of the Term upon the occurrence of any of the following:

(a) Upon or after the bankruptcy, insolvency, dissolution or winding up of the other party (other than dissolution or winding up for the purposes of reconstruction or amalgamation); or

(b) Upon or after the breach of any material provision of this Agreement by the other party if the breaching party has not cured such breach within [***] after written notice thereof by the non-breaching party.

10.3 TERMINATION OF OSP PROGRAM BY AURORA. If Aurora is unable to use [***] approaches to screen OSPs under the OSP Program, then Aurora may terminate the OSP Program upon: (i) providing a written summary to the JRDC by Aurora which sets forth the efforts undertaken and all results obtained by Aurora in attempting to develop and use the [***] approaches to screen OSPs, (ii) providing [***] written notice to Hyseq, and (iii) paying to Hyseq [***]. Upon payment of such amount to Hyseq, Aurora will have no further obligations to Hyseq under Section 3.2(a) regarding the OSP Program, other than the obligations of confidentiality set forth in this Agreement. All other rights and obligations of the parties under this Agreement will survive the termination of the OSP Program pursuant to this Section 10.3.

10.4 EFFECT OF TERMINATION.

(a) Upon termination of this Agreement by Aurora under Section 10.2, (i) the licenses granted by Aurora to Hyseq under Article 4 will terminate, and (ii) the licenses granted by Hyseq to Aurora under Article 4 will remain in full force and effect for so long as Aurora is not in breach of its obligations to Hyseq under this Agreement. Upon termination of this Agreement by Hyseq under Section 10.2, (i) the licenses granted by Hyseq to Aurora under Article 4 will terminate, and (ii) the licenses granted by Aurora to Hyseq under Article 4 will remain in full force and affect for so long as Hyseq is not in breach of its obligations to Aurora under this Agreement.

(b) Expiration or termination of this Agreement will not relieve the parties of any obligation accruing prior to such expiration or termination. Except as set forth below or elsewhere in this Agreement, the obligations and rights of the parties under Sections 3.3(a) 4.4,

4.8, 6.4, 9.7, 9.8, 9.9, 10.3 and 10.4 and Articles 1, 7, 8 and 11 will survive the expiration or termination of this Agreement.

(c) Within 30 days following the expiration or termination of this Agreement (except to the extent either party retains a license as contemplated by Section 10.2(a) or 10.2(b) above), each party will return to the other party, or destroy, upon the written request of the other party, any and all Confidential Information and Materials of the other party in its possession, provided, however, that each party may keep one copy of such Confidential Information for the sole purpose of complying with its obligations hereunder.

ARTICLE 11
MISCELLANEOUS

11.1 ASSIGNMENT. Except as expressly provided hereunder, neither this Agreement nor any rights or obligations hereunder may be assigned or otherwise transferred by either party without the prior written consent of the other party (which consent will not be unreasonably withheld); provided, however, that during the Collaboration Period Aurora may assign this Agreement and the rights and obligations hereunder to Vertex Pharmaceuticals Incorporated ("Vertex") without Hyseq's consent in connection with the merger of Aurora with Vertex as required by operational law, contract or otherwise; provided further, that following the expiration of the Collaboration Period, either party may assign this Agreement and its rights and obligations hereunder without the other party's consent (a) in connection with the transfer or sale of all or substantially all of the business of such party to which this Agreement relates to a Third Party, whether by merger, sale of stock, sale of assets or otherwise, or (b) to an Affiliate, provided that any such assignment to an Affiliate will not relieve the assigning party of its responsibilities for performance of its obligations under this Agreement. The rights and obligations of the parties under this Agreement will be binding upon and inure to the benefit of the successors and permitted assigns of the parties. Any assignment not in accordance with this Agreement is null and void.

11.2 FORCE MAJEURE. Neither party will be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any term of this Agreement (other than non-payment) if (a) such failure or delay is caused by or results from causes beyond the reasonable control of the affected party, including, but not limited to, fire, floods, el nino, la nina, embargoes, war, acts of war (whether war be declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other party, and (b) the affected party has exerted all reasonable efforts to avoid or remedy such force majeure event; provided, however, that in no event will either party be required to settle any labor dispute or disturbance.

11.3 GOVERNING LAW. This Agreement will be governed by, and construed and enforced in accordance with, the laws of the State of California, as such laws apply to agreements between California residents performed entirely within the State of California, except that questions affecting the construction and effect of any patent will be determined by the law of the country in which such patent is issued.

11.4 NOTICES. All notices and other communications provided for hereunder will be in writing and will be mailed by first-class, registered or certified mail, postage paid, or delivered personally, by overnight delivery service or by facsimile, computer mail or other electronic means, with confirmation of receipt, addressed as follows:

IF TO AURORA: AURORA BIOSCIENCES CORPORATION
11010 Torreyana Road
San Diego, CA 92121
Fax: (858) 404-6713
Attn: President

IF TO HYSEQ: HYSEQ, INC.
670 Almanor Ave.
Sunnyvale, CA 94085
Fax: (408) 524-8145
Attn: Legal Department

Either party may by like notice specify or change an address to which notices and communications will thereafter be sent. Notices sent by facsimile, computer mail or other electronic means will be effective upon confirmation of receipt, notices sent by mail or overnight delivery service will be effective upon receipt, and notices given personally will be effective when delivered.

11.5 WAIVER. Except as specifically provided for herein, the waiver from time to time by either party of any right or failure to exercise any remedy will not operate or be construed as a continuing waiver of the same right or remedy or of any other of such party's rights or remedies provided in this Agreement.

11.6 SEVERABILITY. If any provision of this Agreement is or becomes invalid, is ruled illegal by a court of competent jurisdiction or is deemed unenforceable under the current applicable law from time to time in effect during the Term, the remainder of this Agreement will not be affected or impaired thereby and will continue to be construed to the maximum extent permitted by law. In lieu of any provision which is invalid, illegal or unenforceable, there will be substituted or added as part of this Agreement by mutual written agreement of the parties or arbitration, a provision which is (a) as similar as possible in economic and business objectives as intended by the parties to such invalid, illegal or unenforceable provision, and (b) valid, legal and enforceable.

11.7 INDEPENDENT CONTRACTORS. It is expressly agreed that Aurora and Hyseq will be independent contractors and that the relationship between the parties will not constitute a partnership or agency of any kind. Neither Aurora nor Hyseq will have the authority to make any statements, representations or commitments of any kind, or to take any action, which will be binding on the other party, without the prior written consent of the other party.

11.8 ENTIRE AGREEMENT; AMENDMENT. This Agreement (including the exhibits attached hereto) sets forth all of the agreements and understandings between the parties with respect to the subject matter hereof and supersedes and terminates all prior agreements and

understandings between the parties. There are no agreements or understandings, either oral or written, between the parties other than as set forth herein. Notwithstanding the foregoing, any disclosure made by either party pursuant to the Mutual Non-Disclosure Agreement between the parties dated December 15, 2000 will continue to be governed by the terms and conditions of such agreement. No subsequent modification, amendment, change or addition to this Agreement will be binding upon the parties, unless reduced to writing and signed by the respective authorized officers of the parties.

11.9 HEADINGS AND PLURALITY. The captions and plurality of defined terms contained in this Agreement are not substantively a part of this Agreement, but are merely guides or labels to assist in locating and reading the several articles hereof.

11.10 USE OF TRADEMARKS. Neither party will use the names, trademarks, or any adaptation thereof of the other in any advertising, promotional or sales activities without the prior written consent obtained, except that the parties may state that they are licensed under one or more of the patents and/or applications granted hereunder.

11.11 COUNTERPARTS. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument. Counterparts may be signed and delivered by facsimile, each of which will be binding when sent.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized officers as of the Effective Date.

AURORA BIOSCIENCES CORPORATION	HYSEQ, INC.
By: /s/ Michael J. Dunn	By: /s/ Ted W. Love
Name: Michael J. Dunn	Name: Ted W. Love
Title: Vice President, Business Development	Title: President and CEO

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT A

AURORA PATENTS

Title	Patent Number	Serial Number	Filing Date
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]

Hyseq Indemnification for Products or Services Arising from License Granted Herein. With respect to rights licensed to Aurora by the Howard Hughes Medical Institute ("HHMI") or by The Regents of the University of California ("UC"), Hyseq hereby agrees to indemnify, defend and hold harmless HHMI or UC, as appropriate, and their respective officers, directors, employees, sponsors and agents from and against all damages or other amounts payable to a Third Party (including product liability) resulting or arising from Hyseq's use of the rights granted herein to the extent that such indemnification by Hyseq is required by HHMI or UC pursuant to agreements between HHMI and Aurora or between UC and Aurora.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT B

STANFORD PATENTS

Title	Patent Number	Serial Number	Filing Date
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]
[***]	[***]	[***]	[***]

Disclaimer of Warranties. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, PURSUANT TO THE STANFORD AGREEMENT, STANFORD MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE USE OF THE STANFORD LICENSED PRODUCTS OR SERVICES WILL NOT INFRINGE ANY PATENT, COPYRIGHT, TRADEMARK\ OR OTHER RIGHTS OR ANY OTHER EXPRESS OR IMPLIED WARRANTIES. Pursuant to the Stanford Agreement, nothing is this Agreement is or will be construed as:

(a) A warranty or representation by Stanford as to [***];

(b) A warranty or representation that anything made, used, sold or otherwise disposed of under any license granted in this Agreement [***];

(c) An obligation to [***], except to the extent and in the circumstances described in Article 11 of the Stanford Agreement;

(d) Granting by implication, estoppel or otherwise any licenses or rights under patents or other rights of Stanford or other persons other than the Stanford Patents, regardless of whether such patents or other rights are [***] to any of the Stanford Patents; or

(e) An obligation to furnish any technology or technological information other than the technology as set forth herein.

Stanford Names and Marks. Pursuant to the Stanford Agreement, Aurora and Hyseq agree that Hyseq will not identify Stanford in any promotional advertising or other promotional materials to be disseminated to the public or any portion thereof or to use the name of any Stanford faculty member, employee or student or any trademark, service mark, trade name or symbol of Stanford or the Stanford University Hospital, or that is associated with either of them, without Stanford's prior written consent. Stanford gives consent to Hyseq to identify Herzenberg and Nolan as authors of their respective papers and to identify the Stanford Patents.

Indemnification. Pursuant to the Stanford Agreement, Hyseq will indemnify, hold harmless and defend Stanford and Stanford University Hospital and their respective trustees, officers, employees, students and agents ("Indemnitees") against any and all claims for death, illness, personal injury, property damage and improper business practice arising out of the manufacture, use, sale or other disposition of the Stanford Patents or Stanford Licensed Product(s) by Hyseq or its customers, except to the extent any such claims or losses are caused by the intentional misconduct, gross negligence or breach of the representations and warranties made under the Stanford Agreement by Indemnitee; and provided further that in the event of any such claim, Indemnitee will give prompt written notice to Hyseq and Hyseq will manage and control, at its sole expense, the defense and settlement of such claim, provided, however, that Hyseq will not settle any suit involving the rights of such Indemnitee without obtaining its prior written consent, which consent will not be unreasonably withheld, and provided further that such Indemnitee will fully cooperate with Hyseq.

Limitation of Liability. Pursuant to the Stanford Agreement, Stanford will not be liable for any indirect, special, consequential or other damages whatsoever, whether grounded in tort (including negligence), strict liability, contract or otherwise. Stanford will not have any responsibilities or liabilities whatsoever with respect to Stanford Licensed Product(s).

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT C

AURORA TECHNOLOGY

[***]

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT D

OSP PROGRAM

HYSEQ:

- - [***].

AURORA:

- - [***].

- - [***].

APPENDIX I- CELLSENSOR ASSAYS RELEVANT FOR OSP SCREENING

CELL LINE	PATHWAY MEASURED	REFERENCE STIMULUS
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]

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[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
[***]	[***]	[***]
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[***]	[***]	[***]
[***]	[***]	[***]

[***].

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT E

TARGET PROGRAM

HYSEQ:

- - [***].

[***].

[***].

AURORA:

- - [***].

APPENDIX II - ASSAY VALIDATION.

[***].

[***].

[***].

[***]

[***].

[***].

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

COLLABORATION AGREEMENT

THIS COLLABORATION AGREEMENT (this "AGREEMENT") is made effective as of the 11th day of August 2001 (the "EFFECTIVE DATE") by and between Hyseq, Inc., a corporation organized under the laws of Delaware, having offices at 670 Almanor Avenue, Sunnyvale, California 94085 USA ("HYSEQ"), and Kirin Brewery Company, Ltd., a corporation organized under the laws of Japan, having offices at 10-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8288, Japan, ("Kirin"). Hyseq and Kirin are sometimes referred to herein individually as a "PARTY" and collectively as the "PARTIES."

RECITALS

1. Hyseq owns or has rights under certain patents, patent applications, technology, know-how and other intellectual property relating to gene and protein discovery and expression, and may develop or acquire additional such rights.

2. Kirin owns or has rights under certain patents, patent applications, technology, know-how and other intellectual property relating to gene and protein discovery and expression, and may develop or acquire additional such rights.

3. The Parties wish to collaborate in the research and development of new protein, antibody and macromolecular therapeutics directed to human diseases, including, but not limited to, hematopoietic and inflammatory diseases, in accordance with the terms and conditions set forth herein.

4. The Parties may also collaborate in the marketing and sale of certain products resulting from such research and development efforts in accordance with the terms and conditions set forth herein.

In consideration of the premises and of the mutual covenants and obligations set forth herein, the Parties hereby agree as set out below.

ARTICLE 1

DEFINITIONS

The following capitalized terms shall have the following meanings:

1.1 "ADDITIONAL TECHNOLOGY" shall have the meaning set forth in Section 3.5.1.

1.2 "AFFILIATE" means any individual, corporation, association or other business entity which directly or indirectly controls, is controlled by or is under common control with the Party in question. As used in this definition of "Affiliate" only, the term "control" means the direct or indirect ownership of more than fifty percent (50%) of the stock having the right to vote for directors thereof or the ability to otherwise control the management of the corporation or other business entity whether through the ownership of voting securities, by contract, resolution, regulation or otherwise; provided that, if local law requires a minimum percentage of local

ownership, control will be established by direct or indirect beneficial ownership of one hundred percent (100%) of the maximum ownership percentage that may, under such local law, be owned by foreign interests.

1.3 "APPLICABLE LAWS" means all laws, statutes, ordinances, codes, rules and regulations which have been enacted by a governmental authority and are in force as of the Effective Date or come into force during the term of this Agreement, in each case to the extent that the same are applicable to the performance by the Parties of their respective obligations under this Agreement.

1.4 "APPROVAL APPLICATION" means any application necessary or appropriate to obtain a Regulatory Approval, together with all required documents, data and information concerning the New Product which is the subject of such application.

1.5 "AUDITED PARTY" shall have the meaning set forth in Section 3.4.3.

1.6 "AUDITING PARTY" shall have the meaning set forth in Section 3.4.3.

1.7 "BANKRUPTCY CODE" shall have the meaning set forth in Section 11.10.

1.8 "BENCH SCIENTIST" means, as to a Party, an employee of such Party having both an advanced scientific degree and the qualifications, skill and experience adequate for the tasks assigned to such employee by such Party in performance of the R&D Plan.

1.9 "CHANGE OF CONTROL," as to a Party, means a change in Control of such Party by merger or reorganization, sale or other transfer of business and assets, sale or other transfer of capital stock, or similar transaction, whether in a single transaction or series of related transactions, as a result of which any Person (or any group of related Persons) that did not directly or indirectly Control such Party prior to the transaction (or series of transactions) thereafter directly or indirectly Controls such Party.

1.10 "CONTROL" (including "Controlled," "Controls" and other forms) shall mean (except with respect to the definition of Affiliate), as to a Person: (a) ownership or control, directly or indirectly, of more than fifty percent (50%) of the voting securities of the Person or, in the case of a noncorporate Person, equivalent interests or (b) the right or power to designate more than fifty percent (50%) of the governing authority (e.g., board of directors) of the Person (whether through management contract, voting rights agreement or similar means).

1.11 "DEVELOPMENT CANDIDATE" means a specific molecule, such as a protein, antibody, or other macromolecule, selected and approved by the JRDC for R&D Work under the R&D Plan in accordance with the terms and conditions of this Agreement.

1.12 "DEVELOPMENT FUNDING" shall have the meaning set forth in Section 3.2.

1.13 "DEVELOPMENT WORK" shall have the meaning set forth in Section 2.1.1.

1.14 "DISCLOSING PARTY" shall have the meaning set forth in Section 7.1.

1.15 "DISPUTE" shall have the meaning set forth in Section 10.2.

1.16 "EFFECTIVE DATE" shall have the meaning set forth in the first paragraph of this Agreement.

1.17 "ENFORCING PARTY" shall have the meaning set forth in Section 5.5.4.

1.18 "FIRST PARTY" shall have the meaning set forth in Section 5.1.6.

1.19 "FTE" means the full time equivalent effort, for one calendar year, of one individual participating directly and substantially in R&D Work on behalf of a Party, or, in the case of less than a full-time dedicated scientific person, a full-time, equivalent scientific person year, based upon a total of fifty-two (52) weeks (i.e., two thousand eighty (2,080) hours) per year of such R&D Work on behalf of a Party. The Parties shall agree upon standard cost accounting procedures to determine FTE contributions properly allocable to the R&D Work.

1.20 "FTE RATE" means [***] per FTE, which rate shall apply to a Bench Scientist and remain fixed and in effect for the duration of the term of this Agreement, unless otherwise agreed upon by the Parties.

1.21 "HYSEQ CLAIMS" shall have the meaning set forth in Section 9.2.

1.22 "HYSEQ IMPROVEMENTS" means any improvements to or modifications of the Hyseq Technology, excluding Joint Inventions, by any Party or its Affiliates, either jointly or solely.

1.23 "HYSEQ INDEMNIFIED PARTIES" shall have the meaning set forth in Section 9.2.

1.24 "HYSEQ TECHNOLOGY" means: all Patent Rights, all copyrights, trade secrets and all other intellectual property rights and interests of every nature (specifically including, but not limited to, unpatented inventions, ideas, data, know-how, methods, processes, biological material, reagents, software and trade secrets of any kind, and any other rights or interests in any Inventions) that are: (i) owned by Hyseq or any its Affiliates (to the greatest extent that Hyseq or its Affiliates has the right and authority to grant licenses as of the Effective Date) or, if not so owned, as to which Hyseq or any of its Affiliates otherwise has the right to grant licenses or sublicenses as of the Effective Date (subject to any limitations imposed by a Third Party license); (ii) [***] to perform the R&D Work or to make, have made, use, sell, offer for sale and/or import Development Candidates or New Products; and (iii) as directed by the JRDC.

1.25 "HYSEQ TERRITORY" means the countries and multinational jurisdictions listed in Exhibit A.

1.26 "INDEMNIFIED PARTY" shall have the meaning set forth in Section 9.3.

1.27 "INDEMNIFYING PARTY" shall have the meaning set forth in Section 9.3.

1.28 "INFRINGEMENT" shall have the meaning set forth in Section 5.5.1.

1.29 "INVENTIONS" means any and all creations, materials and information, in any tangible or intangible form whatsoever and whether or not patentable, relevant to or resulting from the research, discovery, development, manufacture or commercialization of protein or antibody

therapeutics or diagnostics, including, without limitation, ideas, discoveries, inventions, practices, methods, techniques, specifications, formulations, formulas, knowledge, trade secrets, know-how, skill, experience, test data (including pharmacological, biological, chemical, biochemical, toxicological and clinical test data), analytical and quality control data, stability data, results of studies, databases, technical drawings, software, works of authorship and other related subject matter.

1.30 "JOINT INVENTION" means any Invention (a) made in the course of performance of the R&D Work or commercialization of a New Product, (b) by one or more employees, agents or contractors of Hyseq or its Affiliates and/or Kirin or its Affiliates, and (c) which comprises, or which is required to make, use, sell, offer for sale or import, a Development Candidate or a New Product.

1.31 "JOINT PATENTS" means, subject to Section 5.1.6, all Patent Rights that claim, cover or are directed to Joint Inventions and Other Joint Inventions.

1.32 "JRDC" shall have the meaning set forth in Section 2.1.2.

1.33 "KIRIN CLAIMS" shall have the meaning set forth in Section 9.1.

1.34 "KIRIN IMPROVEMENTS" means any improvements to or modifications of the Kirin Technology, excluding Joint Inventions, by any Party or its Affiliates, either jointly or solely.

1.35 "KIRIN INDEMNIFIED PARTIES" shall have the meaning set forth in Section 9.1.

1.36 "KIRIN TECHNOLOGY" means: all Patent Rights, copyrights, trade secrets and all other intellectual property rights and interests of every nature (specifically including, but not limited to, unpatented inventions, ideas, data, know-how, methods, processes, biological material, reagents, software and trade secrets of any kind, and any other rights or interests in any Inventions) that are: (i) owned by Kirin or any its Affiliates (to the greatest extent that Kirin or its Affiliates has the right and authority to grant licenses as of the Effective Date) or, if not so owned, as to which Kirin or any of its Affiliates otherwise has the right to grant licenses or sublicenses as of the Effective Date (subject to any limitations imposed by a Third Party license); (ii) [***] to perform the R&D Work or to make, have made, use, sell, offer for sale and/or import New Products and (iii) as directed by the JRDC.

1.37 "KIRIN TERRITORY" means the countries and multinational jurisdictions listed in Exhibit B.

1.38 "NET SALES" means the gross amount billed or invoiced by a Party or its Affiliates or any of their Sublicensees for the sale or other disposition of a New Product, less the following deductions: [***]. "Net Sales" does not include amounts for any New Product furnished to a Third Party for which [***]. Furthermore, "Net Sales" excludes amounts from sales or other dispositions of New Products between a Party and any of its Affiliates or between a Party (or any of its Affiliates) and its Sublicensees, solely to the extent that such entity purchasing the New Product resells such New Products to a Third Party.

1.39 "NEW PRODUCT" means any protein, antibody, or macromolecular therapeutic or diagnostic product directly resulting from the Development Work hereunder, including, without limitation, any Development Work performed with respect to a Development Candidate.

1.40 "OTHER JOINT INVENTION" means any Invention made in the course of performance of the R&D Work or commercialization of New Products by the employees, agents or contractors of Hyseq or its Affiliates and/or Kirin or its Affiliates but excluding Joint Inventions, Hyseq Improvements, and Kirin Improvements.

1.41 "OTHER TERRITORY" means all countries of the world excluding those countries in the Hyseq Territory or the Kirin Territory.

1.42 "PATENT COSTS" means all preparation, filing, prosecution and maintenance out-of-pocket fees and expenses (including attorneys' fees), actually and reasonably incurred in connection with the establishment and maintenance of Patent Rights.

1.43 "PATENT RIGHTS" means (a) all issued patents and inventor's certificates, and all patent applications throughout the world, including any renewal, division, continuation, continued prosecution application or continuation-in-part of any of such patents, certificates and applications, and any and all patents issuing in respect thereof; (b) any and all reissues, extensions, substitutions, confirmations, registrations, revalidations, revisions, renewals, reexaminations, foreign counterparts of and additions to any of the foregoing; and (c) all intellectual property rights and other proprietary rights in, to and under the foregoing.

1.44 "PERSON" means any individual or legal entity.

1.45 "PRIOR ART INVENTION" shall have the meaning assigned to it in Section 5.1.6.

1.46 "PROJECT YEAR" means a twelve (12) month period in which one or both Parties shall perform specific R&D Work approved by the JRDC under the R&D Plan. Each Project Year shall commence as of its applicable Project Year Commencement Date. For purposes of clarification, more than one Project Year may be in progress at any time, and no two Project Years shall necessarily have the same Project Year Commencement Date.

1.47 "PROJECT YEAR COMMENCEMENT DATE," as to a Project Year, means the date specified by the JRDC in the R&D Plan for such Project Year.

1.48 "R&D PLAN" shall have the meaning set forth in Section 2.1.1.

1.49 "R&D WORK" shall have the meaning set forth in Section 2.1.1.

1.50 "RECEIVING PARTY" shall have the meaning set forth in Section 7.1.

1.51 "REGULATORY APPROVAL" means, with respect to a nation or, where applicable, a multinational jurisdiction, any approvals, licenses, registrations or authorizations necessary for the manufacture, marketing and sale of a New Product in such nation or jurisdiction.

1.52 "RESEARCH FUNDING" shall have the meaning set forth in Section 3.1.1.

1.53 "RESEARCH WORK" shall have the meaning set forth in Section 2.1.1.

1.54 "RESPONSIBLE EXECUTIVE" shall have the meaning set forth in Section 10.2.

1.55 "RIGHT" shall have the meaning set forth in Section 11.7.

1.56 "SECOND PARTY" shall have the meaning set forth in Section 5.1.6.

1.57 "SUBLICENSEE" means an authorized or permitted licensee or sublicensee of a Party or any of its Affiliates.

1.58 "THIRD PARTY" means any Person other than Hyseq or Kirin or their respective Affiliates.

ARTICLE 2

RESEARCH AND DEVELOPMENT

2.1 JOINT RESEARCH AND DEVELOPMENT COMMITTEE.

2.1.1 In accordance with the terms and conditions set forth below, the Parties shall conduct the research and development of Development Candidates ("R&D WORK") pursuant to a mutually agreed plan approved (and as amended from time to time) in accordance with this Article 2, including, at a minimum and without limitation, the subject matter set forth in Exhibit C (the "R&D PLAN"). The R&D Work shall consist of the two phases: (a) the discovery or optimization of potential Development Candidates (the "RESEARCH WORK"), and (b) the development of select Development Candidates into New Products (the "DEVELOPMENT WORK").

2.1.2 Within ten (10) days after the Effective Date, each Party shall appoint three (3) individuals to serve as its representatives on a joint research and development committee (the "JRDC"). The JRDC shall formulate and approve the initial R&D Plan and, from time to time, any modifications or amendments thereto. The initial R&D Plan shall include, at a minimum and without limitation, the subject matter set forth in Exhibit C. The R&D Plan shall specify the R&D Work to be performed by the Parties and the Project Year Commencement Date therefor. Each Party shall have the right to change any or all of its representatives on the JRDC upon written notice to the other Party, provided that each Party shall appoint and maintain for the duration of the term of this Agreement at least one senior management representative on the JRDC.

2.1.3 The JRDC shall have authority over the design, management and conduct of the R&D Work and, if applicable, the commercialization of New Products. The JRDC may appoint individuals to serve as representatives on subcommittees to assist the JRDC with respect to any particular subject matter of the R&D Plan and, if applicable, the commercialization of New Products, including, for example, product manufacturing, quality control and assurance, preclinical studies design, implementation and evaluation, clinical protocols design, implementation and evaluation, and regulatory affairs. Without limiting the generality of the foregoing, the JRDC shall have the sole authority to:

(a) Develop and implement the R&D Plan, including, without limitation, go/no-go criteria, timelines and responsibilities with respect to the discovery, optimization and development of Development Candidates, which responsibilities may include [***];

(b) Develop and implement the budget for the Research Funding and Development Funding;

(c) Monitor and make recommendations regarding compliance of the Parties with the R&D Plan and the conduct of the R&D Work;

(d) Develop and implement amendments and modifications to the R&D Plan;

(e) Set priorities with respect to allocation of resources under the R&D Plan;

(f) Review any and all proposed publications relating to the R&D Plan or activities with respect to a Development Candidate and the results therefrom, and any and all proposed filings of patent applications in connection therewith;

(g) List on Exhibit D all Patent Rights identified by each Party that claim a Development Candidate or New Product, provided that any and all Patent Rights that claim a Joint Invention shall be deemed to be listed on Exhibit D;

(h) Direct prosecution of Joint Patents as provided in Section 5.4;

(i) Determine and direct the licensing and/or disposition of any Joint Patents that claim Other Joint Inventions;

(j) Select Development Candidates for Development Work and determine how such Development Work should occur;

(k) Monitor and review pre-clinical and clinical trials of Development Candidates and Approval Applications for New Products;

(l) Determine on an annual basis whether to continue or discontinue performance of the R&D Plan or any R&D Work thereunder;

(l) Coordinate each Party's activities with respect to the commercialization of New Products, if applicable, and establish each Party's rights and obligations with respect to the launch, promotion, marketing and sale of New Products in the Other Territory; and

(m) Decide which Party or Parties shall manufacture each New Product, subject to a separate manufacturing agreement to be negotiated in good faith by each Party.

2.1.4 During the term of this Agreement, and thereafter as set forth in Section 8.4.2, if applicable, the JRDC shall meet, in person or by telephone conference call, on an "as needed" basis (as determined by the JRDC) to review progress of the R&D Plan. The JRDC shall hold regular meetings, in person or by telephone conference call, as necessary, to discuss the progress of the R&D Work and any all Inventions resulting therefrom; provided that the JRDC shall meet at least one (1) time each quarter and shall hold at least two (2) in-person meetings per year, with at least one (1) in-person meeting being held at the offices of each Party each year. All decisions made or actions taken by the JRDC shall be made in writing, signed by a JRDC representative of each Party, and require the [***] of the Parties, with each Party entitled to [***] vote. Any decision of or action by the JRDC without the [***] of the Parties shall be null and void. A quorum of the JRDC shall consist of two members, provided that at least one member appointed by each Party is present. The JRDC shall keep meeting minutes and prepare a quarterly report for internal senior management review by the Parties. The host Party at each in-person meeting shall prepare the minutes for that meeting and the Parties will alternate preparing minutes for each meeting held via telephone or video conference. All disagreements arising out of the R&D Plan, R&D Work or prosecution of Patent Rights during the term of this Agreement shall be referred to the JRDC. If the JRDC is unable to resolve such disagreement within thirty (30) days, the matter shall be resolved in accordance with the procedures set forth in Article 10.

2.2 RESPONSIBILITIES OF THE PARTIES.

2.2.1 Each Party shall be solely responsible for all R&D Work assigned to such Party under the R&D Plan. If the R&D Plan fails to allocate responsibility for any R&D Work to a particular party, the JRDC shall promptly designate the responsible Party for such R&D Work. Each Party shall use [***] efforts to perform the R&D Work for which it is responsible. Without limiting the generality of the foregoing, each Party shall use [***] efforts to: (a) commit sufficient internal resources to perform the R&D Work, (b) make available to the other Party sufficient quantities of materials, as required under the R&D Plan, for such Party to perform the R&D Work, (c) commit sufficient resources to deliver and disclose technology (including trade secrets and know-how) required to be so delivered and disclosed to the other Party in accordance with the R&D Plan, (d) report all Inventions to the JRDC pursuant to Section 2.2.3, (e) carry out its responsibilities with respect to prosecution of Joint Patents as directed by the JRDC, and (f) cooperate, consult and share information with respect to the establishment and progress of pre-clinical and clinical trials and filings for Regulatory Approval.

2.2.2 Each Party shall be solely responsible for the promotion, marketing and sales of New Products (including all Regulatory Approval relating thereto), and all costs associated with the foregoing, in the Hyseq Territory or Kirin Territory, as applicable, and, as directed by the JRDC, the Other Territory. Each Party shall use [***] efforts to promote, market and sell New Products in the Hyseq Territory and Kirin Territory, as applicable, and, as directed by the JRDC, the Other Territory.

2.2.3 Each Party shall prepare and maintain detailed records of, and regularly disclose to the JRDC and the other Party, any and all Inventions and other related information created by or for such Party in connection with the R&D Work. Such disclosure shall be made as provided for in the R&D Plan, but in no event less than once per calendar quarter. Without limiting the generality of the foregoing, each Party shall regularly provide the JRDC with information

sufficient to enable the JRDC to perform its obligations pursuant to Section 2.1, including, without limitation, reasonably detailed descriptions of the R&D Work performed, the scheduling of ongoing or future R&D Work, resources anticipated to accomplish the R&D Work, and any additional reasonable reporting information required by the JRDC.

2.3 RIGHT TO NEGOTIATE NEW AGREEMENT. At any time after any Development Candidate approved by the JRDC for Development Work hereunder [***], either Party may request the other Party to discuss alternative approaches and contractual arrangements, to be memorialized in a separate agreement with respect to the development, manufacturing and commercialization of New Products. The other Party shall make appropriate representatives reasonably available to confer with such Party regarding the terms and conditions of such separate agreement for a period of [***], provided that nothing in this Agreement shall be construed to require or obligate such other Party to enter into any such separate agreement.

ARTICLE 3

FUNDING; ROYALTIES

3.1 RESEARCH FUNDING.

3.1.1 The JRDC shall formulate and approve a budget to cover the FTE contributions of Hyseq, and [***] costs and expenses actually incurred by Hyseq, subject to [***], that are [***], in performance of the Research Work during each Project Year (such approved budget referred to herein as the "RESEARCH FUNDING"). Such [***] costs and expenses include, for example and without limitation, approved outside services, contract manufacturing, contract studies or consulting services, but exclude [***] costs and expenses incurred in performance of the Research Work. Kirin shall be solely responsible for payment of the Research Funding in accordance with Section 3.1.2. Within [***] after the close of each quarter of any Project Year, Hyseq shall submit to Kirin a detailed and accurate invoice, based on Hyseq's actual FTE contributions and the FTE Rate, and any approved [***] expenses incurred, for Research Work conducted by Hyseq during such quarter. Each such invoice shall identify each individual performing Research Work by or on behalf of Hyseq together with a reasonably detailed description of the Research Work performed by such individual, and the time spent (on a monthly basis) by such individual performing such Research Work. Kirin shall not be responsible for expenses incurred in any Project Year by Hyseq with respect to Research Work that was not approved by the JRDC or to the extent that such expenses exceed the budgeted amounts therefor.

3.1.2 For each Project Year, Kirin shall pay the budgeted Research Funding payments for Research Work conducted by Hyseq during each quarter of the Project Year (based upon budgeted Research Funding for such quarter of the Project Year as approved by the JRDC) within [***] after receipt of Hyseq's invoice therefor, as submitted pursuant to Section 3.1.1; provided, however, that, upon receipt of such invoice by Kirin, the Parties shall review the amount of expenses submitted by Hyseq in such quarter and, in the event that Hyseq's actual expenses are less than the budgeted Research Funding payment for such quarter, Kirin shall only be required to pay the amount of actual expenses incurred by Hyseq. Kirin shall not be obligated to make any payment to Hyseq hereunder before the initial Project Year Commencement Date.

3.1.3 As provided under Sections 3.1.1 and 3.1.2, the Research Work for which Kirin shall pay, and the associated Research Funding therefor, for each Project Year shall be approved by the JRDC not later than ninety (90) days prior to the start of each such Project Year. In the event that the Research Funding for any Project Year has not been agreed upon in advance of the start of such Project Year, the Responsible Executives of the Parties shall meet, in person or by conference telephone call, to resolve the matter. Pending such resolution, however, Kirin, at its sole discretion, may elect to fund the FTE contributions of Hyseq for any upcoming Project Year, on a quarterly basis, in amounts sufficient to continue any Research Work (or portions thereof) from the corresponding just-ended Project Year, and Hyseq shall continue to perform such ongoing Research Work (or portions thereof).

3.1.4 Except as expressly provided in this Section 3.1, Hyseq shall bear all costs and expenses incurred by Hyseq in performance of Research Work under the R&D Plan.

3.1.5 Upon Kirin's request, the JRDC shall provide to Kirin, on or before October 1 of any calendar year, an estimated budget for all Research Work to be performed by Hyseq during the subsequent calendar year.

3.2 DEVELOPMENT FUNDING. The JRDC shall agree upon a budget to cover both Parties' FTE contributions in performance of the Development Work during each Project Year (such approved budget referred to herein as the "DEVELOPMENT FUNDING"). The Parties shall share responsibility equally (i.e., on a 50/50 basis) for payment of the Development Funding, based on each Party's actual FTE contributions to the Development Work and the FTE Rate. Within [***] after the close of each quarter of a Project Year, each Party shall submit detailed and accurate reports of its actual FTE contributions at the FTE Rate to the other Party, and the Party reporting lower costs for such quarter shall reimburse the other Party for one-half the difference between each Party's individual costs within [***] after both parties submit their reports, provided that neither Party shall be responsible for expenses incurred in a Project Year by the other Party with respect to Development Work that was not approved by the JRDC or to the extent that such expenses exceed such Party's allocated portion of the budgeted amounts therefor. Unless otherwise provided by the JRDC in writing, any other costs for the R&D Plan (e.g., third-party licenses and costs relating to third-party contractors) shall be borne solely by the Party which incurred such costs.

3.3 NET SALES ROYALTY.

3.3.1 Hyseq shall pay Kirin a royalty equal to [***] of Net Sales billed or invoiced by Hyseq or its Affiliates or Sublicensees in the Hyseq Territory.

3.3.2 Kirin shall pay Hyseq a royalty equal to [***] of Net Sales billed or invoiced by Kirin or its Affiliates or Sublicensees in the Kirin Territory.

3.4 ROYALTY PAYMENT TERMS.

3.4.1 All royalty payments due and payable pursuant to Section 3.3 shall be made within [***] after the close of the calendar quarter in which the applicable Net Sales were billed or invoiced. Each payment shall be accompanied by a written statement setting forth in reasonable detail the Net Sales in each country for each New Product, the rates of exchange (if applicable), and the royalty calculation.

3.4.2 All royalty payments due and payable pursuant to Section 3.3 shall be made in United States Dollars. Each payment shall be made by wire transfer to such financial institutions and account numbers as the other Party may designate in writing. In the event that a Party (or its Affiliates or Sublicensees) sells New Products in foreign currencies other than United States Dollars, the royalties owed shall be calculated by such Party (or its Affiliates or Sublicensees) in the foreign currency (and otherwise in accordance with such Party's or its Affiliates' or Sublicensees' standard accounting procedures) by converting the total amount of each foreign-currency royalty owed for the applicable reporting period to United States Dollars at the exchange rate in the United States (calculated by reference to the "United States Dollar noon buying rates," or its equivalent, as published in the Wall Street Journal) in effect on the last business day of the applicable reporting period.

3.4.3 Each Party shall keep and maintain accurate books and records to verify the number of units of New Products sold or otherwise disposed of during a reporting period by such Party, its Affiliates and its Sublicensees, and such other information as may be reasonably required to confirm the amounts payable hereunder with respect to such reporting period. Each Party shall preserve such books and records for a period of [***] after the end of the period covered by such books and records, which obligation shall survive for [***] after expiration or termination of this Agreement. Each Party (the "AUDITING PARTY") shall have the right, on [***] advance written notice and not more than [***] in any twelve (12) month period, to have an independent accounting firm reasonably acceptable to the other Party (the "AUDITED PARTY") examine such books, records and accounts of the Audited Party during the Audited Party's normal business hours solely to verify the accuracy of the royalty reports and the amount of payments made by the Audited Party hereunder during the preceding [***] quarterly reporting periods. The accounting firm shall not be paid on a contingency or other basis related to the outcome of the audit, and shall execute a confidentiality agreement with the Audited Party in a form mutually acceptable to the Parties that prohibits the accounting firm from disclosing or using information obtained in connection with the audit other than the disclosure to the Auditing Party of the amount of any underpayment or overpayment. Any such audit shall be conducted during the Audited Party's regular business hours, in such a manner so as not to interfere with the Audited Party's normal business activities, and shall be at the Auditing Party's expense, provided that if such audit reveals an underpayment of more than [***] during any reporting period, the Audited Party shall pay the costs of the audit.

3.4.4 Any deduction, withholding or similar taxes that a Party is required by statute to withhold with respect to any royalty payment payable hereunder shall be deducted from such payment; provided that the deducting Party shall provide the other Party with a copy of the certificate or other documentation demonstrating the payment to applicable tax authorities of the deducted, withheld or taxed amount. Late payments shall be subject to interest at a rate equal to [***] per annum or the maximum rate allowed by law, whichever is less.

3.5 ADDITIONAL TECHNOLOGY.

3.5.1 During the term of this Agreement, if either Party becomes aware of technology or related intellectual property rights relating to a New Product that is held or otherwise controlled by a Third Party, and such Party believes such technology and/or intellectual property rights are required to make, use, sell, offer for sale or import such New Product ("ADDITIONAL TECHNOLOGY") in any country within the Hyseq Territory, Kirin Territory or Other Territory, as

applicable, such Party may present a description of such technology, along with an analysis of the purported need for such technology, to the JRDC. Such Party shall [***]. Upon the written approval of the JRDC, which approval shall not be unreasonably withheld, such Party shall have the right to [***], provided that in no event will [***].

3.5.2 Notwithstanding anything to the contrary in this Section 3.5, this section shall not limit or otherwise restrict either Party in procuring technology or intellectual property rights.

ARTICLE 4

GRANTS OF LICENSES

4.1 GRANT OF LICENSES BY HYSEQ TO KIRIN.

4.1.1 Subject to the terms and conditions of this Agreement, Hyseq hereby grants to Kirin and its Affiliates a non-exclusive right and license, without a right to grant sublicenses, under the Hyseq Technology and Hyseq Improvements, as follows: (a) worldwide, solely to conduct Kirin's obligations to perform the R&D Work in accordance with the R&D Plan; (b) in the Kirin Territory to make, use, sell, offer for sale and import New Products in the Kirin Territory; and (c) in the Other Territory to make, use, sell, offer for sale and import New Products in the Other Territory solely as directed by the JRDC pursuant to Article 2.

4.1.2 Subject to the terms and conditions of this Agreement and upon designation of a Development Candidate by the JRDC, Hyseq grants to Kirin and its Affiliates, on a Development Candidate-by-Development Candidate basis, a worldwide co-exclusive right and license (i.e., exclusive except for Hyseq's retention of all such rights for itself and its Affiliates and its Sublicensees), under all Patent Rights of Hyseq that claim each Development Candidate and are listed on Exhibit D, including without limitation, the Prior Art Inventions, to make, use and import (and to have such rights exercised on its or their behalf) Development Candidates for the limited purpose of conducting the R&D Work in accordance with the R&D Plan, as directed by the JRDC pursuant to Article 2. Kirin and its Affiliates shall have the right to grant sublicenses under the foregoing license only upon the prior written consent of Hyseq, which shall not be unreasonably withheld or delayed.

4.1.3 Subject to the terms and conditions of this Agreement , Hyseq grants to Kirin and its Affiliates, on a New Product-by-New Product basis, an exclusive right and license, under all Patent Rights of Hyseq that claim each New Product and are listed on Exhibit D, to make, use, sell, offer for sale and import New Products in the Kirin Territory and, solely as directed by the JRDC pursuant to Article 2, in the Other Territory. Kirin and its Affiliates shall have the right to grant sublicenses under the foregoing license only upon the prior written consent of Hyseq, which shall not be unreasonably withheld or delayed.

4.2 GRANT OF LICENSES BY KIRIN TO HYSEQ.

4.2.1 Subject to the terms and conditions of this Agreement, Kirin hereby grants to Hyseq and its Affiliates a non-exclusive right and license, without a right to grant sublicenses, under the Kirin Technology and Kirin Improvements, as follows: (a) worldwide, solely to conduct

Hyseq's obligations to perform the R&D Work in accordance with the R&D Plan; (b) in the Hyseq Territory to make, use, sell, offer for sale and import New Products in the Hyseq Territory; and (c) in the Other Territory to make, use, sell, offer for sale and import New Products in the Other Territory solely as directed by the JRDC pursuant to Article 2.

4.2.2 Subject to the terms and conditions of this Agreement and upon designation of a Development Candidate by the JRDC, Kirin grants to Hyseq and its Affiliates, on a Development Candidate-by-Development Candidate basis, a worldwide co-exclusive right and license (i.e., exclusive except for Kirin's retention of all such rights for itself and its Affiliates and its Sublicensees), under all Patent Rights of Kirin that claim each Development Candidate and are listed on Exhibit D, including without limitation, the Prior Art Inventions, to make, use and import (and to have such rights exercised on its or their behalf) Development Candidates for the limited purpose of conducting the R&D Work in accordance with the R&D Plan, as directed by the JRDC pursuant to Article 2. Hyseq and its Affiliates shall have the right to grant sublicenses under the foregoing license only upon the prior written consent of Kirin, which shall not be unreasonably withheld or delayed.

4.2.3 Subject to the terms and conditions of this Agreement Kirin grants to Hyseq and its Affiliates, on a New Product-by-New Product basis, an exclusive right and license, under all Patent Rights of Kirin that claim each New Product and are listed on Exhibit D, to make, use, sell, offer for sale and import New Products in the Hyseq Territory and, solely as directed by the JRDC pursuant to Article 2, in the Other Territory. Hyseq and its Affiliates shall have the right to grant sublicenses under the foregoing license only upon the prior written consent of Kirin, which shall not be unreasonably withheld or delayed.

4.3 NO OTHER RIGHTS. This Agreement confers no right, license or interest by implication, estoppel or otherwise under any patents, patent applications, know-how or other intellectual property rights of either Party except as expressly set forth in this Article 4 and in Articles 5 and 8. Each Party hereby expressly reserves all rights and interests with respect to patents, patent applications, know-how or other intellectual property rights not expressly granted to the other Party hereunder.

ARTICLE 5

INTELLECTUAL PROPERTY MATTERS

5.1 OWNERSHIP OF INTELLECTUAL PROPERTY.

5.1.1 JOINT INVENTIONS; JOINT PATENTS; OTHER JOINT INVENTIONS. Subject to the provisions of Section 5.1.6, the Parties shall jointly own all Joint Inventions, Joint Patents and Other Joint Inventions. Unless otherwise explicitly provided herein, neither Party shall have any right or obligation of consent, accounting or payment of royalties or other consideration with respect to such Party's commercialization or exploitation of any Joint Invention, Joint Patent or Other Joint Inventions.

5.1.2 ASSIGNMENT BY HYSEQ. In order to effect the joint ownership provisions of Section 5.1.1, and subject to Section 5.1.6, Hyseq hereby assigns and agrees to assign to Kirin a

one-half undivided interest (and thereby retains an equal one-half undivided interest) in, to and under: (a) any Joint Invention or Other Joint Invention made solely by the employees, agents or contractors of Hyseq and its Affiliates; and (b) all Patent Rights claiming such Joint Invention or Other Joint Inventions.

5.1.3 ASSIGNMENT BY KIRIN. In order to effect the joint ownership provisions of Section 5.1.1, and subject to Section 5.1.6, Kirin hereby assigns and agrees to assign to Hyseq a one-half undivided interest (and thereby retains an equal one-half undivided interest) in, to and under: (a) any Joint Invention or Other Joint Invention made solely by the employees, agents or contractors of Kirin and its Affiliates; and (b) all Patent Rights claiming such Joint Invention or Other Joint Invention.

5.1.4 HYSEQ TECHNOLOGY; HYSEQ IMPROVEMENT. As between the Parties, subject only to the licenses set forth in Article 4 and Article 8, and the provisions of Section 5.1.6, Hyseq shall (a) retain all right, title and interest in and to the Hyseq Technology, and (b) solely own (i) any Hyseq Improvements (whether or not such Hyseq Improvements are invented, developed or made solely by or with the contribution of the employees, agents or contractors of Kirin) and (ii) all Patent Rights claiming, covering or directed to any such Hyseq Improvements. To the extent necessary to implement the foregoing, Kirin hereby assigns and agrees to assign to Hyseq all of Kirin's right, title and interest in, to and under the Hyseq Improvements.

5.1.5 KIRIN TECHNOLOGY; KIRIN IMPROVEMENT. As between the Parties, subject only to the licenses set forth in Article 4 and Article 8, and the provisions of Section 5.1.6, Kirin shall (a) retain all right, title and interest in and to the Kirin Technology, and (b) solely own (i) any Kirin Improvements (whether or not such Kirin Improvements are invented, developed or made solely by or with the contribution of the employees, agents or contractors of Hyseq) and (ii) all Patent Rights claiming, covering or directed to any such Kirin Improvements. To the extent necessary to implement the foregoing, Hyseq hereby assigns and agrees to assign to Kirin all of Hyseq's right, title and interest in, to and under the Kirin Improvements.

5.1.6 PRIOR ART INVENTIONS. Notwithstanding anything in this Section 5.1 to the contrary, if only one Party or its Affiliates (the "FIRST PARTY") owns subject matter that qualifies as prior art (as specifically identified in 35 U.S.C. Section 102(e), (f) or (g)) with respect to any Invention conceived, developed or reduced to practice by the employees, agents or contractors of the other Party or its Affiliates (the "SECOND PARTY") or by the Second Party and First Party in the course of performance of the R&D Work or commercialization of a New Product, then the First Party shall own all right, title and interest in, to and under such Invention, and all Patent Rights and other intellectual property rights therein and thereunder, solely in the United States (thereafter, a "PRIOR ART INVENTION"); provided, however, that the rights to such Invention outside of the United States shall be as otherwise set forth in this Agreement and shall be unaffected by this Section 5.1.6, provided further that the Prior Art Invention shall not include Kirin Improvements and Hyseq Improvements. In accordance with the foregoing, if, in the course of making required disclosures of any Invention pursuant to this Agreement, or preparing a United States patent application claiming, covering or directed to any Invention, one Party becomes aware of any subject matter owned by either of the Parties that qualifies as prior art (pursuant to 35 U.S.C. Section 102(e), (f) or (g)) with respect to such Invention, such Party shall provide a detailed written notice thereof to the other Party, and, following the other Party's receipt of such notice, the Parties shall cooperate to execute all

instruments required to document the assignment of the Prior Art Invention required by this Section 5.1.6. The Second Party hereby agrees to transfer and assign to the First Party all of its right, title and interest in, to and under any such Prior Art Invention, and all Patent Rights therein, thereto, and thereunder, solely in the United States, provided, however that such Prior Art Invention, and all Patent Rights therein, thereto, and thereunder, outside the United States shall be jointly owned as otherwise set forth in this Agreement and shall be unaffected by this Section 5.1.6. The prosecution and maintenance of any Patent Rights in, to and under any Prior Art Inventions owned by the First Party pursuant to this Section 5.1.6 shall be governed in accordance with the provisions of Section 5.3.

5.1.7 Each Party shall execute or cause to be executed any assignments or other instruments and documents and provide such other reasonable assistance and cooperation as may be reasonably necessary or appropriate to implement the provisions of this Section 5.1 and the assignments hereunder, including, without limitation, by executing agreements with each Party's employees, agents and contractors sufficient to convey to such Party the rights transferred in this Section 5.1.

5.2 OWNERSHIP OF APPROVAL APPLICATIONS AND REGULATORY APPROVALS.

5.2.1 Subject to the rights granted to or owned by Kirin hereunder, including without limitation, the rights owned by Kirin set forth in Section 5.2.3, Hyseq shall own all right, title and interest in all Approval Applications necessary to obtain Regulatory Approvals for New Products, together with any Regulatory Approvals obtained in connection therewith, filed with or issued by a governmental authority for a country or territory within the Hyseq Territory and, as directed by the JRDC pursuant to Section 2.1.3, the Other Territory. Such Approval Applications, together with any Regulatory Approvals obtained in connection therewith, shall be filed in Hyseq's name and owned by Hyseq.

5.2.2 Subject to the rights granted to or owned by Hyseq hereunder, including without limitation, the rights owned by Hyseq set forth in Section 5.2.3, Kirin shall own all right, title and interest in all Approval Applications necessary to obtain Regulatory Approvals required for manufacture, marketing and sale of New Products, together with any Regulatory Approval obtained in connection therewith, filed with or issued by a governmental authority for a country or territory within the Kirin Territory and, as directed by the JRDC pursuant to Section 2.1.3, the Other Territory. Such Approval Applications, together with any Regulatory Approvals obtained in connection therewith, shall be filed in Kirin's name and owned by Kirin.

5.2.3 Each Party shall provide to the other Party [***] any new or pending Approval Application. Each Party shall [***], and shall [***] regarding Approval Application strategy. Each Party shall keep the other Party informed of the status of an Approval Application to the extent known by each Party.

5.3 PROSECUTION AND MAINTENANCE OF SOLELY OWNED PATENTS; ABANDONMENT.

5.3.1 Each Party shall have the sole right to file, prosecute and maintain such Party's solely owned Patent Rights claiming, covering or directed to a Development Candidate or New Product and shall bear all Patent Costs associated therewith. Such Party (the "PROSECUTING

PARTY") shall provide to the other Party [***]. The Prosecuting Party shall [***] with respect to any patent within such Patent Rights, and shall [***] regarding the patent prosecution strategy for such Patent Rights. The Prosecuting Party agrees to keep the other Party informed of the course of patent prosecution or other proceedings relating to such Patent Rights to the extent known by Prosecuting Party.

5.3.2 Notwithstanding Section 5.3.1, in the event a Prosecuting Party (as defined in Section 5.3.1) elects, on a country-by-country basis, not to file or not to continue to prosecute and thereby abandon an application for a patent, or not to maintain and thereby abandon a patent that it has the first right to file, prosecute or maintain under Section 5.3.1 and that claims, or which is required to make, use, sell, offer for sale or import, a Development Candidate or New Product in such country or jurisdiction, such Party shall notify the other Party not less than [***] before any relevant deadline, and thereafter such other Party shall have the right to pursue, in such country or jurisdiction, at such other Party's expense and in such other Party's sole discretion, prosecution of such patent application or maintenance of such issued patent, provided that with respect to any patent application or patent licensed to a Party by a Third Party, the other Party shall only have a right to pursue prosecution or maintenance to the extent permitted in the applicable agreement with such Third Party. The other Party shall [***] any Patent Costs associated with the prosecution or maintenance of such patent application or patent [***].

5.4 PROSECUTION AND MAINTENANCE OF JOINT PATENTS; ABANDONMENT. The JRDC shall determine and implement a patent strategy with respect to all Joint Inventions and Other Joint Inventions that may be patentable. With respect to all Joint Inventions and Other Joint Inventions for which the JRDC determines patent protection should be sought, the JRDC shall direct, and the Parties shall cooperate in, the preparation, filing and prosecution of Joint Patents, and the Parties shall discuss and agree on the content and form of relevant patent applications and any other relevant matters before such applications are made. Each Party shall consider in good faith any comments from the other regarding steps to strengthen such Joint Patents.

5.4.1 Unless otherwise directed by the JRDC, Hyseq shall be considered the Lead Party (as further described in Section 5.4.4) for Joint Patents within the Hyseq Territory.

5.4.2 Unless otherwise directed by the JRDC, Kirin shall be considered the Lead Party (as further described in Section 5.4.4) for Joint Patents within the Kirin Territory.

5.4.3 The JRDC shall assign either Hyseq or Kirin as the Lead Party (as further described in Section 5.4.4) for Joint Patents within the Other Territory (or any jurisdiction therein).

5.4.4 Unless otherwise directed by the JRDC, the Lead Party shall have the right to file, prosecute and maintain Joint Patents within the Hyseq Territory, Kirin Territory and/or Other Territory, as applicable, and shall bear all Patent Costs associated therewith. In the event that the Lead Party elects not to prosecute or maintain a patent application or patent with respect to a particular Joint Invention or particular country or jurisdiction, the Lead Party shall provide [***] notice thereof and the other Party may elect to prosecute and maintain such patent application or patent at its sole discretion and expense, and all rights in such patent application or patent shall be assigned to such other Party. Either Party may choose at any time not to continue to pay any such Patent Costs with respect to a particular Joint Patent, and shall thereafter [***] if the other Party

pays all such Patent Costs. Such [***] shall take place in a timely manner to enable the [***] Party to meet any external requirement concerning prosecution matters and paying Patent Costs. In the event that a Party elects, at any time, not to participate in the preparation, filing and prosecution of any patent application covering a Joint Invention, such Party shall provide reasonable assistance to the other Party, at the sole expense of such other Party, with respect to any activities reasonably determined by such other Party as necessary to obtain patent protection for such Joint Invention.

5.5 ENFORCEMENT OF PATENT RIGHTS.

5.5.1 If any Patent Right within the Joint Patents, or any Patent Right within either Party's solely owned Patent Rights claiming, covering or directed to a Development Candidate or New Product that is subject to Section 5.3, is [***] infringed by a Third Party through the manufacture, use, sale, offer for sale or importation of any product (an "INFRINGEMENT"), the Party first having knowledge of such infringement shall promptly notify the other Party in writing. Such notice shall set forth the facts of the Infringement in reasonable detail.

5.5.2 Hyseq shall have the first right, but not an obligation, to institute, prosecute and control, using counsel of Hyseq's choice, any action or proceeding with respect to an Infringement of a patent within the Joint Patents, or its solely owned Patent Rights claiming, covering or directed to a Development Candidate or New Product, in the Hyseq Territory and such Other Territory as directed by the JRDC. If Hyseq initiates any such action or proceeding, Kirin agrees [***]. In the event that Hyseq fails to institute an action or proceeding with respect to such Infringement within a period of [***] after notice of such Infringement, and fails thereafter to prosecute such action or proceeding, Kirin shall have the right, but not the obligation, to institute and/or prosecute and control an action or proceeding in its name with respect to such an Infringement by counsel of Kirin's choice. In the event that Kirin institutes any such action or proceeding, Hyseq agrees [***].

5.5.3 Kirin shall have the first right, but not an obligation, to institute, prosecute and control, using counsel of Kirin's choice, any action or proceeding with respect to an Infringement, of a patent within the Joint Patents, or its solely owned Patent Rights claiming, covering or directed to a Development Candidate or New Product, in the Kirin Territory and such Other Territory as directed by the JRDC. If Kirin initiates any such action or proceeding, Hyseq agrees [***]. In the event that Kirin fails to institute and an action or proceeding with respect to such Infringement within a period of [***] after notice of such Infringement, and fails thereafter to prosecute such action or proceeding, Hyseq shall have the right, but not the obligation, to institute and/or prosecute and control an action or proceeding in its name with respect to such an Infringement by counsel of Hyseq's choice. In the event that Hyseq institutes any such action or proceeding, Kirin agrees [***].

5.5.4 Any recovery obtained by a Party enforcing one or more patents, in accordance with this Section 5.5 (the "ENFORCING PARTY"), whether by judgment, award, decree or settlement, shall be [***]. Any remainder of the recovery shall be [***].

5.6 INFRINGEMENT OF THIRD PARTY RIGHTS.

5.6.1 In the event that a Third Party alleges that intellectual property rights owned, held or otherwise controlled by such Third Party are being infringed or have been infringed by one or both Parties in connection with the manufacture, use, sale, offer for sale or importation of a Development Candidate or New Product in the Hyseq Territory, [***], any claim in any legal action or proceeding arising from such allegation. The Parties shall consult with each other concerning strategy, approaches and the consequences of approaches that may be taken under this Section 5.6.1. Kirin shall [***].

5.6.2 In the event that a Third Party alleges that intellectual property rights owned, held or otherwise controlled by such Third Party are being infringed or have been infringed by one or both Parties in connection with the manufacture, use, sale, offer for sale or importation of a Development Candidate or New Product in the Kirin Territory, [***]. The Parties shall consult with each other concerning strategy, approaches and the consequences of approaches that may be taken under this Section 5.6.2. Hyseq shall [***].

5.6.3 In the event that a Third Party alleges that intellectual property rights owned, held or otherwise controlled by such Third Party are being infringed or have been infringed by one or both Parties in connection with the manufacture, use, sale, offer for sale or importation of a Development Candidate or New Product in the Other Territory, [***]. The Parties shall consult with each other concerning strategy, approaches and the consequences of approaches that may be taken under this Section 5.6.3. Unless otherwise agreed upon by the Parties, the Parties shall [***] in connection with any such action or proceeding. The Parties shall [***].

5.7 SETTLEMENT WITH A THIRD PARTY. Except as expressly provided herein, [***].

ARTICLE 6

REPRESENTATIONS AND WARRANTIES

6.1 REPRESENTATIONS AND WARRANTIES OF THE PARTIES CONCERNING CORPORATE AUTHORIZATIONS. Each Party represents and warrants to the other Party that:

(a) Such Party is duly organized and validly existing and in good standing under the laws of the jurisdiction of its organization.

(b) Such Party has the full corporate power and is duly authorized to enter into, execute and deliver this Agreement, and to carry out and otherwise perform its obligations hereunder.

(c) This Agreement has been duly authorized, executed and delivered by such Party and constitutes a legal, valid and binding obligation enforceable against it in accordance with its terms subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting creditors' rights and to the availability of particular remedies under general equity principles.

(d) Such Party's execution, delivery and performance of this Agreement and its compliance with the terms and conditions hereof do not, and will not during

the term of this Agreement or any of its surviving provisions conflict, with or result in a breach of any of the terms and conditions of or constitute a default under (i) any agreement where such conflict, breach or default would impair in any material respect the ability of it to perform its obligations or grant rights hereunder, (ii) the provisions of its charter document or bylaws, or (iii) any material law, rule, regulation or any order, writ, injunction or decree of any court or governmental authority entered against it or by which any of its property is bound.

(e) As of the Effective Data, except for those actions, suits and proceedings identified in each Party's publicly available disclosures, including without limitation disclosures required by the securities regulations applicable to each Party, there are no actions, suits or proceedings pending or threatened against it or its Affiliates that may affect its ability to carry out its obligations under this Agreement.

6.2 RIGHT AND AUTHORITY TO GRANT LICENSES.

6.2.1 As of the Effective Date, Hyseq represents and warrants to Kirin that it has the right and authority to grant the rights and licenses granted to Kirin and its Affiliates hereunder and is the sole and exclusive owner of, or otherwise has the right to license, all intellectual property and rights therein and thereto licensed to Kirin and its Affiliates hereunder.

6.2.2 As of the Effective Date, Kirin represents and warrants to Hyseq that it has the right and authority to grant the rights and licenses granted to Hyseq and its Affiliates hereunder and is the sole and exclusive owner of, or otherwise has the right to license, all intellectual property and rights therein and thereto licensed to Hyseq and its Affiliates hereunder.

6.3 [***] RESEARCH WORK. Unless otherwise agreed upon by the Parties in writing, each Party hereby agrees that it shall not (and shall not permit any of its Affiliates to), directly or indirectly, [***].

6.4 NO [***] WARRANTY. Notwithstanding anything to the contrary herein, nothing in this Agreement shall be deemed or construed as a representation or warranty by either Party that any [***] of such Party is [***].

6.5 DISCLAIMER. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PARTIES MAKE NO, AND EXPRESSLY DISCLAIM ALL, REPRESENTATIONS OR WARRANTIES OF ANY KIND WHATSOEVER, EITHER EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.

6.6 LIMITATION OF LIABILITY. EXCEPT WITH RESPECT TO A BREACH OF EACH PARTY'S OBLIGATIONS PURSUANT TO ARTICLE 7 AND WITH RESPECT TO LIABILITY ARISING UNDER ARTICLE 9, NEITHER PARTY SHALL BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR INDIRECT DAMAGES AS A RESULT OF ITS BREACH OF THIS AGREEMENT, NO MATTER THE CAUSE OR THEORY

OF LIABILITY. THE FOREGOING LIMITATION SHALL APPLY EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED WARRANTY PROVIDED HEREIN.

ARTICLE 7

CONFIDENTIALITY

7.1 CONFIDENTIALITY; EXCEPTIONS. Except as otherwise provided in this Agreement, the Parties agree that, for the term of this Agreement and [***] thereafter, all non-public, proprietary, or "confidential"-marked invention disclosures, Inventions, know-how, data, and technical, financial and other information of any nature whatsoever, including, without limitation, all discussions and information exchanged or disclosed, in writing or through observation, by one Party (the "DISCLOSING PARTY") to the other Party (the "RECEIVING PARTY") hereunder (collectively, "CONFIDENTIAL INFORMATION") shall be received and maintained by the Receiving Party in strict confidence, shall not be used by the Receiving Party for any purpose other than the purposes expressly permitted by this Agreement or for the purpose of exercising the Receiving Party's rights and obligations under this Agreement, and shall not be disclosed to any Third Party (including, without limitation, in connection with any publications, presentations or other disclosures). Notwithstanding the foregoing, the Receiving Party may, subject to the provisions of this Agreement, disclose the Disclosing Party's Confidential Information to those of its and its Affiliates' or Sublicensees' directors, officers, employees, agents, consultants and clinical investigators that have a need to know such Confidential Information to achieve the purposes of this Agreement, provided that such Receiving Party shall ensure that its and its Affiliates' or Sublicensees' directors, officers, employees, agents, consultants or clinical investigators to whom disclosure is to be made are bound by the obligations of confidentiality and non-disclosure and non-use no less stringent than those set forth herein. Each Party shall promptly notify the other Party in writing upon discovery of any unauthorized use or disclosure of the Confidential Information, and shall describe the facts and circumstances of such use or disclosure. Except to the extent expressly provided for in this Agreement, Confidential Information belongs to and shall remain the property of the Disclosing Party. The provisions of this Article 7 shall not apply to any information which can be shown by contemporaneous written documentation by the Receiving Party:

7.1.1 To have been known to or in the possession of the Receiving Party prior to the date of its actual receipt from the Disclosing Party;

7.1.2 To be or to have become readily available to the public other than through any act or omission of the Receiving Party in breach of this Agreement or any other agreement between the Parties;

7.1.3 To have been disclosed to the Receiving Party, other than under an obligation of confidentiality, by a Third Party which had no obligation not to disclose such information to others; or

7.1.4 To have been subsequently independently developed by the Receiving Party without use of the Confidential Information as demonstrated by competent written records.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

7.2 AUTHORIZED DISCLOSURE. Notwithstanding anything to the contrary in Section 7.1 of this Agreement, each Party shall have the right to disclose Confidential Information hereunder solely to the extent such disclosure is reasonably necessary in connection with submissions to any governmental authority for the purposes of this Agreement or in filing or prosecuting patent applications contemplated under this Agreement, [***] solely to the extent required by law, complying with Applicable Laws, conducting R&D Work for the purposes expressly permitted by this Agreement, or complying with applicable securities laws and regulations; provided, however, that in the event of any such anticipated disclosure of the Disclosing Party's Confidential Information by the Receiving Party, the Receiving Party shall, except where impracticable, give reasonable advance notice to the Disclosing Party of such disclosure requirement (so that the Disclosing Party may seek a protective order and/or other appropriate remedy or waive compliance with the confidentiality provisions of this Article 7) and shall use its [***] efforts to secure confidential treatment of such Confidential Information required to be disclosed.

7.3 RETURN OF CONFIDENTIAL INFORMATION. The Receiving Party shall keep Confidential Information belonging to the Disclosing Party in appropriately secure locations. Upon the termination of this Agreement, any and all Confidential Information possessed in tangible form by a Receiving Party, its Affiliates or Sublicensees or its or any of their officers, directors, employees, agents, consultants or clinical investigators and belonging to the Disclosing Party, shall, upon written request, be immediately returned to the Disclosing Party (or destroyed if so requested) and not retained by the Receiving Party, its Affiliates or Sublicensees or any of their officers, directors, employees, agents, consultants or clinical investigators, provided that, in the event any rights or licenses survive the termination of this Agreement pursuant to Article 8, each Party shall be entitled to retain any Confidential Information of the other Party that is reasonably required to exercise such rights and licenses for so long as such rights and licenses survive. Notwithstanding the foregoing, each Party may retain one (1) copy of any Confidential Information in an appropriately secure location for record-keeping purposes.

ARTICLE 8

TERM, TERMINATION AND ABANDONMENT

8.1 TERM OF AGREEMENT. The term of this Agreement shall commence on the Effective Date and continue for three (3) years after the Effective Date (the "Term"), unless sooner terminated in accordance with this Article 8. Notwithstanding the foregoing, if the JRDC fails to approve the initial R&D Plan within one hundred eighty (180) days after the Effective Date, either Party may terminate this Agreement at any time, effective upon delivery of notice thereof.

8.2 TERMINATION FOR CAUSE.

8.2.1 If either Party commits a material breach of this Agreement at any time, which breach is not cured within [***] after written notice from the non-breaching Party specifying the breach, the non-breaching Party shall have the right to terminate this Agreement by written notice. The Parties acknowledge and agree that failure to exercise any right or option, or to take any action expressly within the discretion of a Party, shall not be deemed to be a material breach by the Party with such right, option or discretion.

8.2.2 Each Party shall have the right to terminate this Agreement if there is a Change of Control of the other Party.

8.3 TERMINATION FOR INSOLVENCY. Either Party may terminate this Agreement upon written notice to the other Party on or after the occurrence of any of the following events: (a) the appointment of a trustee, receiver or custodian for all or substantially all of the property of the other Party, or for any lesser portion of such property, if the result materially and adversely affects the ability of the other Party to fulfill its obligations hereunder, which appointment is not dismissed within sixty (60) days, (b) the determination by a court or tribunal of competent jurisdiction that the other Party is insolvent such that such other Party's liabilities exceed the fair market value of its assets, (c) the filing of a petition for relief in bankruptcy by the other Party on its own behalf, or the filing of any such petition against the other Party if the proceeding is not dismissed or withdrawn within sixty (60) days thereafter, (d) an assignment by the other Party for the benefit of creditors, or (e) the dissolution or liquidation of, or cessation of business in the ordinary course by, the other Party.

8.4 EFFECT OF TERMINATION; SURVIVAL.

8.4.1 Upon termination or expiration of this Agreement, all of the Parties' rights and obligations hereunder shall terminate, except as provided in this Article 8.

8.4.2 Except as provided in Section 8.4.3, upon termination or expiration of this Agreement, if one or more New Products exists, then, for so long as such one or both Parties or its Affiliates (or their Sublicensees) continues to market and sell such New Products the following Sections shall survive in addition to those set forth in Section 8.5: (a) Sections 2.2.2, 3.3, 3.4, 3.5, 4.1.1(b), 4.2.1(b), 4.1.3, 4.2.3, 6.1 and 6.2 shall remain in effect until the earlier of (i) the last to expire of the Patent Rights claiming, covering or directed to such New Products or (ii) the termination for cause, pursuant to Section 8.2, of such surviving rights and obligations by either Party; and (b) Sections 2.1.2, 2.1.3 and 2.1.4 shall survive solely to the extent and for so long as necessary for the JRDC (or any approved subcommittee thereof) to oversee the Parties' development and commercialization activities with respect to one or more New Products.

8.4.3 In the event a Party terminates this Agreement pursuant to Section 8.2 or Section 8.3, (a) all licenses and rights granted to the other Party pursuant to Article 4 shall terminate, and (b) the terminating Party shall have an exclusive option to acquire (i) a worldwide, non-exclusive right and license, without a right to grant sublicenses, under Hyseq Technology and Hyseq Improvements or Kirin Technology and Kirin Improvements, as applicable, to conduct research and development of Development Candidates and to make, have made, use, sell, offer for sale and import any products resulting therefrom, and (ii) a worldwide, royalty-bearing, exclusive right and license under all Patent Rights of the other Party claiming, covering or directed to Development Candidates, with a right to grant sublicenses, to make, use and evaluate such Development Candidates and to make, have made, use, sell, offer for sale and import any products resulting from such Development Candidates. The Party entitled to exercise the foregoing option may do so only by providing written notification thereof to the other Party at any time within a [***] period commencing on the date of the other Party's written notice of termination of this Agreement. Upon the exercise of the foregoing option, the Parties shall negotiate [***] to establish

promptly a separate agreement formalizing the specific terms and conditions of the foregoing license on [***] terms.

8.5 SURVIVAL. Articles 1, 5, 7 (to the extent provided therein), 9, 10 and 11 and Sections 4.1.1(c) (to the extent limited by, if at all, Sections 8.4.3, 8.7.1, 8.7.2 and 8.7.3), 4.2.1(c) (to extent limited by, if at all, Sections 8.4.3, 8.7.1, 8.7.2 and 8.7.3), 4.3, 5.1.6, 6.4, 6.5, 6.6, 8.4, 8.5 and 8.6 shall survive any termination or expiration of this Agreement.

8.6 ACCRUED RIGHTS. Termination or expiration of this Agreement for any reason shall be without prejudice to any rights which shall have accrued to the benefit of either Party prior to such termination or expiration, including damages arising from any breach under this Agreement. Such termination or expiration shall not relieve either Party from obligations which are expressly indicated to survive termination or expiration of this Agreement.

8.7 ABANDONMENT OF R&D WORK OR NEW PRODUCTS.

8.7.1 Either Party shall have the right, upon not less than [***] prior written notice to the other Party, to elect to abandon all of the R&D Work with respect to one or more Development Candidates. In the event a Party so elects to abandon its obligations with respect to any Development Candidate, or if a Party fails to perform its obligations under Sections 2.2.1 or 2.2.2 for a period of [***], then (a) all licenses and rights granted to the abandoning Party pursuant to Sections 4.1.1, 4.1.2 and 4.1.3 or Sections 4.2.1, 4.2.2 and 4.2.3, as applicable, with respect to such Development Candidate shall terminate, and (b) the other Party shall have an exclusive option to acquire (i) a worldwide, non-exclusive right and license, without a right to grant sublicenses, under Hyseq Technology and Hyseq Improvements or Kirin Technology and Kirin Improvements, as applicable, to conduct research and development of such Development Candidate and to make, have made, use, sell, offer for sale and import any products resulting therefrom, and (ii) a worldwide, royalty-bearing, exclusive right and license under all Patent Rights of the abandoning Party claiming, covering or directed to such Development Candidate, with a right to grant sublicenses, to make, use and evaluate such Development Candidate and to make, have made, use, sell, offer for sale and import any products resulting from such Development Candidate. The Party entitled to exercise the foregoing option may do so only by providing written notification thereof to the other Party at any time within a [***] period commencing on the date of the other Party's written notice of abandonment of such Development Candidate, after which such option shall expire. Upon the exercise of the foregoing option, the Parties shall negotiate [***] to establish promptly a separate agreement formalizing the specific terms and conditions of the foregoing license on [***] terms.

8.7.2 Either Party shall have the right, upon not less than [***] prior written notice to the other Party, to elect to abandon substantially all efforts to promote, market and sell one or more New Products in the Hyseq Territory, Kirin Territory or Other Territory, as applicable (or within any jurisdiction therein). In the event a Party so elects to abandon its obligations with respect to any New Product, or if a Party fails to perform its obligations under Section 2.2.2 for a period of [***], (a) all licenses and rights granted to the abandoning Party pursuant to Sections 4.1.1, 4.1.2 and 4.1.3 or Section 4.2.1, 4.2.2 and 4.2.3, as applicable, with respect to such New Product shall terminate, and (b) the other Party shall have an exclusive option to acquire (i) a worldwide, non-exclusive right and license, without a right to grant sublicenses, under Hyseq Technology and

Hyseq Improvements or Kirin Technology and Kirin Improvements, as applicable, to make, have made, use, sell, offer for sale and import such New Product and (ii) a worldwide, royalty-bearing, exclusive right and license under all Patent Rights of the abandoning Party claiming, covering or directed to such New Product, with a right to grant sublicenses, to make, have made, use, sell, offer for sale and import such New Product. The Party entitled to exercise the foregoing option may do so only by providing written notification thereof to the other Party at any time within a [***] period commencing on the date of the other Party's written notice of abandonment of such New Product, after which such option shall expire. Upon the exercise of the foregoing option, the Parties shall negotiate [***] to establish promptly a separate agreement formalizing the specific terms and conditions of the foregoing license on [***] terms.

8.7.3 In the event that the JRDC fails to approve all Development Work with respect to a Development Candidate (which had previously been the subject of Research Work, and became a Development Candidate pursuant to Section 2.1.3(j) and for which Development Work has not been conducted), and such failure is the consequence of one (1) Party's failure to vote in favor of such Development Work, then: (a) all licenses and rights granted to each Party pursuant to Section 4.1, 4.2 or 4.3, as applicable, with respect to such Development Candidate shall terminate, and (b) the other Party shall have an exclusive option to acquire (i) a worldwide, non-exclusive right and license, without a right to grant sublicenses, under Hyseq Technology, or Hyseq's interests in Patent Rights and other intellectual property rights covering Hyseq Improvements and/or Prior Art Inventions, or Kirin Technology, or Kirin's interests in Patent Rights and other intellectual property covering Kirin Improvements or Prior Art Inventions, to conduct research and development of such Development Candidate and to make, have made, use, sell, offer for sale and import any products resulting therefrom, and (ii) a worldwide, royalty-bearing, exclusive right and license under all Patent Rights or other intellectual property rights of Hyseq or Kirin, as applicable, covering Joint Inventions, with a right to grant sublicenses, to make, use and evaluate such Development Candidate and to make, have made, use, sell, offer for sale and import any products resulting from such Development Candidate. To exercise the foregoing option, the Party with such option shall provide written notification thereof to the other Party at any time within a [***] period commencing on the date of the other Party's most recent failure to approve such Development Candidate for Development Work, after which time period such option shall expire. Upon the exercise of the foregoing option, the Parties shall negotiate [***] to establish promptly a separate agreement formalizing the specific terms and conditions of the foregoing license on [***] terms.

ARTICLE 9

INDEMNIFICATION

9.1 INDEMNIFICATION BY HYSEQ. Hyseq shall defend and indemnify Kirin and its Affiliates, and its and their respective directors, officers, employees and agents (collectively, the "KIRIN INDEMNIFIED PARTIES"), against all claims, damages, liabilities, losses, costs and expenses arising out of any suit, action or proceeding brought against any Kirin Indemnified Party by a Third Party (collectively, "KIRIN CLAIMS") if and to the extent arising from (a) a breach by Hyseq of any of its representations and warranties set forth in Sections 6.1 or 6.2, or (b) any gross negligence or willful acts or omissions of Hyseq or any of its employees or agents in connection with the performance of any responsibilities to be performed by Hyseq under this Agreement, including without limitation the R&D Work, or (c) the manufacture, use or sale of a Development Candidate or New Product by

Hyseq or its Affiliates or Sublicensees, or (d) any tax, interest, penalty or associated expense owed by Hyseq or its Affiliates or imposed on or related to any amounts received by Hyseq or its Affiliates, except in each case to the extent any such Kirin Claim is subject to indemnification by Kirin pursuant to Section 9.2.

9.2 INDEMNIFICATION BY KIRIN. Kirin shall defend and indemnify Hyseq and its Affiliates, and its and their respective directors, officers, employees and agents (collectively, the "HYSEQ INDEMNIFIED PARTIES"), against all claims, damages, liabilities, losses, costs and expenses arising out of any suit, action or proceeding brought against any Hyseq Indemnified Party by a Third Party (collectively, "HYSEQ CLAIMS") if and to the extent arising from (a) a breach by Kirin of any of its representations and warranties set forth in Sections 6.1 or 6.2, or (b) any gross negligence or willful acts or omissions of Kirin or its employees or agents in connection with the performance of any responsibilities to be performed by Kirin under this Agreement, including without limitation the R&D Work, or (c) the manufacture, use or sale of a Development Candidate or New Product by Kirin or its Affiliates or Sublicensees, or (d) any tax, interest, penalty or associated expense owed by Kirin or its Affiliates or imposed on or related to any amounts received by Kirin or its Affiliates, except in each case to the extent any such Hyseq Claim is subject to indemnification by Hyseq pursuant to Section 9.1.

9.3 PROCEDURE. Any Kirin Indemnified Party or Hyseq Indemnified Party (each, an "INDEMNIFIED PARTY") shall give prompt written notice to the other Party (the "INDEMNIFYING PARTY") of any Kirin Claim or Hyseq Claim, as applicable, with respect to which indemnification may be required under this Article 9, provided that failure to give such notice shall not impair the obligation of the Indemnifying Party to provide indemnification hereunder except if and to the extent that failure materially impairs the ability of the Indemnifying Party successfully to defend such claim. The Indemnifying Party shall be entitled to assume the defense and control of any Kirin Claim or Hyseq Claim, as applicable, at its own cost and expense, provided that the Indemnified Party shall have the right to be represented by its own counsel at its own cost in such matters. The Indemnified Party shall provide all reasonable assistance to the Indemnifying Party, at the Indemnifying Party's expense, in connection with the defense of any claim hereunder. In the event the Indemnifying Party declines to assume control of any Kirin Claim or Hyseq Claim, as applicable, the Indemnified Party may assume such control the defense and settlement of such claim at the sole cost and expense of the Indemnifying Party. The Indemnifying Party shall not settle or dispose of any Kirin Claim or Hyseq Claim, as applicable, [***] the Indemnified Party without [***].

ARTICLE 10

GOVERNING LAW; DISPUTE RESOLUTION

10.1 GOVERNING LAW. This Agreement shall be governed by and construed under the laws of the State of California, without reference to or application of its conflicts of laws rules or principles.

10.2 DISPUTE RESOLUTION. The Parties are unable to resolve informally any dispute arising out of or relating to this Agreement ("Dispute"), either Hyseq or Kirin, by written notice to

the other, may have such Dispute referred to their respective executive officers designated for attempted resolution by good faith negotiations (each, a "Responsible Executive").

FOR KIRIN: President of Pharmaceutical Division

FOR HYSEQ: Chairman

Any such Dispute shall be submitted to the Responsible Executives no later than thirty (30) days following such request by either Hyseq or Kirin. All negotiations pursuant to this Section 10.2 shall be treated as confidential compromise and settlement negotiations. Nothing said or disclosed, nor any document produced, in the course of such negotiations which is not otherwise independently discoverable shall be disclosed to any Third Party nor offered or received as evidence or used for impeachment or for any other purpose in any current or future arbitration or litigation.

10.3 ARBITRATION. In the event the Parties are not able to resolve a Dispute within sixty (60) days after submission of the dispute to the Responsible Executives pursuant to Section 10.2, such Dispute shall be settled by arbitration; provided, however, that claims for injunctions and other equitable relief shall be submitted to a court of competent jurisdiction; and provided further that actions relating to the infringement, validity or enforceability of any intellectual property right, including without limitation a Patent Right, of either Party shall be submitted to a court of competent jurisdiction in the country or territory in which such intellectual property right exists or issued. In the case of Hyseq as the claimant in such arbitration, such arbitration shall be held in Tokyo, Japan in accordance with the Commercial Arbitration Rules of the Japan Commercial Arbitration Association. In the case of Kirin as the claimant in such arbitration, such arbitration shall be held in San Francisco, U.S.A., in accordance with the Commercial Arbitration Rules of the American Arbitration Association. Judgment upon the award rendered by such arbitration may be entered in any court having jurisdiction over the party against which such award was rendered. Such arbitration shall be conducted in the English language. The arbitrators shall include one nominee of Hyseq and one nominee of Kirin and a third person selected by said nominees. The Parties agree that any arbitration panel shall include members knowledgeable as to evaluation of biopharmaceutical technology. The prevailing Party shall be entitled to reasonable attorneys' fees and costs to be fixed by the arbitrators.

10.4 EXCLUSIVE DISPUTE RESOLUTION PROCEDURES. The Parties agree that the procedures set forth in this Article 10 shall be the exclusive means of resolving any and all Disputes between the Parties.

ARTICLE 11

MISCELLANEOUS

11.1 ASSIGNMENT.

11.1.1 Neither Party may assign or otherwise transfer its rights or obligations under this Agreement without the prior written consent of the other Party, such consent not to be unreasonably withheld, except that a Party may assign or otherwise transfer its rights or obligations in whole or in part without such consent, upon thirty (30) days prior written notice to the other Party, (a) to an Affiliate of such Party, provided that no such assignment shall relieve any Party as

the primary obligor hereunder, or (b) to a Third Party in connection with the merger, consolidation, or sale of substantially all of the assets of the assigning Party, or reorganization affecting substantially all of the assets or voting control of the assigning Party, with respect to the subject matter of this Agreement.

11.1.2 This Agreement shall be binding upon and inure to the benefit of the successors and permitted assigns of the Parties. Any assignment not in accordance with this Agreement shall be void.

11.2 FORCE MAJEURE. Neither Party shall lose any rights hereunder or be liable to the other Party for damages or losses on account of failure of performance by the defaulting Party to the extent the failure is occasioned by government action, war, fire, explosion, flood, strike, lockout, embargo, act of God, or any other similar cause beyond the control of the defaulting Party, provided that the Party claiming force majeure shall promptly notify the other Party in writing setting forth the nature of such force majeure, shall use its best efforts to eliminate, remedy or overcome such force majeure and shall resume performance of its obligations hereunder as soon as reasonably practicable after such force majeure ceases. Except as provided in the previous sentence, if any force majeure continues for more than one hundred eighty (180) days, the other Party may terminate this Agreement in part, on a country-by-country basis, or in whole, if all countries are affected, upon written notice to the affected Party.

11.3 FURTHER ACTIONS. Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary in order to carry out the express provisions of this Agreement.

11.4 GOVERNMENTAL APPROVALS; COMPLIANCE WITH LAW. Parties shall make all filings with governmental authorities as shall be required by Applicable Laws in connection with this Agreement and the activities contemplated hereunder or thereunder. In fulfilling its obligations under this Agreement each Party agrees to comply in all material respects with all Applicable Laws.

11.5 PUBLIC ANNOUNCEMENT. No announcement, news release, public statement, publication or presentation relating to the existence of this Agreement, or the terms hereof, shall be made without the other Party's prior written approval; provided, however, that, subject to the provisions of Section 7.2, each Party shall have the right to make such disclosures as are required by applicable law, including without limitation the securities regulations applicable to each Party. Each Party agrees that it shall not publish or present the results of the R&D Work (including any and all Inventions resulting therefrom) carried out pursuant to this Agreement without the opportunity for prior review by the other Party. Each Party shall provide the other Party an opportunity to review any proposed abstract, manuscript or presentation (including information to be presented orally) at least [***] prior to its intended submission for publication, and each Party agrees, upon written request from the other Party, not to submit such abstract or manuscript to any publication, or to deliver such presentation, until the other Party has had a reasonable opportunity and amount of time to review such publication or presentation for its Confidential Information and to either: (i) secure patent protection for any material in such publication or presentation that it believes is patentable; or (ii) redact from the proposed abstract or manuscript the Confidential Information of such reviewing Party, which redacted material shall not be disclosed to any Third Party.

11.6 NOTICES. All notices required or permitted to be given under this Agreement shall be deemed given if delivered personally or by facsimile transmission receipt verified, mailed by registered or certified mail return receipt requested, postage prepaid, or sent by express courier service, to the Parties at the following addresses, or at such other address for a Party as shall be specified by like notice, provided that notices of a change of address shall be effective only upon receipt thereof.

IF TO HYSEQ: HYSEQ, INC.
670 Almanor Avenue
Sunnyvale, California 94085
Attention: Legal Department
Telephone: 408-524-8100
Facsimile: 408-524-8145

IF TO KIRIN: KIRIN BREWERY COMPANY, LTD.
26-1, Jingumae 6-chome
Shibuya-ku
Tokyo 150-8011, Japan
Attention: Licensing Department
Telephone: 81-3-5485-6206
Facsimile: 81-3-5485-6765

The date of receipt of any notice given under this Agreement shall be deemed to be the date given if delivered personally or by facsimile transmission receipt verified, seven (7) days after the date mailed if mailed by registered or certified mail return receipt requested, postage prepaid, and two (2) days after the date sent if sent by express courier service.

11.7 WAIVER. No failure of either Party to exercise and no delay in exercising any right, power or remedy in connection with this Agreement (each, a "RIGHT") shall operate as a waiver thereof, nor shall any single or partial exercise of any Right preclude any other or further exercise of such Right or the exercise of any other Right. To be effective, the waiver of any Right must be set forth in a writing signed by both Parties.

11.8 DISCLAIMER OF AGENCY. The relationship between the Parties established by this Agreement is that of independent contractors, and nothing contained herein shall be construed to (a) give either Party the power to direct or control the day-to-day activities of the other, (b) constitute the Parties as the legal representative or agent of the other Party or as partners, joint venturers, co-owners or otherwise as participants in a joint or common undertaking, or (c) allow either Party to bind the other Party or to create or assume any liability or obligation of any kind, express or implied, against or in the name of or on behalf of the other Party for any purpose whatsoever, except as expressly set forth in this Agreement.

11.9 SEVERABILITY. If any term, covenant or condition of this Agreement or the application thereof to any Party or circumstance shall, to any extent, be held to be invalid or unenforceable by a court or administrative agency of competent jurisdiction, then (a) the remainder of this Agreement, or the application of such term, covenant or condition to any Party or circumstance other than those as to which it is held invalid or unenforceable, shall not be affected

thereby and each term, covenant or condition of such documents shall be valid and be enforced to the fullest extent permitted by law, and (b) the Parties hereto covenant and agree to renegotiate any such term, covenant or application thereof in good faith in order to provide a reasonably acceptable alternative to the term, covenant or condition of such documents or the application thereof that is invalid or unenforceable, it being the intent of the Parties that the basic purposes of this Agreement are to be effectuated.

11.10 NATURE OF AGREEMENT. The rights and licenses granted under this Agreement are, for purposes of Section 365(n) of the U.S. Bankruptcy Code (the "BANKRUPTCY CODE"), licenses of "intellectual property" within the scope of Section 101 of the Bankruptcy Code. The Parties agree that each Party, as a licensee of such rights and licenses, shall retain and may fully exercise all of its rights and elections under the Bankruptcy Code. The Parties further agree that, in the event of the commencement of a bankruptcy or insolvency proceeding by or against a Party, the other Party shall be entitled to a complete duplicate of (and complete access to) any such intellectual property and embodiments thereof. If not already in the other Party's possession, such other Party shall have the right to immediate delivery of such intellectual property and embodiments upon written request.

11.11 ENTIRE AGREEMENT. Except for the rights and obligations that survive the expiration of the certain Collaboration and License Agreement, dated as of November 10, 1998, between the Parties, this Agreement and Exhibits hereto set forth all covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto and supersedes and terminates all prior and contemporaneous agreements and understandings between the Parties. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as set forth herein or therein. No subsequent alteration, amendment, change or addition to this Agreement and Exhibits hereto shall be binding upon the Parties hereto unless reduced to writing and signed by the respective authorized officers of the Parties.

11.12 COUNTERPARTS. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed on the date below written.

HYSEQ, INC.	KIRIN BREWERY COMPANY, LTD.
By /s/ Ted Love	By /s/ Katsuhiko Asano
Typed Name Ted Love	Typed Name Katsuhiko Asano
Title Chief Executive Officer	Title President, Pharmaceuticals Division
Date 8/14/01	Date 8/28/02

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT A

HYSEQ TERRITORY

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United States

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EXHIBIT B

KIRIN TERRITORY

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EXHIBIT C

SUBJECT MATTER FOR INITIAL R&D PLAN

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

Kirin/Hyseq

Workplan/Timeline/Budget

[***]

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT D

PATENT RIGHTS

THAT CLAIM A DEVELOPMENT CANDIDATE OR NEW PRODUCT

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

SECRETED PROTEIN
DEVELOPMENT AND COLLABORATION AGREEMENT

THIS SECRETED PROTEIN DEVELOPMENT AND COLLABORATION AGREEMENT (this "Agreement") is entered into and made on October 9, 2001 (the "Effective Date") by and between DELTAGEN, INC. ("DELTAGEN"), a corporation organized and existing under the laws of the state of Delaware and having a principal place of business at 1003 Hamilton Avenue, Menlo Park, California 94025 and HYSEQ, INC. ("HYSEQ") a corporation incorporated and existing under the laws of the state of Nevada having a principal place of business at 670 Almanor Avenue, Sunnyvale, California 94085-3513. DELTAGEN and HYSEQ are both referred to herein as "Parties" or each individually, as a "Party."

RECITALS

WHEREAS, HYSEQ is in the business of applying its proprietary genomics platform and utilizing its proprietary sequencing-by-hybridization technology to find and develop biopharmaceuticals products and has discovered and identified genes encoding for secreted proteins that may have potential as therapeutic proteins; and

WHEREAS, DELTAGEN possesses certain knowledge and experience in the design, generation, and phenotypic analysis of transgenic animals, including knock-out mice and has technologies useful in determining the in vivo function of mammalian genes; and

WHEREAS, HYSEQ and DELTAGEN each desire, on the terms and conditions contained herein, to collaborate on the discovery, research, development and commercialization of biopharmaceutical products through the analysis and study of human gene sequences provided by HYSEQ; and

WHEREAS, in connection with this collaboration, HYSEQ will contribute, in accordance with the terms and conditions of this Agreement, human gene sequences and a corresponding murine ortholog sequence sufficient for the Steering Committee to designate [***] Project Genes to the collaboration and will grant licenses covering such genes and related technology and derivatives thereof; and

WHEREAS, DELTAGEN will, in accordance with the terms and conditions of this Agreement, create ES cell lines and generate knock-out mice based on [***] Project Genes and

their orthologous murine gene sequences, as identified by HYSEQ, and DELTAGEN will study and analyze such knock-out mice to identify secreted proteins for further development and commercialization by the Parties; and

WHEREAS, the Parties shall undertake research and development programs as determined by the Parties on the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the amount and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE 1
DEFINITIONS

1.1 "ADDITIONAL TESTS" shall have the meaning set forth in Section 5.4.1.

1.2 "AFFILIATE" means at the time of determination any Person which directly or indirectly is controlled by, controls or is under common control with any Party hereto. "Control" shall in this context mean ownership of greater than [***] of the voting stock or other interests in the Person in question. In any country of the Territory in which local law prohibits the ownership by DELTAGEN or HYSEQ of greater than [***] of the voting stock or other interests of an entity, the entity shall be deemed an Affiliate of DELTAGEN or HYSEQ, as applicable, if DELTAGEN or HYSEQ owns the maximum percentage permitted by law, [***].

1.3 "AGENCY" means any governmental regulatory authority responsible for granting approvals for the sale of a product.

1.4 "DELTABASE" means DELTAGEN's functional genomics database and software.

1.5 "DELTAGEN KNOCK-OUT TECHNOLOGY" means all Technical Information that is owned or controlled by DELTAGEN as of the Effective Date or developed solely by DELTAGEN during the Term of this Agreement relating to any methods of making, generating, producing, creating, breeding and/or analyzing transgenic animals, including Knockout Mice, or libraries, clones, plasmids, constructs and vectors used in such methods (including [***]).

1.6 "DERIVATIVE PROTEIN" means (i) any fragment of a [***], or (ii) any altered form of a [***] or a fragment thereof, including [***]

1.7 "DERIVED" OR "DERIVED" means obtained, developed, created, tested, identified, discovered, synthesized, designed, derived or resulting from, based upon or otherwise generated (whether directly or indirectly, or in whole or in part), and anything so derived shall be referred to herein as "derivatives."

1.8 "DEVELOPMENT PROGRAM" shall have the meaning set forth in Section 3.1.

1.9 "FIRST PASS PHENOTYPIC ANALYSIS" means the tests, observations, and analyses listed on Exhibit A.

1.10 "FTE" means the equivalent of one person with at least a bachelor's degree providing scientific, pre-clinical, clinical trial, or regulatory work on a full-time basis (i.e., no less than a total of [***] hours per calendar year, prorated in the case of a partial calendar year). Any FTE charge for the FTEs dedicated to the applicable matter shall be the number of hours each FTE of a Party directly spent on the applicable matter billed at a rate equal to [***] for such FTE, but not exceeding [***] per calendar year, which rate includes [***].

1.11 "HYSEQ KNOW-HOW" means any and all Technical Information that is solely owned or controlled by HYSEQ as of the Effective Date or developed solely by HYSEQ during the Term of this Agreement that relates to any Proposed Gene or any Project Gene, as applicable, or any mutation, fragment, allelic variant, analog, homolog or ortholog of any Proposed Gene or Project Gene, as applicable, and/or any expression products and/or derivatives thereof.

1.12 "HYSEQ PATENTS" means all Patents in any country in the Territory that are solely owned or controlled by HYSEQ as of the Effective Date or developed solely by HYSEQ during the Term that relate to any Proposed Gene or any Project Gene, as applicable, or any mutation, fragment, allelic variant, analog, homolog or ortholog of any Proposed Gene or any Project Gene, as applicable, and/or any expression products and/or derivatives thereof,

1.13 "INITIAL MURINE GENE ANALYSIS" means the conduct of studies and analysis to identify a murine gene sequence orthologous to a Submitted Gene through HYSEQ'S standard resources.

1.14 "JOINT PROJECT INTELLECTUAL PROPERTY, DELTAGEN PROJECT INTELLECTUAL PROPERTY AND HYSEQ PROJECT INTELLECTUAL PROPERTY" (collectively, "Project Intellectual

Property") shall have the meanings set forth in Section 10.1.1.

1.15 "JOINT PROJECT PATENTS, DELTAGEN PROJECT PATENTS AND HYSEQ PROJECT PATENTS" (collectively, "Project Patents") shall have the meanings set forth in Section 10.1.1.

1.16 "LOSS" has the meaning set forth in Section 8.1.

1.17 "PATENT(s)" means any patent, provisional or patent application, and all additions, divisions, continuations, continuations-in-part, substitutions, reissues, extensions, registrations, supplementary protection certificates and renewals of any of the foregoing.

1.18 "PAYMENT ONE," "PAYMENT TWO," PAYMENT THREE" AND "TOTAL PAYMENT" shall have the meanings set forth in Section 5.1.

1.19 "PERSON" means a person, corporation, partnership, limited liability company or any other entity.

1.20 "CONFLICTING PIPELINE" means a gene or gene sequence that, as of the date submitted by HYSEQ to DELTAGEN Section 4.1.1 of this Agreement, has been designated for research and development by DELTAGEN [***].

1.21 "PROJECT" means the activities of the Parties under the Development Program with respect to a single Project Gene and/or its orthologous Project Murine Gene (and with respect to any Project Knock-Out Mice, Secreted Proteins, Derivative Proteins, Secreted Protein Candidates and Products derived therefrom), as set forth in the Work Plan in accordance with this Agreement, or as directed by the Steering Committee.

1.22 "PROJECT KNOCK-OUT MOUSE" OR "PROJECT KNOCK-OUT MICE" means any mouse or mice in which DELTAGEN has, pursuant to this Agreement, interrupted, disrupted, or deleted a specific gene or portion thereof, orthologous to a Project Gene, to inactivate the function of such gene in such mouse or mice.

1.23 "PRODUCT" means any product that contains as an active ingredient (i) a [***] (or portion thereof), or (ii) an agonist or antagonist (including, without limitation, anti-sense, antibodies and small molecules) of a [***].

1.24 "PROJECT GENE" means a Proposed Gene that has been designated by the Steering Committee as a "project gene" pursuant to Section 4.2.

1.25 "PROJECT MURINE GENE" means a murine gene sequence that the Steering Committee has designated as the orthologous murine gene for the human gene sequence of a Project Gene.

1.26 "PROPOSED GENE" means a gene sequence (i) submitted to the Steering Committee for consideration for inclusion under the Development Program as a "project gene" as set forth in Section 4.1; (ii) which is believed to encode a [***]; (iii) for which a [***] and the [***] believed to be produced by such [***]; and (iv) its corresponding [***].

1.27 "PROTEIN" means a [***], polymer compound composed of a variety of amino acids joined by peptide linkages, including allelic variants thereof and post-translationally modified variants thereof (i.e., glycosylated proteins).

1.28 "REJECTED PROPOSED GENE" has the meaning set forth in Section 4.3.

1.29 "REJECTED PROJECT GENE" has the meaning set forth in Section 5.5.3.

1.30 "REJECTED SUBMITTED GENE" has the meaning set forth in Section 4.1.2(b).

1.31 "RESTRICTION TERM" means the period of time a Rejected Project Gene is subject to the restrictions set forth in Section 5.5.3. Unless a different time period is voted on and approved by a majority of the Steering Committee for a particular Rejected Project Gene, the Restriction Term for such Rejected Project Gene shall be [***] from the date it becomes a Rejected Project Gene under this Agreement.

1.32 "SECRETED PROTEIN" means a [***] released from a cell.

1.33 "SECRETED PROTEIN CANDIDATE" means a Secreted Protein which the Parties through the Steering Committee have designated as a "secreted protein candidate" pursuant to Section 5.5.1 and any and all Derivative Proteins thereof.

1.34 "SUBMITTED GENE" means a human gene coding sequence (i) submitted to DELTAGEN by HYSEQ for consideration for inclusion as a "proposed gene" as set forth in Section 4.1.1; (ii) which is believed to [***]; and (iii) for which a [***] and the [***] believed to be produced by such [***].

1.35 "TECHNICAL INFORMATION" means all technology, know-how, copyrights, trade secrets, software, techniques, data, technical information and all other intellectual property and other proprietary information, including all inventions (whether or not patentable), improvements and developments, practices, applications, protocols, concepts, biological materials (including nucleic acid sequences, RNA, DNA, organisms, proteins, polypeptides, plasmids and vectors), processes, methods (including methods of use or treatment for human or murine secreted proteins), pre-clinical, clinical and regulatory data and information, clinical and regulatory strategies, test data, analytical and quality control data, reports, manufacturing information, patent data or descriptions, development information, drawings, specifications, designs (whether or not registerable), plans, proposals and technical data and manuals, documents, rights in databases, computer data and source code.

1.36 "TERM" has the meaning set forth in Section 11.1.

1.37 "TERRITORY" means the entire world.

1.38 "THIRD PARTY" means any Person other than a Party to this Agreement or an Affiliate of either Party.

1.39 "VALID CLAIM" means any claim within [***] which (i) has not been [***] and (ii) has not been [***].

1.40 "WORK PLAN" means the work plan developed by the Steering Committee, as may be modified from time to time by the Steering Committee (initially Exhibit C), that sets forth the responsibilities of the Parties under the Development Program, including in connection with the selection of the Project Genes from Proposed Genes and with respect to the generation and

analysis of the Project Knock-Out Mice. The First Pass Phenotypic Analysis and Exhibit A shall be part of the Work Plan and therefore references to the Work Plan shall include the First Pass Phenotypic Analysis and Exhibit A.

ARTICLE 2
LICENSE GRANT

2.1 HYSEQ LICENSE. During the Term of this Agreement and subject to the terms and conditions hereof, HYSEQ hereby grants to DELTAGEN the following licenses:

2.1.1 SUBMITTED GENES. On a Submitted Gene-by-Submitted Gene basis, a non-exclusive right and license, until the earlier of (a) the date upon which a Submitted Gene becomes a Rejected Submitted Gene under this Agreement or (b) the date upon which a Submitted Gene becomes a Proposed Gene under this Agreement (at which time the license under Section 2.1.2 shall become effective), under the HYSEQ Patents and HYSEQ Know-How solely for the purpose of conducting review and analysis activities with respect to such Submitted Gene in accordance with the terms and conditions of this Agreement including determining whether such Submitted Gene is in Deltagen's Conflicting Pipeline, and performing an intellectual property analysis with respect to DELTAGEN's use of such Submitted Genes.

2.1.2 PROPOSED GENES. On a Proposed Gene-by-Proposed Gene basis, and upon submission by HYSEQ of the information related to such Proposed Genes under Section 4.1.3, a non-exclusive right and license, until the earlier of (a) the date upon which a Proposed Gene becomes a Rejected Proposed Gene under this Agreement or (b) the date upon which a Proposed Gene becomes a Project Gene under this Agreement [***], under the HYSEQ Patents and HYSEQ Know-How solely for the purpose of conducting review and analysis activities with respect to such Proposed Gene in accordance with the terms and conditions of this Agreement, including the Work Plan, including to identify murine gene sequences orthologous to the Proposed Gene if such activities are not already performed by HYSEQ or if instructed by the Steering Committee.

2.1.3 PROJECT GENES. On a Project Gene-by-Project Gene basis, and upon designation of a Proposed Gene as a Project Gene under this Agreement, a co-exclusive right and license until the earlier of (a) the date upon which such Project Gene becomes a Rejected Project

Gene [***], or (b) termination of the collaboration in accordance with the provisions of Section 11.2.2 of this Agreement; including the right to grant sublicenses to Affiliates and Third Party contractors as set forth in Section 2.4, under the HYSEQ Patents and HYSEQ Know-How to perform the following activities: (i) to analyze and use such Project Gene and any derivatives thereof in accordance with the terms and conditions of this Agreement, including the Work Plan, (ii) to use, make, create, generate, produce, breed, test and conduct research and development activities in connection with Project Knock-Out Mice and progeny and other derivatives thereof in accordance with the terms and conditions of this Agreement, including the Work Plan, (iii) to use, make, generate, produce, create, isolate, purify, identify and conduct research and development activities in connection with such Project Gene (and/or any mutation, fragment, allelic variant, analog, homolog or ortholog of such Project Gene and/or any expression products (including any Secreted Proteins, Derivative Proteins and/or Products) and/or derivatives thereof in accordance with the terms and conditions of this Agreement, including the Work Plan, and (iv) subject to a separate agreement entered into in accordance with Article 6, to develop, make, have made, use, distribute, offer for sale, import, export and sell Products. If the license under this Section 2.1.3 has terminated in accordance with (a) or (b) above, such license shall again become effective until termination in accordance with (a) or (b) if, in accordance with either Section 5.5.3.1 or Section 5.5.3.2 of this Agreement, the Steering Committee votes to designate a particular Rejected Project Gene a Project Gene again under this Agreement.

2.1.4 REJECTED PROJECT GENES.

(a) On a Rejected Project Gene-by-Rejected Project Gene basis, and upon designation of a Project Gene as a Rejected Project Gene under this Agreement, a co-exclusive internal use license until [***] for research purposes only to the Rejected Project Gene and its related Project Murine Gene under the HYSEQ Patents and HYSEQ Know-How to allow DELTAGEN to conduct similar research activities for itself during the Restriction Term as contemplated for Project Knock-Out Mice and Project Genes under this Agreement.

(b) On a Rejected Project Gene-by-Rejected Project Gene basis pursuant to the procedure set forth in Section 5.5.3, and upon [***] to perform the following activities: (i) to [***] such Rejected Project Gene and any derivatives, (ii) to [***], (iii) to [***], and (iv) to

[***] such Rejected Project Gene (or portion thereof), or an agonist or antagonist (including, without limitation, anti-sense, antibodies and small molecules) of a protein encoded by such Rejected Project Gene. Upon and after [***] to a Rejected Project Gene under this Section 2.14(b) for which HYSEQ has [***], DELTAGEN will (i) notify HYSEQ when [***], (ii) notify HYSEQ upon [***], (iii) [***], and (iv) keep complete and accurate [***] and allow a [***] audit by a third party independent auditor of such records, [***], in order to [***]. In addition to any other remedies available to HYSEQ under this Agreement, HYSEQ shall have the right to [***] under this paragraph upon written notice to DELTAGEN if DELTAGEN [***] under this Section 2.1.4(b).

2.2 CO-EXCLUSIVE LICENSE. The term "co-exclusive" as used herein shall operate to exclude all other Persons, except for HYSEQ or DELTAGEN, as applicable.

2.3 DELTAGEN LICENSE. Subject to the terms and conditions of this Agreement, DELTAGEN hereby grants to HYSEQ the following licenses:

2.3.1 PROJECT GENES. On a Project Gene-by-Project Gene basis, and upon designation of a Proposed Gene as a Project Gene under this Agreement, a co-exclusive right and license until the earlier of (a) the date upon which such Project Gene becomes a Rejected Project Gene, or (b) termination of the collaboration in accordance with the provisions of Section 11.2.2 of this Agreement; including the right to grant sublicenses to Affiliates and Third Party contractors as set forth in Section 2.4, under the DELTAGEN Knock-Out Technology and DELTAGEN Project Intellectual Property, and subject to a separate agreement entered into in accordance with Article 6, to develop, make, have made, use, distribute, offer for sale, import, export and sell Products.

2.3.2 REJECTED PROJECT GENES.

(a) On a Rejected Project Gene-by-Rejected Project Gene basis, and upon designation of a Project Gene as a Rejected Project Gene under this Agreement, a co-exclusive internal use license until [***] for research purposes only to the Rejected Project Gene and its related Project Murine Gene under the DELTAGEN Knock-Out Technology and DELTAGEN Project Intellectual Property to allow HYSEQ to conduct similar research activities for itself

during the Restriction Term as contemplated for Project Knock-Out Mice and Project Genes under this Agreement.

(b) On a Rejected Project Gene-by-Rejected Project Gene basis pursuant to the procedure set forth in Section 5.5.3, and [***] to perform the following activities: (i) to [***], (ii) to [***], (iii) to [***], and (iv) to [***] by such Rejected Project Gene.

2.4 SUBLICENSES. The licenses granted to each Party pursuant to Sections 2.1.3, 2.1.4(b), 2.3.1 and 2.3.2(b) include the right to sublicense all or part of such rights to such Party's Affiliates and/or to Third Party contractors to perform any obligations of such Party under the Development Program (with respect to Sections 2.1.3 and 2.3.1), provided that such Party provides written notice to the other Party of any such sublicense and the terms and conditions of such grant of sublicense (i) are consistent with and do not violate the terms and conditions of this Agreement, and (ii) ensure that such Persons are obligated in writing to comply with the terms and conditions of this Agreement, including being bound by obligations of confidentiality which are comparable to, or more stringent than, the provisions of Article 9. Notwithstanding anything to the contrary in this Agreement, if the Steering Committee designates a Proposed Gene as a Project Gene for work by DELTAGEN after being informed pursuant to Section 4.1.3 that HYSEQ has already submitted the corresponding Proposed Gene to a Third Party contractor for analysis under a legally binding contract for such Proposed Gene, then HYSEQ shall be authorized under this paragraph to license or sublicense to the Third Party contractor for the purposes of conducting such analysis. The results of such analysis shall be reported to the Steering Committee.

2.5 NO IMPLIED RIGHTS OR LICENSES. No right or license is granted under this Agreement by either Party to the other Party, either expressly or by implication, except as expressly set forth herein.

2.6 OTHER ACTIVITIES OF THE PARTIES. During the Term, neither Party shall, either itself or through or with any Affiliate or Third Party, (a) use or conduct any [***] with respect to any Proposed Genes (unless and until such Proposed Genes are Rejected Project Genes), Project Genes, Project Knock-Out Mice, Project Murine Genes, Secreted Proteins, Derivative Proteins, Secreted Protein Candidates or Products, except if and to the extent expressly permitted under

this Agreement or as otherwise mutually agreed by the Parties in writing, whether pursuant to Article 6 or otherwise; or (b) [***] any Proposed Genes (unless and until such Proposed Genes are Rejected Project), Project Genes, Project Knock-Out Mice, Project Murine Genes, Secreted Proteins, Derivative Proteins, Secreted Protein Candidates or Products that are subject to this Agreement, including with respect to any progeny, mutations, fragments, allelic variants, analogs, homologs or orthologs, and/or any expression products (including any such Secreted Proteins, Derivative Proteins and/or Products) or derivatives of any of the foregoing.

ARTICLE 3
DEVELOPMENT PROGRAM AND STEERING COMMITTEE

3.1 DEVELOPMENT PROGRAM.

3.1.1 OVERVIEW OF DEVELOPMENT PROGRAM. HYSEQ and DELTAGEN shall engage in a development program for the identification, research and development of Secreted Protein Candidates and Product(s) through the analysis and study of Project Genes provided by HYSEQ, and to generate, study and analyze Project Knock-Out Mice from murine genes orthologous to the Project Genes (the "Development Program"). Deltagen shall use commercially reasonable efforts to generate ES cells for each of the [***] Project Genes selected pursuant to Section 4.1.1, with the goal of generating [***] ES cell lines, [***]. After identification of Secreted Protein Candidates, the Steering Committee shall decide whether to conduct further research and development activities under the Development Program with respect to such Secreted Protein Candidates (and/or any Products which incorporate such Secreted Protein Candidates), or to develop and commercialize such Secreted Protein Candidates (and/or any Products which incorporate such Secreted Protein Candidates), pursuant to the terms and conditions of a separate agreement, whether in a collaboration between the Parties, or with Third Party partners or licensees or as otherwise determined by the Steering Committee pursuant to Section 6.2.

3.1.2 DEVELOPMENT PROGRAM COSTS AND EXPENSES. The Parties shall share [***] all costs and out-of-pocket expenses arising out of the Development Program other than the activities under Sections 4.1.3 and 5.3, and as otherwise may be agreed to by the Parties in a

separate agreement for the development of a Secreted Protein Candidate or Product. The costs and expenses of activities pursuant to Sections 4.1.3 and 5.3 shall be paid for solely by [***].

3.2 COOPERATION AND SHARING OF INFORMATION. The Parties shall cooperate, coordinate and consult with each other in connection with performing their activities under the Development Program, including under the Work Plan. Each Party shall also share with the other Party, as determined by the Steering Committee, or as reasonably requested by the other Party, data and information and other Technical Information, derived from their activities under the Development Program, including with respect to DELTAGEN related data and information arising in connection with DELTAGEN's analysis and study of the Project Knock-Out Mice under the Work Plan.

3.2.1 ACCESS TO FACILITIES. Representatives of each Party, including members of the Steering Committee, may, upon reasonable notice during normal business hours, (a) visit any facilities where Development Program activities are being conducted, and (b) consult informally, during such visits and by telephone, concerning the Development Program. The visiting Party's representatives shall be advised of, and bound by, the confidentiality obligations set forth in Article 9 (or confidentiality obligations that are at least comparable or more stringent than those set forth in Article 9), and shall follow such security and facility access procedures as directed, and designated by the Party who's facilities are being visited. The Party whose facilities are being visited may require that the representatives of the visiting Party be accompanied by its representatives, at all times while the visiting Party is at its facilities.

3.2.2 RECORD KEEPING. Each Party shall maintain complete and accurate records in accordance with its internal practices for keeping such records, in good scientific manner and in appropriate detail for patent and regulatory purposes, of its activities conducted under the Development Program and including such data and materials as are required to be maintained pursuant to applicable laws and regulations. To the extent practical, such written records shall be kept separately from written records documenting other activities of each Party and shall be maintained on a Project-by-Project basis.

3.2.3 COMPLIANCE. Each Party shall, and shall ensure that its employees, consultants, contractors and agents, perform their respective activities under the Development Program in accordance with all applicable laws, rules and regulations in the Territory.

3.2.4 UPDATES AND QUARTERLY AND FINAL REPORTS. Each Party shall provide updates to the Steering Committee, on at least a monthly basis, and written reports by the end of each calendar quarter, detailing the then current status and results of the activities of the Parties under the Development Program, including with respect to DELTAGEN, the then current status and results of the First Pass Phenotypic Analysis for each Project, as set forth in Section 5.3.

3.3 STEERING COMMITTEE RESPONSIBILITIES, COMPOSITION AND PROCEDURES.

3.3.1 ORGANIZATION AND ROLE. DELTAGEN and HYSEQ shall promptly after the Effective Date organize a steering committee (the "Steering Committee") to plan, manage and oversee the Development Program. Without limiting the foregoing, the Steering Committee's responsibilities shall include the following:

(a) developing, reviewing, updating and modifying in writing the Work Plan set forth in Exhibit A and developing the mediation procedure to be set forth in Exhibit B; provided, however, that if the Parties cannot agree, after good faith efforts, to a time frame for generation of the ES lines to be generated from the [***] Project Genes under this Agreement, then the Work Plan shall be deemed to provide that, within [***] from the date DELTAGEN commences work on such Project Genes, DELTAGEN shall use [***] efforts to generate ES cells for the first [***] Project Genes (provided all [***] Project Genes have been designated as such upon the beginning of such [***] period) and, within an additional [***], DELTAGEN shall use [***] efforts to generate ES cells for the remaining [***] Project Genes (provided all [***] remaining Project Genes have been designated as such upon beginning of such [***] period).

(b) designating genes as Project Genes from the Proposed Genes submitted by HYSEQ to the Steering Committee pursuant to Section 4.1;

(c) performing due diligence on each Proposed Gene and reviewing and determining, based on such due diligence, the relative strength of any IP positions around

any Project Genes under consideration, and including such determination in the decision whether to designate a Project Gene as a Secreted Protein Candidate.

(d) determining which Project Genes to submit to DELTAGEN for further analysis and study under the Development Program pursuant to Section 5.2;

(e) reviewing the First Pass Phenotypic Analysis of each of the Project Genes submitted to DELTAGEN and determining the necessity of conducting phenotypic testing, observation, or analysis not included in the First Pass Phenotypic Analysis (including any further research and development activities to be conducted by any Third Parties) and which, if any, of such additional phenotypic tests, observations, or analyses are appropriate, as set forth in Article 5;

(f) determining the necessity of conducting further research and development on each of the Project Genes (including any further research and development activities to be conducted by any Third Parties); provided, however, that the foregoing shall in no ay limit HYSEQ's right to independently conduct such further research and development in accordance with the terms and conditions of this Agreement, such information to be provided to the Steering Committee for such Project Gene in accordance with the terms and conditions of this Agreement;

(g) determining, under Section 5.5.1, which, if any, of the Secreted Proteins together with the Derivative Proteins, will be designated as "secreted protein candidates";

(h) reviewing the Parties' reports and updates in connection with their respective activities under the Development Program, including the reports submitted by DELTAGEN pursuant to Section 5.3; and

(i) deciding whether and how to develop any Secreted Protein Candidates and Products (e.g., whether under a collaboration between the Parties or with Third Party partners or licensees or otherwise), as set forth in Article 6.

3.3.2 COMPOSITION. The Steering Committee shall consist of three (3) members from DELTAGEN and three (3) members from HYSEQ. Each Party shall have the right to

appoint one (1) of its three (3) members to be a co-chairperson of the Steering Committee. The Parties shall each have the right, upon notifying the other, to change its members of the Steering Committee at any time during the Term.

3.3.3 MEETINGS; AND MINUTES. The Parties shall hold meetings of the Steering Committee as mutually agreed by the Parties (but in no event less than once each calendar quarter) to review the Development Program and to discuss future activities under this Agreement. The first meeting of the Steering Committee shall be held within thirty (30) days of the Effective Date. Minutes of all meetings setting forth decisions of the Steering Committee, including with respect to the Development Program, shall be prepared by one of the Parties, each Party alternating assuming this responsibility at each meeting, and circulated to both Parties within fifteen (15) days after each meeting, but minutes shall not become official until approved by both Parties (which approval the Parties shall use reasonable efforts to give within fifteen (15) days of receipt of such minutes).

3.3.4 STEERING COMMITTEE DECISIONS. Each vote of the Steering Committee shall include all current members of the Steering Committee . Except as otherwise expressly provided for in this Agreement, all decisions of the Steering Committee shall be by [***] members of the Steering Committee after good faith discussions. [***] Should, however, the Parties not be able to reach such [***] despite such good faith efforts, and should a [***] of the Steering Committee exist thirty (30) days after the date on which a disagreement arose, then, if the subject matter of the decision is [***] under this Agreement, including but not limited to decisions as to whether to [***], such disagreement shall be elevated to the senior executives of the Parties for good faith discussion to try and reach consensus between the Parties. In the event that the senior executives have not reached agreement (despite such good faith discussions) within sixty (60) days after the date on which the disagreement arose, then (i) if the subject of such disagreement is whether or not [***], then such [***] under this Agreement, and (ii) except as set forth in the preceding subsection (i), unless otherwise mutually agreed by the Parties, all other disagreements of a material nature shall be submitted for resolution to the dispute resolution process pursuant to Section 13.5.

ARTICLE 4

SELECTION OF PROJECT GENES

4.1 STEERING COMMITTEE REVIEW AND SELECTION OF PROPOSED GENES

4.1.1 SUBMITTED GENES. Within [***] after the first Steering Committee meeting, HYSEQ shall submit in writing to DELTAGEN for its review and consideration an initial written list(s) of [***] Submitted Genes and, within [***] after the Effective Date, shall submit in writing to DELTAGEN for its review and consideration a written list(s) of an additional [***] Submitted Genes for DELTAGEN to review under this Section 4.1.1. HYSEQ shall use [***] efforts to submit additional Submitted Genes under this Agreement during such [***] period to replace Rejected Submitted Genes that DELTAGEN has rejected under this Section 4.1.1 until [***] Project Genes have been selected. HYSEQ agrees to [***] when deciding which human gene sequences to include in the list of Submitted Genes to be submitted to DELTAGEN. Any submission of Submitted Genes subsequent to such [***] period shall be subject to the approval of the Steering Committee. All Submitted Genes submitted by HYSEQ to the Steering Committee under this Section 4.1 shall be accompanied by at least a partial murine ortholog gene sequence believed by HYSEQ to correspond to the gene sequence of such Submitted Gene (unless HYSEQ is unable to identify such an orthologous partial murine gene sequence for a Submitted Gene, in which case HYSEQ shall report such results to the Steering Committee) and DELTAGEN shall notify HYSEQ as to whether or not, [***] as of the date of its submission by HYSEQ. If any of the Submitted Genes have [***], HYSEQ shall provide this information promptly to the Steering Committee with its information under Section 4.1.3 and HYSEQ hereby expressly acknowledges and agrees that if the Steering Committee designates such a Submitted Gene as a Proposed Gene or a Project Gene, as between DELTAGEN and HYSEQ that HYSEQ is [***], while such Proposed Gene or Project Gene, as applicable, remains under this Agreement, and HYSEQ shall not [***] except as provided in Section 2.1.4(b) for a Rejected Project Gene.

4.1.2 PROPOSED GENES. DELTAGEN shall notify HYSEQ within thirty (30) days after its receipt of the Submitted Gene and, if applicable, its accompanying murine ortholog sequence, whether DELTAGEN accepts or rejects such Submitted Gene, such acceptance or rejection being within DELTAGEN's sole discretion.

(a) Any such accepted Submitted Gene for which notification has been provided shall be deemed a Proposed Gene. Within [***] after such written notification, HYSEQ will provide to DELTAGEN the supporting information for such Proposed Gene in accordance with Section 4.1.3.

(b) If DELTAGEN rejects a Submitted Gene such Submitted Gene shall be deemed a Rejected Submitted Gene. With respect to any such Rejected Submitted Gene, any of HYSEQ's rights under HYSEQ's Patents or HYSEQ Know-How related solely to such Submitted Gene shall return to HYSEQ under this Agreement and shall not be subject to further restriction under this Agreement other than DELTAGEN's obligations of confidentiality under Article 9 of this Agreement. Each of the Parties shall perform no additional services under this Agreement with regard to such Rejected Submitted Gene. Each of the Party's right, title and interest in and to such Rejected Submitted Gene shall remain with and vest fully in that Party, and the other Party shall have no right, title, or interest therein or thereto.

4.1.3 SUPPORTING INFORMATION AND DISCLOSURES. Together with each written list of Submitted Genes, HYSEQ shall fully disclose to the Steering Committee in writing or electronic form, with respect to each such Submitted Gene, the information actually known to HYSEQ regarding such Submitted Gene's murine ortholog sequence and the results of HYSEQ's Initial Murine Gene Analysis. With respect to each Proposed Gene, HYSEQ shall disclose to the Steering Committee in writing or in electronic form the following information actually known to HYSEQ: (i) any and all Technical Information and Patents (including but not limited to HYSEQ Patents and HYSEQ Know-How) covering such Proposed Gene that are owned or controlled by HYSEQ, (ii) any restrictions on the use of such Proposed Gene, (iii) [***], (iv) any and all facts and information which are limiting or preventing, or that could or would limit or prevent, HYSEQ's right or ability to grant the license to DELTAGEN pursuant to Section 2.1, or are causing, [***], and (iv) [***] under this Agreement, including the following:

(a) any pre-existing or other rights, interests and/or options in or to, or any other encumbrances (including any liens) on, such Proposed Gene and/or any HYSEQ Patents or HYSEQ Know-How covering or relating to such Proposed Gene;

(b) any licenses or other agreements with any Person relating to such Proposed Gene (including any in-licensed technology relating to such Proposed Gene), or relating to the HYSEQ Patents or HYSEQ Know-How covering or relating to such Proposed Gene; and

(c) any [***] of such Proposed Gene and/or any HYSEQ Patents or HYSEQ Know-How covering or relating to such Proposed Gene.

HYSEQ shall also provide further information, as may reasonably be requested by the Steering Committee, and if requested, shall make available to the Steering Committee the appropriate technical and other HYSEQ employees to answer questions posed by the Steering Committee with respect to the Proposed Genes and the information and disclosures submitted under this Section 4.1.3. With respect to a Proposed Gene, if HYSEQ makes a [***] in writing pursuant to this Section 4.1.3 of [***], prior to or concurrently with its submission to the Steering Committee of such Proposed Gene, HYSEQ [***]; provided that DELTAGEN shall have the right to refuse to conduct any activities with respect to such Proposed Gene, if DELTAGEN, in its sole discretion, so chooses, under this Section 4.1.3 or Section 4.1.1 above, either due to HYSEQ's inability to provide information, or as a result of the information provided by HYSEQ or information DELTAGEN acquires independently of HYSEQ. If DELTAGEN chooses to not conduct any activities with respect to such Proposed Gene under this Section 4.1.3, such Proposed Gene shall become a Rejected Proposed Gene in accordance with the terms and conditions of Section 4.3 of this Agreement. DELTAGEN may also choose not to continue with a Proposed Gene under this Agreement if technical obstacles make it commercially reasonable not to proceed. In such event, DELTAGEN shall notify the Steering Committee, and the Steering Committee may vote affirmatively to continue with such Proposed Gene as a Project Gene with a [***] sharing between the Parties of all costs arising from such technical obstacles.

4.2 SELECTION OF PROJECT GENES. After reviewing a Proposed Gene and the information and disclosures received from HYSEQ pursuant to Sections 4.1.1 and 4.1.3, and the information and reports received from DELTAGEN, and if applicable, HYSEQ, pursuant to Sections 4.1.3 with respect to such Proposed Gene, the Steering Committee members shall vote on whether to include such Proposed Gene as a "project gene" hereunder. If the Steering Committee members

vote affirmatively to include a Proposed Gene as a "project gene" under this Agreement, then upon such vote, such Proposed Gene shall become a Project Gene.

4.3 REJECTED PROPOSED GENES. Unless otherwise decided by the Parties or the Steering Committee, any Proposed Gene which (i) DELTAGEN has notified HYSEQ it shall not work on under this Agreement (ii) the Steering Committee members have voted to reject as a "project gene," and/or (iii) the Steering Committee members have not voted affirmatively to include as a "project gene" under this Agreement within ninety (90) days after submission of information regarding the Proposed Gene to the Steering Committee pursuant to Section 4.1.3, shall be a "Rejected Proposed Gene." Each of the Parties shall perform no additional services under this Agreement with regard to such Rejected Proposed Gene. Each of the Party's right, title and interest in and to such Rejected Proposed Gene (if any) shall remain with and vest fully in that Party, and the other Party shall have no right, title, or interest therein or thereto.

ARTICLE 5
HYSEQ FUNDING AND DEVELOPMENT PROGRAM ACTIVITIES

5.1 HYSEQ DEVELOPMENT FUNDING. As partial consideration for the research and development activities to be conducted by DELTAGEN under this Agreement, HYSEQ shall pay DELTAGEN as follows:

(a) within [***] after the Effective Date, HYSEQ shall pay to DELTAGEN [***] U.S. Dollars (U.S.$[***]) ("Payment One");

(b) within [***] of the Effective Date, HYSEQ shall pay to DELTAGEN [***] U.S. Dollars (U.S.$[***]) ("Payment Two") if the Steering Committee has designated [***] two hundred (200) Project Genes within [***] after the Effective Date; [***];

(c) within [***] of the Effective Date, HYSEQ shall pay to DELTAGEN [***] U.S. Dollars (U.S.$[***]) ("Payment Three") if DELTAGEN has created two hundred (200) ES cell lines for Project Genes; [***]; and

(d) within twenty-four (24) months after the Effective Date, HYSEQ shall pay to DELTAGEN the remaining amount of a pro-rated Ten Million U.S. Dollars (U.S.$10,000,000) ("Total Payment") [***].

HYSEQ acknowledges and agrees that the payments payable to DELTAGEN pursuant to this Section are non-refundable, and may be used and disposed of as DELTAGEN, in its reasonable business judgment, determines is appropriate in accordance with the terms and conditions of this Agreement.

5.2 INITIATION OF PROJECTS; AND PERFORMANCE AND DELAYS. The Steering Committee shall determine which Projects to submit to DELTAGEN to initiate work on such Projects under the Development Program. Each Party shall use reasonable commercial efforts to fulfill their obligations with respect to each Project as set forth herein (including the Work Plan), and to perform its other obligations under this Agreement; provided that, with respect to DELTAGEN's activities under the Development Program, HYSEQ acknowledges and agrees that the performance of such activities may involve a number of technologically complex steps and that any time periods for performance, whether set out in the Work Plan or elsewhere in this Agreement, may be subject to change due to potential technological difficulties encountered, and any such delays or technical issues shall not be considered a breach by DELTAGEN under this Agreement. If a Project is delayed because either Party determines that there are any technical issues with respect to a Project of a material nature, it shall notify the Steering Committee in writing describing the delayed task and the reasons for such delay. After receiving such notice, if necessary, the Steering Committee shall meet to review the reason for such delays and any technical issues raised by the notifying Party, to consider how best to proceed and whether to modify the Work Plan (including to adjust any timelines contained therein), if and to the extent necessary. If requested by the Steering Committee, the Parties shall provide information to the Steering Committee to assist it in its review of the Project. The Steering Committee may vote at any time to discontinue or suspend a Project if the Steering Committee determines that it is commercially reasonable or necessary to do so. DELTAGEN may determine, in its reasonable business judgment, to [***]; provided, however, that DELTAGEN shall notify HYSEQ in writing within three (3) business days of such determination and shall [***]. Upon such decision by the Steering Committee or DELTAGEN, as applicable, to [***], the applicable Project Gene shall immediately become a Rejected Project Gene.

5.3 GENERATION AND TESTING OF PROJECT KNOCK-OUT MICE; AND FIRST PASS PHENOTYPIC

ANALYSIS; AND UPDATES AND REPORTS.

5.3.1 CERTAIN DELTAGEN ACTIVITIES. For each Project initiated by the Steering Committee pursuant to Section 5.2, DELTAGEN shall, as set out in the Work Plan, use [***] efforts to: (i) [***] to create and generate a corresponding Project Knock-Out Mouse, (ii) generate Project Knock-Out Mice [***] using the Project Murine Gene that is orthologous to the Project Gene which is the subject of the Project; and (iii) conduct a First Pass Phenotypic Analysis of such Project Knock-Out Mice. Exhibit A may be reasonably modified in writing from time to time [***] to add tests, observations and/or analyses to be performed by DELTAGEN at any time under this Agreement and DELTAGEN shall notify HYSEQ of such changes as part of its report regarding First Pass Phenotypic Analysis.

5.3.2 UPDATES. Within ten (10) days after the end of each calendar quarter, DELTAGEN shall provide all Steering Committee members with a written report describing the status, and expected completion date, of its work on each Project under the Work Plan and with data from any portion(s) of the First Pass Phenotypic Analysis completed on a Project during the just-ended Calendar Quarter, if any, and if it has not already provided such information to the Steering Committee. If and as reasonably requested by the Steering Committee, DELTAGEN shall make persons working on its behalf on a Project available during normal business hours for a reasonable number of consultations with the Steering Committee regarding such Project. Such consultations will either be in-person at such person's place of employment or via videoconference or teleconference.

5.3.3 FIRST PASS PHENOTYPIC ANALYSIS REPORT. Once DELTAGEN completes the First Pass Phenotypic Analysis on a Project under the Work Plan, it shall (to the extent not already provided pursuant to Section 5.3.2) submit to the Steering Committee for the Steering Committee's review a final report of the results of such Project.

5.4 ADDITIONAL TESTING; COSTS.

5.4.1 ADDITIONAL TESTING. If, at any time during this Agreement, HYSEQ or DELTAGEN believes an additional test, observation, or analysis not included in the First Pass Phenotypic Analysis, or covered by the Work Plan would be useful to a Project, the Party may submit its proposal to the Steering Committee for the Steering Committee's approval. If the

Steering Committee approves any such additional tests, observations, or analysis requested by either Party, or if the Steering Committee determines that it is necessary to assist it with determining whether to designate as a "secreted protein candidate," a Secreted Protein produced by the Project Gene that is the subject of such Project, the Steering Committee may request that DELTAGEN or HYSEQ perform additional assays, including phenotypic tests, observations, or analyses not included in the First Pass Phenotypic Analysis on such Project (collectively, "Additional Tests"). DELTAGEN or HYSEQ, as applicable, shall perform the Additional Tests, as requested by the Steering Committee pursuant to this Section; provided that the Parties shall share the costs as set forth in Section 5.4.2. Once DELTAGEN or HYSEQ, as applicable, has completed such Additional Tests on a Project, DELTAGEN or HYSEQ, as applicable, shall submit to the Steering Committee for the Steering Committee's review of the Project under Section 5.5 a report of the results of such additional services.

5.4.2 SHARING OF COSTS. HYSEQ or DELTAGEN, as applicable, shall reimburse the Party performing the Additional Tests for [***] of the reasonable costs (including FTEs) and reasonable out-of-pocket expenses incurred in performing the Additional Tests, within thirty (30) days of HYSEQ's or DELTAGEN's, as applicable, receipt of an invoice from the Party performing the Additional Tests, including reasonable supporting documentation, covering such costs and out-of-pocket expenses incurred in connection with conducting such activities under this Agreement. In the event there is a good faith dispute over an amount owed by a Party under this Section 5.4.2, the disputed portion of the payment may be delayed, and such payment shall not be considered delinquent pending a resolution of the Parties' dispute.

5.5 DESIGNATION OF SECRETED PROTEIN CANDIDATES; DESIGNATION GUIDELINES.

5.5.1 DESIGNATION OF SECRETED PROTEIN CANDIDATES. After reviewing the information provided to it pursuant to Sections 3.2.4, 5.3 and 5.4, with respect to a Project, the Steering Committee members shall vote whether to designate the Secreted Protein produced by the Project Gene which is the subject of such Project, together with its Derivative Proteins, as a "secreted protein candidate." If the Steering Committee members vote affirmatively, within [***] after receiving such information provided to it regarding a Secreted Protein, a Secreted Protein shall be a Secreted Protein Candidate hereunder. If less than [***] of the Steering

Committee members vote affirmatively to designate a Secreted Protein as a Secreted Protein Candidate or if the Steering Committee fails to vote affirmatively within such [***] period to designate a Secreted Protein as a Secreted Protein Candidate, then the Project Gene that produced such Secreted Protein shall immediately become a Rejected Project Gene.

5.5.2 DESIGNATION GUIDELINES. A Steering Committee member's standard for voting to designate a Project Gene's Secreted Protein as a "secreted protein candidate" shall be [***].

5.5.3 [***] PROJECT GENE. Unless otherwise decided by the Parties or the Steering Committee, any Project Gene which (i) the Steering Committee members have voted to [***]," (ii) the Steering Committee members have not voted [***] under this Agreement within [***] of its submission to the Steering Committee pursuant to Section 5.5.1, and/or (iii) has been [***] Neither Party shall [***] any of the [***].

5.5.3.1 DURING RESTRICTION TERM. If, during the Restriction Term, either Party obtains [***] on a Rejected Project Gene, such Party may present such Rejected Project Gene to the Steering Committee for another vote on whether to designate such Rejected Project Gene as a Secreted Protein Candidate. At the time of presentation of a Rejected Project Gene to the Steering Committee, each of the Parties must disclose to the other Party the [***] performed during the Restriction Term.

5.5.3.2 EXPIRATION OF RESTRICTION TERM. Upon expiration of the Restriction Term for any Rejected Project Gene, each Party must disclose to the other Party the [***] and the Steering Committee shall determine if such Rejected Project Gene shall be further analyzed and studied under the Development Program.

5.5.3.3 STEERING COMMITTEE VOTE ON REJECTED PROJECT GENE. If the Steering Committee votes to return a Rejected Project Gene to the Development Program, the license grants under Sections 2.1.3 and 2.3.1 shall again become effective in accordance with their terms. If the Steering Committee cannot reach an agreement on a Rejected Project Gene presented to it under this Section 5.5.3, the Chief Executive Officers of the Parties shall make such determination. If the Chief Executive Officers cannot reach an agreement on such Rejected Project Gene, then such determination shall not be subject to the dispute resolution procedure set

forth in Section 13.5, but rather: (a) if DELTAGEN votes not to return such Rejected Project Gene to the Development Program and HYSEQ votes to return such Rejected Project Gene to the Development Program, then [***] or (b) if HYSEQ votes not to return such Rejected Project Gene to the Development Program and DELTAGEN votes to return such Rejected Project Gene to the Development Program, then [***] If the Party that [***] pursuant to this Section 5.5.3.3 wishes to [***], the Parties shall negotiate in good faith concerning [***].

5.5.3.4 MAINTENANCE OF PROJECT KNOCK-OUT MICE. If HYSEQ desires to maintain the line of a Rejected Project Gene's Project Knock-Out Mouse beyond the Restriction Term, it shall so notify DELTAGEN in writing prior to the expiration of the Restriction Term. The Parties shall use good faith efforts to agree upon an appropriate manner to preserve the Project Knock-Out Mouse, its ES cells or frozen sperm sufficient to regenerate such Project Knock-Out Mouse, at HYSEQ's sole cost and expense.

5.5.3.5 RIGHT OF FIRST REFUSAL. If, during the Restriction Term, a Third Party approaches a Party ("Approached Party") and presents a [***], such Approached Party shall [***]

ARTICLE 6
COMMERCIALIZATION AND OTHER ACTIVITIES

6.1 FURTHER RESEARCH AND DEVELOPMENT OF A SECRETED PROTEIN CANDIDATE.

6.1.1 FURTHER DEVELOPMENT ACTIVITIES. Once a Secreted Protein Candidate has been designated by the Steering Committee pursuant to Section 5.5, the Steering Committee shall either modify the Work Plan, or create a separate work plan, if and as may be appropriate, to outline the scope of development activities and the responsibilities of the Parties with respect thereto and the Parties shall enter into a separate agreement with respect to development and commercialization of such Secreted Protein Candidate Product derived therefrom. Unless otherwise decided by the Parties, the Parties shall [***] share all costs (including FTEs) and out-of-pocket expenses associated with conducting such research and development activities on a [***] basis, in accordance with the procedures set forth in Section 6.1.2.

6.1.2 ACCOUNTING OF SHARED COST; AND REPORTS. All costs and out-of-pocket expenses that are to be shared by the Parties on a [***] basis pursuant to Section 3.1.2, ("Shared Costs") shall be reviewed by the Parties each calendar quarter to determine the amount of Shared Costs incurred by each Party for such calendar quarter hereunder. Within sixty (60) days of the end of each calendar quarter (or as otherwise mutually agreed by the Parties), each Party shall provide to the other Party and the Steering Committee a report detailing the total Shared Costs incurred by it, with respect to Section 6.1.1 on a Secreted Protein Candidate-by-Secreted Protein Candidate basis and for Products incorporating such Secreted Protein Candidate whose apportionment of costs are not otherwise the subject of a separate agreement between the Parties (or, if applicable, between a Party and its Affiliate and/or a Third Party), on a Product-by-Product basis, and:

(a) if DELTAGEN incurred more than [***] of the total Shared Costs for a calendar quarter, then DELTAGEN shall invoice HYSEQ for the amount representing the difference between the percentage paid by DELTAGEN and the [***] (the "HYSEQ Deficiency") and HYSEQ shall pay DELTAGEN the HYSEQ Deficiency within thirty (30) days of its receipt of such invoice; or

(b) if HYSEQ incurred more than [***] of the total Shared Costs for a calendar quarter, then DELTAGEN shall pay HYSEQ the amount representing the difference between the percentage paid by HYSEQ and the [***] (the "DELTAGEN Deficiency") within thirty (30) days of notifying HYSEQ of the total Shared Costs incurred by the Parties. In the event there is a good faith dispute over an amount owed by HYSEQ under this Section 6.1.2, the disputed portion of the payment may be delayed, and such payment shall not be considered delinquent pending a resolution of the Parties' dispute, other than with respect to the terms and conditions of Section 13.7.

6.2 COMMERCIALIZATION OF SECRETED PROTEIN CANDIDATES AND PRODUCTS. If the Steering Committee decides not to conduct further development activities with respect to a Secreted Protein Candidate or any Products identified by either Party under the Development Program that utilize such Secreted Protein Candidate, the Parties shall, through the Steering Committee, hold good faith discussions to determine how, and whether, to proceed with further development

and/or commercialization of any such Secreted Protein Candidate (and/or any identified Products that utilize such Secreted Protein Candidate), either themselves or through or with any Affiliate and/or Third Parties. Any such development and/or commercialization activities shall be conducted pursuant to the terms and conditions of a separate agreement to be negotiated between the Parties and any other relevant parties to such agreement(s). If the Parties decide not to proceed under this Section 6.2, and if neither of the Parties invokes the provisions of Section 6.3 below, then upon the expiration of the [***] period provided for in Section 6.3.1 the applicable Project Gene shall become a Rejected Project Gene under this Agreement.

6.3 DEADLOCK.

6.3.1 SUBMISSION OF TERM SHEET TO STEERING COMMITTEE. If the Steering Committee is unable to agree on how to proceed with respect to a Secreted Protein Candidate (or any Products identified by either Party under the Development Program that utilize such Secreted Protein Candidate) pursuant to Section 6.2 within [***] of first considering such Secreted Protein Candidate (or its corresponding Product(s)), then within [***] of such DATE, each Party may, if it so chooses, present to the Steering Committee a proposed term sheet (a "Proposed Term Sheet") that sets out terms and conditions under which such Party wishes to develop and commercialize such Secreted Protein Candidate (and/or any Products identified by either Party under the Development Program that utilize such Secreted Protein Candidate) which the submitting Party would like to pursue itself or with or through an Affiliate and/or Third Party. Any such Proposed Term Sheet submitted to the Steering Committee by a Party shall include [***] and shall provide for [***]. The Steering Committee shall review and consider any Proposed Term Sheet submitted by a Party [***]. If the Steering Committee votes and approves a Party's Proposed Term Sheet, such Party is authorized to negotiate an agreement based upon such Proposed Term Sheet, the Party may proceed with such negotiations, but shall provide the Steering Committee with a copy of the Agreement prior to signing for final review and approval (such approval not to be unreasonably withheld or delayed). Subject to any confidentiality obligations to which a Party may be bound, such Party shall keep the Steering Committee updated with respect to such negotiations, if and as reasonably requested by the Steering Committee. If at any time during the Term, each Party agrees to submit a Proposed

Term Sheet to the Steering Committee under this Section 6.3.1, and the Steering Committee rejects both, or does not approve either, Party's Proposed Term Sheets, then either Party [***] upon written notice to the other Party. If only one Party submits a Proposed Term Sheet to the Steering Committee, and the Steering Committee rejects such Party's Proposed Term Sheet, or neither Party submits a Proposed Term Sheet, then neither Party may [***] except as authorized by the Steering Committee or as mutually agreed by the Parties in writing; provided that if the Parties both agree at a later date to submit Proposed Term Sheets to the Steering Committee covering the development and/or commercialization of such Secreted Protein Candidate (or any Products that utilize such Secreted Protein Candidate) under this Section, then the Parties can at that time [***] on written notice to the other Party if the Steering Committee rejects both, or does not approve either, Party's Proposed Term Sheets.

6.3.2 THIRD PARTY MEDIATION. Upon a Party's receipt of a notice from the other Party initiating the mediation procedures under this Section, the Parties shall meet to attempt in good faith to resolve this matter through face-to-face negotiations between senior executives of HYSEQ and DELTAGEN, including consideration of any Proposed Term Sheets. If the matter is not resolved within thirty (30) days (or such other period of time mutually agreed upon by the Parties) of commencing such face-to-face negotiations, or if the Party against which a claim has been asserted refuses to attend such negotiations or does not otherwise participate in such negotiations within thirty (30) days (or such other period of time mutually agreed upon by the Parties) from the date of notice of to the other Party under this Section 6.3.2, then either Party may initiate the procedures set forth on Exhibit B upon notice to the other Party.

ARTICLE 7
REPRESENTATIONS AND WARRANTIES

7.1 HYSEQ REPRESENTATIONS AND WARRANTIES. As of the Effective date and during the Term (unless expressly stated in this Section 7.1), HYSEQ hereby represents and warrants the following to DELTAGEN:

7.1.1 HYSEQ is (i) a company duly organized, validly existing, and in good standing under the laws of Nevada with its respective principal place of business as indicated in the first paragraph of this Agreement; (ii) duly qualified as a corporation and in good standing

under the laws of each jurisdiction where its ownership or lease of property or the conduct of its business requires such qualification, where the failure to be so qualified would have a material adverse effect on its financial condition or its ability to perform its obligations hereunder; (iii) has the requisite corporate power and authority and the legal right to conduct its business as now conducted and hereafter contemplated to be conducted; (iv) has all necessary licenses, permits, consents, or approvals from or by, and has made all necessary notices to, all governmental authorities having jurisdiction, to the extent required for such ownership and operation; and (v) is in compliance with its certificate of incorporation and by-laws.

7.1.2 The execution, delivery and performance of this Agreement by HYSEQ and all documents to be delivered by HYSEQ hereunder: (i) are within the corporate power of HYSEQ; (ii) have been duly authorized by all necessary or proper corporate action; (iii) are not in contravention of any provision of the certificate of incorporation or by-laws of HYSEQ; (iv) will not violate any law or regulation or any order or decree of any court of governmental instrumentality; (v) will not violate the terms of any indenture, mortgage, deed of trust, lease, agreement, or other instrument to which HYSEQ is a party or by which HYSEQ or any of its property is bound; and (vi) do not require any filing or registration with or the consent or approval of, any governmental body, agency, authority or any other Person, which has not been made or obtained previously.

7.1.3 This Agreement has been duly executed and delivered by HYSEQ and constitutes a legal, valid and binding obligation of both HYSEQ, enforceable against both and either of HYSEQ in accordance with its terms.

7.1.4 Except as expressly provided on Exhibit D, (which may be modified in accordance with the terms and conditions of this Agreement for a particular Submitted Gene up until the time that information is submitted for a Proposed Gene under Section 4.1.3), HYSEQ is the sole and exclusive owner of the entire right, title and interest in and to the HYSEQ Patents and the HYSEQ Know-How, free and clear of any liens or other encumbrances, and no other Person (including any government or university) has any license, claim or other right or interest in or to any HYSEQ Patents or the HYSEQ Know-How. The HYSEQ Patents and the HYSEQ Know-How may be co-exclusively licensed to DELTAGEN hereunder, and as contemplated

under Article 6 under a separate agreement to commercialize Secreted Protein Candidate and/or Products, without payment of any royalty, fee or incurring any other obligation to any other Person (including any government or university).

7.1.5 HYSEQ has disclosed or made available to DELTAGEN, to the extent of HYSEQ's actual knowledge, all information relevant to [***].

7.1.6 HYSEQ has disclosed or made available to DELTAGEN, to the extent of HYSEQ's actual knowledge, [***].

7.1.7 HYSEQ has disclosed or made available to DELTAGEN, to the extent of HYSEQ's actual knowledge, [***].

7.1.8 HYSEQ is [***].

7.1.9 Except as provided in the information under Section 4.1.3 submitted for a Proposed Gene pursuant to this Agreement, all of the research and development work performed in connection with any of the HYSEQ Know-How or any Submitted Gene, Proposed Genes (subject to any disclosures made by HYSEQ in writing pursuant to Section 4.1.3 with respect to any such Proposed Gene), or Project Genes prior to the Effective Date was [***] and was performed in accordance with applicable law and in compliance with all applicable regulatory requirements, and all such rights have been properly assigned to HYSEQ including any and all rights of any consultants of HYSEQ.

7.1.10 HYSEQ [***] to protect its proprietary and confidential information, including requiring its , consultants and agents to be bound in writing by obligations of confidentiality and non-disclosure, and requiring its employees to assign to it any and all inventions and discoveries discovered by such employees made within the scope of, and during their employment, and only disclosing proprietary and confidential information to Third Parties pursuant to written confidentiality and non-disclosure agreements.

7.1.11 HYSEQ has not, up through and including the Effective Date, [***].

7.2 DELTAGEN REPRESENTATIONS AND WARRANTIES. As of the Effective date and during the Term(unless expressly stated in this Section 7.2), DELTAGEN hereby represents and warrants the following to HYSEQ:

7.2.1 DELTAGEN is (i) a company duly organized, validly existing, and in good standing under the laws of Delaware with its respective principal place of business as indicated in the first paragraph of this Agreement; (ii) duly qualified as a corporation and in good standing under the laws of each jurisdiction where its ownership or lease of property or the conduct of its business requires such qualification, where the failure to be so qualified would have a material adverse effect on its financial condition or its ability to perform its obligations hereunder; (iii) has the requisite corporate power and authority and the legal right to conduct its business as now conducted and hereafter contemplated to be conducted; (iv) has all necessary licenses, permits, consents, or approvals from or by, and has made all necessary notices to, all governmental authorities having jurisdiction, to the extent required for such ownership and operation; and (v) is in compliance with its certificate of incorporation and by-laws.

7.2.2 The execution, delivery and performance of this Agreement by DELTAGEN and all documents to be delivered by DELTAGEN hereunder: (i) are within the corporate power of DELTAGEN; (ii) have been duly authorized by all necessary or proper corporate action; (iii) are not in contravention of any provision of the certificate of incorporation or by-laws of DELTAGEN; (iv) will not violate any law or regulation or any order or decree of any court of governmental instrumentality; (v) will not violate the terms of any indenture, mortgage, deed of trust, lease, agreement, or other instrument to which DELTAGEN is a party or by which DELTAGEN or any of its property is bound; and (vi) do not require any filing or registration with or the consent or approval of, any governmental body, agency, authority or any other Person, which has not been made or obtained previously.

7.2.3 This Agreement has been duly executed and delivered by DELTAGEN and constitutes a legal, valid and binding obligation of both DELTAGEN, enforceable against both and either of DELTAGEN in accordance with its terms.

7.2.4 DELTAGEN [***] to protect its proprietary and confidential information, including requiring its consultants and agents to be bound in writing by obligations of confidentiality and non-disclosure, and requiring its employees to assign to it any and all inventions and discoveries discovered by such employees made within the scope of, and during

their employment, and only disclosing proprietary and confidential information to Third Parties pursuant to written confidentiality and non-disclosure agreements.

7.2.5 DELTAGEN has not, up through and including the Effective Date, [***].

ARTICLE 8
INDEMNIFICATION

8.1 INDEMNIFICATION. Each Party agrees to indemnify and hold forever harmless the other Party and its Affiliates and each of their agents, directors, officers, employees, consultants, contractors and (sub)licensees from and against any loss, damage, action, proceeding, cost, expense or liability (including reasonable attorneys' fees) (collectively, "Loss") arising from or in connection with any Third Party claim or action relating to or arising from (a) the breach of any representation, warranty or covenant of the indemnifying Party under this Agreement; or (b) the [***] of the indemnifying Party or any its Affiliates or any of its or its Affiliates' agents, directors, officers, employees, consultants, contractors and/or (sub)licensees.

8.2 PROCEDURE. The indemnities set forth in this Article 8 are subject to the condition that the Party seeking indemnity shall (a) promptly notify the indemnified Party under Section 8.1 (the "Indemnifying Party") on being notified or otherwise made aware of a suit, action or claim; (b) tender to the Indemnifying Party control of any proceedings regarding such matter [***]; provided that the Indemnifying Party may not settle the suit or otherwise consent to any judgment in such suit without the written consent of the Indemnified Party [***]. The Indemnifying Party has no obligation hereunder in connection with any settlement made without the Indemnifying Party's written consent (provided that such consent was not unreasonably withheld). The non-Indemnifying Party shall cooperate with the Indemnifying Party in the defense of any Third Party claim, as reasonably requested by the Indemnifying Party.

8.3 LIMITATIONS ON LIABILITY. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN SECTION 8.1 WITH RESPECT TO THIRD PARTY CLAIMS, NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING ANY LOSS OF PROFITS OR LOSS OF ANY BUSINESS OPPORTUNITY.

8.4 DISCLAIMERS.

8.4.1 EXCEPT FOR THE WARRANTIES SET FORTH IN ARTICLE 7, NEITHER PARTY MAKES ANY WARRANTIES HEREUNDER AND EXPRESSLY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT AND FITNESS FOR A PARTICULAR PURPOSE.

8.4.2 WITHOUT LIMITING SECTION 8.4.1, HYSEQ HEREBY ACKNOWLEDGES AND AGREES THAT THE PROJECT KNOCK-OUT MICE AND ANY DERIVATIVES OR PROGENY THEREOF ARE PROVIDED "AS IS," WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. FURTHERMORE, DELTAGEN MAKES NO REPRESENTATION OR WARRANTY THAT THE USE OF THE PROJECT KNOCK-OUT MICE AND ANY DERIVATIVES OR PROGENY THEREOF WILL NOT INFRINGE, MISAPPROPRIATE OR OTHERWISE CONFLICT WITH ANY PATENT OR OTHER PROPRIETARY RIGHTS OF ANY OTHER PERSON.

ARTICLE 9
CONFIDENTIALITY, PRESS RELEASES AND OTHER DISCLOSURES

9.1 NONDISCLOSURE.

9.1.1 During the Term and [***] thereafter without regard to the means of termination, neither DELTAGEN nor HYSEQ shall use for any purpose other than the purpose of this Agreement or reveal or disclose to any Third Party information and materials disclosed by, or obtained from, the other Party (whether prior to or during the Term), and which is marked as "Confidential" or for information or materials disclosed or obtained orally or otherwise in a non-written form, which is described or summarized in a writing identified as "Confidential" and forwarded to the other Party within thirty (30) days of such disclosure ("Confidential Information") without first obtaining the written consent of the other Party, except (i) as required by law or court order (subject to prior notification to the other Party and seeking redaction and confidential treatment where available); (ii) as required in connection with any filings made with,

or by the disclosure policies of a stock exchange (subject to prior notification to the other Party and seeking redaction and confidential treatment where available); and (iii) as expressly permitted under this Agreement, including as permitted under Section 10.3.5.

9.1.2 The obligations of confidentiality set forth in this Section 9.1 shall not apply to such information which (a) is or becomes a matter of public knowledge, through no fault of the receiving Party; (b) is already rightfully in the possession of the receiving Party without an obligation of confidentiality at the time of disclosure, as reasonably evidenced by the receiving Party; (c) is disclosed non-confidentially to the receiving Party by a Third Party having lawful possession of such information and the right to do so; or (d) is subsequently and independently developed by employees of the receiving Party or Affiliates thereof without reference to or knowledge of the Confidential Information disclosed, as reasonably evidenced by the receiving Party. The Parties shall take reasonable measures to assure that no unauthorized use or disclosure is made by others to whom access to such information is granted.

9.1.3 HYSEQ and DELTAGEN each agree to limit the disclosure of any Confidential Information of the other Party received or obtained hereunder to such of its Affiliates and its and its Affiliates' employees, consultants, sublicensees permitted under Article 2 and agents, as are necessary to carry out the provisions of this Agreement and who are likewise bound by written obligations of confidentiality which are comparable to, or more stringent than, the provisions of this Article 9. Each Party agrees to provide the other Party with written notice of any such consultants, sublicensees, or agents.

9.2 PRESS RELEASES AND PUBLIC ANNOUNCEMENTS. Neither Party shall otherwise issue any press releases or other publicity materials, or make any public announcements relating to the terms or conditions of this Agreement or relating to the Development Program or any Confidential Information of the other Party without the prior written consent of the other Party. This restriction shall not apply to disclosures required by law or regulation, including as may be required in connection with any filings made with, or by the disclosure policies of a stock exchange (subject to prior notification to the other Party and seeking redaction and confidential treatment where available).

9.3 PUBLICATIONS AND PRESENTATIONS. Without limiting Section 9.2, neither Party shall

make any publications or presentations relating to any Proposed Genes (unless and until it is a Rejected Proposed Gene), Project Genes, Project Knockout Mice, Project Murine Genes, Secreted Proteins, Derivative Proteins, Secreted Protein Candidates or Products or otherwise relating to the Development Program or any activities thereunder, including any of the results or data arising from the activities conducted under Development Program or containing, disclosing or relating to any Confidential Information of the other Party, without the other Party's prior written consent.

9.4 TERMINATION. The Parties agree that if this Agreement is terminated, neither Party shall disclose to any Third Party [***] without the express written consent of the other Party, and the Parties shall agree on statements for public disclosure, such agreement not to be unreasonably withheld or delayed. This restriction shall not apply to disclosures required by law or regulation.

ARTICLE 10
OWNERSHIP AND RIGHTS

10.1 PROJECT INTELLECTUAL PROPERTY OWNERSHIP AND RIGHTS.

10.1.1 All right, title and interest in and to all inventions, discoveries, know-how, derivatives and improvements and other Technical Information (whether or not patentable), conceived, made, created, invented or developed solely by DELTAGEN in connection with the activities conducted under the Development Program or otherwise in connection with this Agreement (including in connection with the selection of the Project Genes pursuant to Section 4.1) shall be solely owned by DELTAGEN ("DELTAGEN Project Intellectual Property"). All right, title and interest in and to all inventions, discoveries, know-how, derivatives and improvements and other Technical Information (whether or not patentable), conceived, made, created, invented or developed solely by HYSEQ in connection with the activities conducted in connection with the Development Program or otherwise in connection with this Agreement (including in connection with the selection of the Project Genes pursuant to Section 4.1) shall be solely owned by HYSEQ ("HYSEQ Project Intellectual Property"). All right, title and interest in and to all inventions, discoveries, know-how, derivatives and improvements and other Technical Information (whether or not patentable), conceived, made, created, invented or developed jointly

by DELTAGEN and HYSEQ in connection with the activities conducted in connection with the Development Program or in otherwise connection with this Agreement (including in connection with the selection of the Project Genes pursuant to Section 4.1) shall be jointly owned by DELTAGEN and HYSEQ ("Joint Project Intellectual Property"); provided, however, that Joint Project Intellectual Property relating to the DELTAGEN Knock-Out Technology, including any methods or processes relating thereto, shall be owned by, and shall vest solely in, DELTAGEN and shall be deemed "DELTAGEN Project Intellectual Property". Patents covering HYSEQ Project Intellectual Property shall be referred to as "HYSEQ Project Patents" and shall be owned by, and shall vest in, HYSEQ and Patents covering DELTAGEN Project Intellectual Property shall be referred to as "DELTAGEN Project Patents" and shall be owned by and shall vest in, DELTAGEN. Patents covering Joint Project Intellectual Property shall be referred to as "Joint Project Patents" and shall be jointly owned by, and jointly vest in, the Parties. The Parties hereby agree that [***] for a Rejected Project Gene they shall make [***] of Joint Project Intellectual Property, including Joint Project Patents. If the Parties cannot mutually agree on such [***], such Joint Project Intellectual Property and Joint Project Patents shall remain jointly owned by the Parties.

10.1.2 Each Party shall [***] to advise the other Party and the Steering Committee in writing of any Project Intellectual Property if and as it arises under the Development Program.

10.1.3 Notwithstanding Section 10.1.1, as between HYSEQ and DELTAGEN, all HYSEQ's Technical Information and other of HYSEQ's rights in and to the Proposed Genes that became Rejected Proposed Genes pursuant to Section 4.3 that were identified, or submitted to, the Steering Committee and/or DELTAGEN pursuant to Section 4.1, shall be solely owned by and remain vested in, HYSEQ.

10.2 FURTHER ASSURANCES. Each Party shall execute, or cause to be executed, any and all documentation, assignments, declarations, applications and/or other instruments that may be reasonably necessary or desirable to effect each Party's respective ownership rights as set forth in Section 10.1.1, including each Party's respective rights in and to the Joint Project Intellectual Property and the Joint Project Patents, as set forth in Section 10.1.1.

10.3 PATENT PROSECUTION AND MAINTENANCE

10.3.1 RESPONSIBLE PARTY AND COOPERATION. Each Party shall be responsible for the preparation, filing, prosecution and maintenance of its respectively solely owned Project Patents (each a "Responsible Party"). Unless otherwise agreed pursuant to Article 6 or Section 10.1.1, DELTAGEN shall be responsible for the preparation, filing, prosecution and maintenance of all Joint Project Patents (in such case, the "Responsible Party"), provided that DELTAGEN shall provide the Steering Committee with access to all drafts of provisional and patent applications for such Joint Project Patents. Upon the designation of a Project Gene as a Secreted Protein Candidate, the Parties will use good faith efforts to include in the joint development agreement: (i) the Responsible Party for prosecution of such Joint Project Patents; (ii) that the Responsible Party shall consult with the other Party with respect to Patent matters for which it is responsible under this Section 10.3; and (iii) that the Parties shall meet (whether in person or by video or telephone conference) on a regular basis to review and discuss, such matters. Without limiting the foregoing, with respect to Deltagen Project Patents and Joint Project Patents, DELTAGEN shall consult with HYSEQ as to where and when to file patent applications which are included in the Patents for which it is responsible under this Section, and concerning the preparation, filing, prosecution, maintenance, and shall solicit HYSEQ's advice and provide HYSEQ with sufficient time prior to DELTAGEN having to respond or take action with respect to any such preparation, filing, prosecution, and maintenance of such matter, and shall take into account HYSEQ's comments related thereto and incorporate or act on such comments if and to the extent reasonable.

10.3.2 PATENT FILING AND PROSECUTION; AND UPDATES. If either Party identifies any invention covered by the HYSEQ Know-How or the Project Intellectual Property for which it would like to seek patent protection, it shall notify the other Party, and the Parties shall review and discuss the filing of a patent application covering such invention. If, after such discussion, the Responsible Party decides to file a patent application covering any such inventions, it shall prepare a patent application and provide the other Party with a copy of such draft application together with a preliminary determination of inventors and scope of claims. Each Party shall advise the other Party within [***] of receiving any substantive action or development in the

prosecution of any patent application it is responsible for prosecuting pursuant to this Section 10.3 (in particular any actions or developments concerning which countries to continue prosecution of, questions of the scope, issuance or rejection of, any interference involving, any such patent application or any opposition to any such patent application or resulting patent).

10.3.3 ELECTION NOT TO PROCEED. On a Patent-by-Patent basis, if a Responsible Party, either prior or subsequent to filing any patent applications for Project Patents, elects not to file, prosecute or maintain such patent applications, or maintain any ensuing Project Patents, it shall notify the other Party within [***] prior to allowing such Project Patent to lapse or become abandoned or unenforceable, and the other Party may elect to prepare, file, prosecute, maintain and enforce such Project Patent. Without limiting the foregoing, if a Responsible Party plans to abandon any patent application in any Territory relating to a Project Gene in a Project Patent, the Responsible Party shall promptly notify the other Party, and shall not abandon such patent application for [***] after such notification to allow the other Party, if it chooses, to continue to prosecute such patent application solely at its own cost and expense. The costs of filing, prosecuting, and maintaining any Project Patent assumed by a Party pursuant to this Section 10.3.3 shall be the responsibility of such Party (but only if and to the extent such Party, in its sole discretion, decides to incur such costs), and shall not be considered a Shared Patent Cost under Section 10.3.3(a).

(a) SHARED PATENT COSTS. Except for costs and expenses incurred by a Party as set forth above in this Section 10.3.3, unless otherwise mutually agreed by the Parties, all costs of prosecuting and maintaining Joint Project Patents shall be shared [***] by the Parties on a [***] basis ("Shared Patent Costs").

In the event there is a good faith dispute over an amount owed by either Party under this Section 10.3.3(a), the disputed portion of the payment may be delayed, and such payment shall not be considered delinquent pending a resolution of the Parties' dispute other than with respect to the terms and conditions of Section 13.7.

10.3.4 REPORTS. The Party performing the prosecution of any patent application under this Section 10.3 shall provide the other Party with a report no less frequently than once every six (6) month period (or as otherwise mutually agreed by the Parties) listing all such

patents and patent applications, identifying them by country and patent or application number, and briefly describing the status thereof.

10.3.5 OTHER COOPERATION AND ASSISTANCE. At the request of the Party performing the prosecution of any patent application under this Section 10.3, the other Party shall cooperate, as reasonably requested, in connection with the prosecution of all such patent applications. Each Party shall make available to the other or its respective authorized attorneys, agents or representatives such of its employees as the other Party in its reasonable judgment deems necessary in order to assist such other Party with the prosecution of such patents. Each Party shall sign or [***] have signed and delivered at no charge to the other Party all legal documents reasonably necessary in connection with such prosecution and maintenance. Without in any way limiting anything contained in this Section 10.3, (a) HYSEQ shall act in good faith to advise, and to consult with, DELTAGEN in connection with the preparation and prosecution of the Patent applications included in the HYSEQ Patents as they arise under this Agreement and to mutually seek with DELTAGEN opportunities to prepare and file HYSEQ Patents, with the Parties goal being in each instance [***]; and (b) DELTAGEN shall act in good faith to advise, and to consult with, HYSEQ in connection with the preparation and prosecution of the Patent applications included in the DELTAGEN Project Patents and Joint Project Patents as they arise under this Agreement and to mutually seek with HYSEQ opportunities to prepare and file DELTAGEN Project Patents and Joint Project Patents, with the Parties' goal being in each instance [***]. Without limiting the foregoing, HYSEQ may use any Project data and results generated from any Project Knock-out Mouse, including data from the First Pass Phenotypic Analysis, to support prosecution of HYSEQ Patents as reasonably necessary for such prosecution, and such use of data and results will not be considered a violation of the confidentiality provisions of Article 9 provided that such data and results have already been incorporated into a patent application by DELTAGEN.

10.3.6 HYSEQ AND DELTAGEN PROJECT PATENTS. For the avoidance of doubt, as between DELTAGEN and HYSEQ, HYSEQ shall control all preparation, filing, prosecution and maintenance of any and all HYSEQ Project Patents and/or any Patents covering any HYSEQ Project Intellectual Property or HYSEQ Know-How, and DELTAGEN shall control all

preparation, filing, prosecution and maintenance of any and all DELTAGEN Project Patents and/or any Patents covering any DELTAGEN Project Intellectual Property or any other Technical Information owned or controlled by DELTAGEN.

ARTICLE 11
TERM AND TERMINATION

11.1 TERM. The term of this Agreement (the "Term") shall commence as of the Effective Date and, unless sooner terminated by mutual agreement or pursuant to any other provision of this Agreement, shall terminate upon the later to occur of: (a) the expiry of the last Valid Claim relating to a Project Gene or a Secreted Protein Candidate within the HYSEQ Patents or Project Patents, or (b) five (5) years from the Effective Date. Upon expiration of this Agreement, the Parties shall have the licenses expressly provided for in Sections 2.1.3 and 2.3.1 of this Agreement.

11.2 TERMINATION EVENTS.

11.2.1 [***]. If HYSEQ commits a material breach of any term or condition of this Agreement solely as a result of its failure [***], and HYSEQ fails to cure such breach within [***] days after receiving written notice of the breach from DELTAGEN, DELTAGEN may immediately terminate this Agreement in its entirety upon written notice to HYSEQ at the end of such [***] day period for the HYSEQ's uncured breach; provided, however, that in the event that the [***] is the subject of a good faith dispute between the Parties, such dispute shall be deemed as and treated as a Dispute (as such term is defined in Section 13.5.1) for the purposes of this Agreement and addressed by means of the dispute resolution provisions of Section 13.5 and until such time as the board of arbitrators, pursuant to Section 13.5, renders a final decision with respect to such Dispute the Parties shall continue to perform their obligations hereunder, except to the extent mutually agreed to by the Parties or as directed by the arbitrators pursuant to Section 13.5.

11.2.2 OTHER DEFAULTS. Except as set forth in Section 11.2.1, if either Party commits a material breach of any term or condition of this Agreement, the non-breaching Party may give the other Party written notice of the breach, and if the breach is not cured within ninety (90) days after receiving written notice of the breach, the non-breaching Party shall (i) have the

right to terminate this Agreement upon written notice to the breaching Party; and (ii) to submit the subject matter of the alleged breach to the dispute resolution process pursuant to Section 13.5 within thirty (30) days of the end of such ninety (90) day period by giving the other Party written notice requesting arbitration within such thirty (30) day period. Unless this Agreement is terminated by the non-breaching Party pursuant to this Section 11.2.2, the Parties shall continue to perform their obligations hereunder during the pendency of such arbitration, except to the extent mutually agreed otherwise by the Parties or except as directed by the arbitrators. The arbitrators decision shall be binding upon the Parties except that in no event shall the arbitrators have the power or authority to terminate this Agreement, either in whole or in part.

ARTICLE 12
EFFECT OF EXPIRATION AND TERMINATION; AND SURVIVABILITY

12.1 [***].

12.2 RETURN OF CONFIDENTIAL MATERIALS AND INFORMATION. Upon expiration of this Agreement, upon the other Party's written request, each Party shall either, as directed by the other Party, return to the other Party or certify in writing to the other Party that it has destroyed all documents and other tangible items provided by the other Party that contain or relate to Confidential Information of the other Party (other than information that is considered joint Confidential Information of both Parties), including abstracts and summaries thereof; except if and to the extent, that the Parties have otherwise expressly agreed in writing, including as the Parties may have agreed pursuant to Article 6 with respect to the development and/or commercialization of any Secreted Protein Candidate or any Products, either themselves, or through or with any Affiliates or Third Parties.

12.3 SURVIVABILITY. Expiration or termination of this Agreement shall not affect each Party's obligations to pay any amount accruing to the other Party under the provisions of this Agreement while it was in effect. Further, the expiration or termination of this Agreement shall not affect any rights and obligations of the Parties under this Agreement which survive such termination. Without limiting the generality of the foregoing, the following provisions of this Agreement shall survive expiration or termination hereof: Articles 1, 2 (only as expressly provided therein with respect to license grants that have not terminated by their terms), 7, 8, 9,

10, 12 and 13 and Section 5.5.3.3.

ARTICLE 13
MISCELLANEOUS

13.1 FORCE MAJEURE. If either Party is prevented from complying, either totally or in part, with any of the terms or provisions of this Agreement (other than a payment obligation), by reason of force majeure, including, but not limited to fire, flood, earthquake, explosion, storm, strike, lockout or other labor trouble, riot, war, rebellion, accident, acts of God and/or any other cause or externally induced casualty beyond its reasonable control, whether similar to the foregoing matters or not, then, upon written notice by the Party liable to perform to the other Party, the requirements of this Agreement or such of its provisions as may be affected, and to the extent so affected, shall be suspended during the period of such disability.

13.2 NO ASSIGNMENT. Neither Party shall, without the prior written consent (not to be unreasonably withheld) of the other Party having been obtained, assign or transfer this Agreement, or any right or obligation under this Agreement, to any Person; provided, however, that each Party may assign or transfer this Agreement to any successor by merger of such Party, or upon a sale of all or substantially all of such Party's assets without the prior written consent of the other Party hereto. This Agreement shall be binding upon and shall inure to the benefit of the Parties and their successors and permitted assigns.

13.3 NOTICES. Any notices required or permitted to be given hereunder shall be in writing in the English language and shall be delivered in person or by Federal Express (or other courier service requiring signature upon receipt) or sent by air mail, postage prepaid, or facsimile (confirmed by a telephone conversation with the recipient) to the addresses set forth below. The Parties may change the address at which notice is to be given by giving notice to the other Party as herein provided. All notices shall be deemed effective upon receipt by the Party to whom it is addressed.

If to HYSEQ:

Hyseq Inc.
670 Almanor Avenue
Sunnyvale, California 94085-3513
Attention: President & CEO
cc: General Counsel, at the same address
Fax: (408) 524-8145
Phone: (408) 524-8100

If to DELTAGEN:

Deltagen Inc.
740 Bay Road
Redwood City, CA 94063-2469

Attention: President
cc: General Counsel, at the same address
Fax: (650) 569-5280
Phone: (650) 569-5100

13.4 GOVERNING LAW. This Agreement and its execution, validity and interpretation shall be interpreted in accordance with and governed in all respects in accordance with the laws of the State of California, and all rights and remedies shall be governed by such laws without regard to principles of conflicts of law. Subject to Section 13.5, the Parties hereby consent to the exclusive personal jurisdiction and venue of the Superior Court of the County of Santa Clara in the State of California or, as applicable, the United States District Court for the Northern District of California, for all matters arising under or in connection with this Agreement.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

13.5 DISPUTE RESOLUTION.

13.5.1 The Parties shall initially attempt in good faith to resolve any significant controversy, claim, or dispute arising out of or relating to this Agreement or any significant breach thereof (hereinafter collectively referred to as a "Dispute") through face-to-face negotiations between senior executives of HYSEQ and DELTAGEN. If the Dispute is not resolved within thirty (30) days (or such other period of time mutually agreed upon by the Parties) of commencing such face-to-face negotiations, or if the Party against which a claim has been asserted refuses to attend such negotiations or does not otherwise participate in such negotiations within thirty (30) days (or such other period of time mutually agreed upon by the Parties) from the date of notice of a Dispute, then the Parties agree to submit the Dispute to arbitration as provided herein. Unless otherwise mutually agreed by the Parties, only if the Dispute is not resolved through face-to-face negotiations as set forth in this Section 13.5.1, may a Party resort to arbitration.

13.5.2 Except as provided in Section 13.5.1 and Sections 3.3.4 and 6.3, all Disputes relating in any way to this Agreement shall be resolved exclusively through arbitration conducted under the auspices of the American Arbitration Association (the "AAA") pursuant to its Commercial Dispute Resolution Procedures; provided, however, that any disputes between the Parties concerning the infringement or validity of any intellectual property right subject to this Agreement shall be heard by a court of competent jurisdiction. The arbitration shall be conducted in the English language before three (3) arbitrators, one selected by each Party and the third to be selected by the other two. For any Dispute arising out of a non-concurrence of the Steering Committee such arbitrators shall have the appropriate technical and scientific background. Unless otherwise mutually agreed by the Parties, any arbitration brought hereunder shall be brought only and exclusively in the State of California. The arbitrators shall hear evidence by each Party and resolve each of the issues identified by the Parties. The arbitrators shall render a formal, binding non-appealable resolution and award on each issue as expeditiously as possible, but not more than fifteen (15) business days after the hearing. In any arbitration, the prevailing Party shall be entitled to reimbursement of its reasonable attorneys' fees and the Parties shall use all reasonable efforts to keep arbitration costs to a minimum.

13.5.3 Notwithstanding anything contained herein, in no event shall arbitrators have the power or authority to terminate this Agreement in whole or in part.

13.5.4 Nothing in this Agreement shall be deemed as preventing either Party from seeking injunctive relief (or any other provisional remedy) from any court having jurisdiction over the Parties and the subject matter of the dispute as necessary to protect either Party's intellectual property.

13.6 LICENSE SURVIVAL DURING BANKRUPTCY. All rights and licenses granted under or pursuant to this Agreement are, and shall otherwise be deemed to be, for purposes of Paragraph 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Paragraph 101(35A) of the U.S. Bankruptcy Code. The Parties agree that each Party, as a licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code, subject to performance by the other Party of its preexisting obligations under this Agreement. The Parties further agree that, in the event of the commencement of a bankruptcy proceeding by or against a Party, including under the U.S. Bankruptcy Code, the other Party shall be entitled to a complete duplicate of (or complete access to, as appropriate) any such intellectual property, and all embodiments of such intellectual property, shall be promptly delivered to the other Party upon any such commencement of a bankruptcy proceeding upon written request therefor by the other Party.

13.7 INTEREST. The Parties shall pay interest on any amounts overdue under this Agreement at a rate of the lesser of the maximum allowed by applicable law or [***] above the U.S. dollar prime or equivalent rate quoted by Citibank N.A. or another mutually acceptable bank, as in effect during the period from the date due until payment, including from the date any amounts disputed in good faith by the Parties were originally due and payable hereunder. This Section 13.7 shall apply to any amounts either Party may dispute under this Agreement for any reason, even disputes initiated in good faith; provided, however, that such amounts shall not be due and payable if a final decision by a court of competent jurisdiction or AAA under Section 13.5 is rendered in favor of the Party withholding the payment and such final decision declares such disputed amounts not due under this Agreement.

13.8 INTERPRETATION. The parties hereby acknowledge and agree that they each

required that this Agreement and all documents and notices in connection herewith be drawn up in English. This Agreement shall be deemed to comprise the language mutually chosen by the Parties, has been prepared jointly and no rule of strict construction shall be applied against either Party. In this Agreement, the singular shall include the plural and vice versa and the word "including" shall be deemed to be followed by the phrase "without limitation".

13.9 SEVERABILITY. In the event that any provision of this Agreement shall be held to be unenforceable, invalid or in contravention of applicable law, such provision shall be of no effect, and the Parties shall negotiate in good faith to replace such provision with a provision which effects to the extent possible the original intent of such provision.

13.10 COMPLETE AGREEMENT. This Agreement, including all Exhibits hereto, supersedes all prior understandings, agreements, representations and warranties between the Parties, oral or written with respect to the present subject matter, and comprises the complete agreement between the Parties with respect to the present subject matter.

13.11 MODIFICATIONS. No terms or provisions of this Agreement shall be varied or modified by any prior or subsequent statement, conduct or act of either of the Parties, except that the Parties may amend this Agreement by written instruments specifically referring to this Agreement and executed by a duly authorized officer of each of the Parties.

13.12 NO AGENCY. Neither Party shall by virtue of this Agreement have any power to make on behalf of the other Party any statements, representations or commitments of any kind or to bind the other to any obligation nor shall this Agreement create any relationship of agency, partnership or joint venture or any fiduciary relationship between the Parties.

13.13 NO WAIVER. No term or condition of this Agreement shall be considered waived unless reduced to writing and duly executed by a duly authorized officer of the waiving Party. Any waiver by any Party of a breach of any term or condition of this Agreement will not be considered as a waiver of any subsequent breach of this Agreement, of that term or condition or any other term or condition hereof.

13.14 COUNTERPARTS. The Agreement may be executed simultaneously in one or more counterparts, each one of which need not contain the signature of more than one Party but such counterparts taken together shall constitute one and the same agreement.

* * * * *

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

HYSEQ, INC.	DELTAGEN INC.
By: /s/ Ted W. Love	By: /s/ John Burke
Name: Ted W. Love	Name: John Burke
Title: President and CEO	Title: V.P. Intellectual Property
Date: 10/9/01	Date: 10/9/01

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT A

[***]

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EXHIBIT B

SECTION 6. 3 MEDIATION

[***]

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EXHIBIT C

Work Plan

[***]

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EXHIBIT D

DISCLOSURES

[***]

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EXHIBIT 10.19

LINE OF CREDIT AGREEMENT

THIS LINE OF CREDIT AGREEMENT (the "Agreement"), is entered into as of the 6th day of August, 2001, by and between Hyseq, Inc., a Nevada corporation ("Borrower"), and Dr. George B. Rathmann ("Lender").

RECITAL

Borrower desires to obtain from Lender a line of credit (the "Line of Credit"), making available to Borrower a principal amount of twenty million dollars ($20,000,000).

AGREEMENT

NOW, THEREFORE, Lender and Borrower hereby agree as follows:

ARTICLE I.

LINE OF CREDIT

1.1 ADVANCES. SUBJECT TO THE TERMS AND CONDITIONS OF THIS AGREEMENT, LENDER HEREBY AGREES TO MAKE ADVANCES (EACH, AN "ADVANCE", AND COLLECTIVELY, THE "ADVANCES"), TO BORROWER FROM TIME TO TIME UP TO AND INCLUDING AUGUST 5, 2003. THE AGGREGATE AMOUNT OF ALL OUTSTANDING ADVANCES SHALL NOT EXCEED TWENTY MILLION DOLLARS ($20,000,000) (THE "CREDIT LIMIT"). PROCEEDS OF ADVANCES SHALL BE USED FOR WORKING CAPITAL AND GENERAL CORPORATE PURPOSES OF BORROWER.

1.2 Borrowing and Repayment. Borrower may from time to time during the term of this Agreement borrow, partially or wholly repay its outstanding borrowings, and reborrow; provided however, that the total outstanding Advances shall not at any time exceed the Credit Limit. Each time Borrower desires an Advance, Borrower shall submit to Lender a drawing request in substantially the form of Exhibit B attached hereto ("Drawing Request"), setting forth the amount requested to be borrowed. Borrower may submit Drawing Requests no more frequently than once each week.

1.3 Promissory Note. Borrower's obligation to repay the Advances and accrued interest thereon shall be evidenced by a convertible promissory notice substantially in the form attached hereto as Exhibit A (the "Note"), which may be converted by mutual agreement of Lender and Borrower into shares of Borrower's common stock, par value $0.001 per share (the "Common Stock"), at any time up to and including the Maturity Date (as defined in Section 1.7 herein). The shares of Common Stock to be issued upon the conversion of the Note are the "Note Shares". Borrower shall execute and deliver to Lender the Note concurrently with the execution and delivery of this Agreement. Borrower authorizes Lender to record on the schedule annexed to the Note, the date and amount of each Advance made by Lender, the Prime Rate (as defined in Section 1.4 herein) when each Advance is made, and each payment or prepayment of the Advances, and agrees that all such notations shall constitute prima facie evidence of the matters noted. Borrower further authorizes Lender to attach to and make a part of the Note continuations of the schedule as necessary. No failure to make any such notations, nor any errors in making any such notations,

shall affect the validity of Borrower's obligations to repay the Advances or Borrower's obligations under any of the Loan Documents (as defined in Section 2.1 herein).

1.4 INTEREST AND FEES. Subject to Section 1.5, the outstanding principal balance of the Line of Credit shall bear interest at a rate per annum equal to one percent (1%) above the Prime Rate in effect from time to time. The term "Prime Rate" shall mean at any time the rate of interest most recently announced by Bank of America National Trust and Savings Association (or such other financial institution as may be designated by Lender with Borrower's consent, which consent will not be unreasonably withheld) (the "Reference Bank"), as its Prime Rate. Each change in the rate of interest shall become effective on the date each Prime Rate change is announced by the Reference Bank.

1.5 Default Interest. At all times when an Event of Default has occurred and is continuing, the outstanding principal balance of the Line of Credit shall bear interest at a rate per annum equal to two percent (2%) above the Prime Rate in effect from time to time (the "Default Rate"). In addition, to the extent permitted by applicable law, any interest payments, fees or other amounts owed hereunder and not paid when due, in each case whether at stated maturity, by notice of prepayment, by acceleration or otherwise, shall bear interest at the Default Rate. Payment or acceptance of the Default Rate is not a permitted alternative to timely payment and shall not constitute a waiver of any Event of Default or otherwise prejudice or limit any rights or remedies of Lender.

1.6 Expiration Date. The Line of Credit shall expire, and Lender shall have no further obligation to make any Advances to Borrower upon the earlier of (i) a Change of Control, or (ii) August 5, 2003, the "Expiration Date". The passage of the Expiration Date does not affect Borrower's repayment obligation. For purposes of this Section 1.6, a "Change of Control" means (i) Borrower's sale of all or substantially all of its assets, or (ii) any transaction or series of related transactions to which Borrower is a party (including, without limitation, any reorganization, merger or consolidation) that will result in the holders of Borrower's outstanding voting equity securities immediately prior to such transaction holding fewer than fifty per cent (50%) of the voting equity securities of the surviving entity immediately following such transaction(s).

1.7 Computation and Repayment. Borrower shall pay to the order of Lender, at any place which Lender designates from time to time in writing, in lawful money of the United States of America, the principal amount of the Advances and accrued interest thereon. Interest on the principal amount outstanding under the Advances shall be computed on the basis of a 360-day year, actual days elapsed. Except as otherwise set forth in this Agreement, the outstanding principal amount of the Advances on the Expiration Date shall be repaid in forty eight (48) equal monthly installments, beginning on the Expiration Date, and continuing on the first business day of each successive calendar month until paid in full. Any and all outstanding principal amount, accrued interest and applicable fees, costs and charges, if any, shall be paid in full to Lender on the date which is forty eight (48) months after the Expiration Date, the "Maturity Date".

1.8 Limitation on Repayment by Note Shares. Notwithstanding any term to the contrary contained in any of the Loan Documents, Borrower may not repay Advances, interest accrued thereon and any attendant costs, fees and charges in the form of Note Shares in excess of an aggregate value of twenty million dollars ($20,000,000).

1.9 Application of Payments. Lender shall apply all payments received from Borrower pursuant to this Agreement as follows: first, to the payment of applicable fees, costs and charges, if any; second, to accrued and unpaid interest then due and owing; and third, to the outstanding principal amount of the Advances.

ARTICLE II.

BORROWER'S REPRESENTATIONS AND WARRANTIES

Borrower makes the following representations and warranties to Lender, which representations and warranties shall survive the execution of this Agreement and shall continue in full force and effect until the full and final payment, and satisfaction and discharge of all obligations of Borrower to Lender, subject to this Agreement.

2.1 AUTHORIZATION AND VALIDITY. This Agreement, the Note, and each other document, contract and instrument required by or at any time delivered to Lender in connection with this Agreement (collectively, the "Loan Documents"), have been duly authorized by Borrower, and upon their execution and delivery in accordance with the provisions hereof will constitute legal, valid and binding agreements and obligations of Borrower, enforceable in accordance with their respective terms, except as limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally.

2.2 NO VIOLATION. The execution, delivery and performance by Borrower of each of the Loan Documents to which it is a party do not violate any provision of any law or regulation, or contravene any provision of Borrower's Amended and Restated Articles of Incorporation, as amended or Amended Bylaws, or will not result in a breach of or constitute a default under any contract, obligation, indenture or other instrument to which Borrower is a party or by which Borrower or any of its properties may be bound.

2.3 Litigation. Except as disclosed to Lender, there is no action, proceeding or investigation pending or threatened, or any basis therefor known to Borrower, that questions the validity of this Agreement or the right of Borrower to enter into this Agreement, or that would have, either individually or in the aggregate, a Material Adverse Effect. "Material Adverse Effect" shall mean a material adverse effect upon Borrower's business, operation, properties, assets or condition (financial or otherwise). There is no judgment, decree or order of any court in effect against Borrower, and Borrower is not in default with respect to any order of any governmental authority to which Borrower is a party or by which Borrower is bound.

2.4 Governmental Consent. No consent, approval, order or authorization of, or registration, qualification, designation, declaration or filing with, any federal, state or local governmental authority on the part of Borrower is required in connection with the consummation of the transactions contemplated by this Agreement.

2.5 No Events of Default. Except as disclosed to Lender, Borrower is not in default under any debt or material obligation of Borrower and no event has occurred which would become

an event of default under any such debt or material obligation with or without the giving of notice, the lapse of time, or both.

2.6 Existence and Authority. Borrower is a corporation duly organized and validly existing under the laws of the State of Nevada. Borrower has the corporate power and authority, rights and franchises to own its properties and to carry on its business as now conducted. Borrower has the corporate power and authority to borrow the Advances and to enter into and perform its obligations under this Agreement and the other Loan Documents.

ARTICLE III.

LENDER'S REPRESENTATIONS AND WARRANTIES

Lender makes the following representations and warranties to Borrower, which representations and warranties shall survive the execution of this Agreement and shall continue in full force and effect until the full and final payment, and satisfaction and discharge of all obligations of Lender to Borrower, subject to this Agreement.

3.1 Lender hereby represents and warrants to Borrower as follows:

(a) Lender understands and acknowledges that the offering and sale of the Note Shares pursuant to the Note will not be registered under the Securities Act of 1933, as amended (the "Securities Act".

(b) Lender covenants that in no event will he make any disposition of any of the Note Shares, except in accordance with an effective registration statement under the Securities Act, or Rule 144 (or any successor rule) as promulgated thereunder.

(c) Lender acknowledges and understands that the Note Shares must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available, and that Borrower is under no obligation to register the Note Shares.

(d) Lender represents that he is an "accredited investor" as such term is defined in Regulation D promulgated under the Securities Act.

ARTICLE IV.

CONDITIONS PRECEDENT

The obligation of Lender to make any Advances to Borrower under this Agreement is subject to satisfaction of the conditions precedent of Section 4.1 and 4.2.

4.1 Documentation. LENDER SHALL HAVE RECEIVED, IN FORM AND SUBSTANCE SATISFACTORY TO LENDER, THIS AGREEMENT, THE NOTE, A DRAWING REQUEST AND SUCH OTHER DOCUMENTS AND INSTRUMENTS AS LENDER MAY REASONABLY REQUEST, ALL DULY EXECUTED BY BORROWER.

4.2 Conditions to Each Advance. AS OF THE DATE OF EACH DRAWING REQUEST, EXCEPT AS DISCLOSED TO LENDER:

(a) all of Borrower's representations and warranties contained in this Agreement shall be true, correct and complete in all material respects to the same extent as though made on and as of that date;

(b) no Event of Default (as defined in Section 6.1) shall have occurred and shall continue, or shall result from, making the Advance;

(c) no law or regulation shall prohibit, and no order, judgment or decree of any court, arbitrator or governmental authority shall purport to enjoin or restrain Lender from making the Advance; and

(d) no change having a Material Adverse Effect on Borrower, either individually or in the aggregate, shall have occurred since the date of this Agreement.

4.3 Conditions to Issuance of Note Shares. The obligation of Borrower to issue the Note is subject to satisfaction of the condition precedent of this Section 4.3. As of the date of the issuance of the Note Shares all of Lender's representations and warranties contained in this Agreement shall be true, correct and complete in all material respect to the same extent as though made on and as of that date.

ARTICLE V.

AFFIRMATIVE COVENANTS

Borrower covenants that so long as any of the Advances, or any portion thereof, remain outstanding or any liabilities (whether direct or contingent, liquidated or unliquidated) of Borrower to Lender under any of the Loan Documents remain outstanding, and until payment in full of all obligations of Borrower subject hereto, Borrower shall:

5.1 PUNCTUAL PAYMENTS. Pay the principal amount of the Advances, interest, fees, charges or other liabilities due to Lender under the Loan Documents at or before the times, at the place and in the manner specified in the Loan Documents.

5.2 Accounting Records. Maintain adequate books and records in accordance with generally accepted accounting principles consistently applied and in a manner otherwise acceptable to Lender, and permit any representative of Lender, at any reasonable time, to inspect, audit and examine such books and records, to make copies of the same, and to inspect the properties of Borrower.

5.3 Compliance With Laws. Comply with the requirements of all laws, rules, regulations and orders of any governmental authority applicable to Borrower or its business.

5.4 Performance and Compliance with Other Agreements. Perform and comply in all material respects with each of the provisions of each material indenture, contract and other agreement by which Borrower or any of its properties is bound.

5.5 Taxes and Other Liabilities. Pay and discharge when due any and all indebtedness, obligations, assessments and taxes, both real or personal and including federal and state income taxes, which in the aggregate the nonpayment of which would have a Material Adverse Effect, except such as Borrower may in good faith contest or as to which a bona fide dispute may arise, so long as provision is made to the satisfaction of Lender for eventual payment thereof if it is found that payment is an obligation of Borrower.

5.6 Notices of Lender. Within ten (10) days after Borrower has actual knowledge of the occurrence of each such event or matter, give written notice to Lender of: (i) the occurrence of any Event of Default (defined below), or any condition, event or act which would become an Event of Default with or without the giving of notice; or (ii) the commencement, or threatened commencement in which Borrower has received written notice, of any litigation, arbitration or other proceeding against Borrower which could result in a Material Adverse Effect.

ARTICLE VI.

EVENTS OF DEFAULT

6.1 The occurrence of any of the following shall constitute an "Event of Default" under this Agreement:

(a) Borrower shall fail to pay within five (5) business days of the date due any principal, interest, fees or other amounts payable under any of the Loan Documents.

(b) Any financial statement or certificate furnished to Lender in connection with this Agreement or any representation or warranty made or deemed made by Borrower hereunder shall prove to be false, incorrect or incomplete in any material respect when furnished, made or deemed made.

(c) Any default in the performance of or compliance with any obligation, agreement or other provision contained herein (other than those referred to in Sections 6.1(a) and (b) above), and with respect to any such default which by its nature can be cured, such default shall continue for a period of twenty (20) days from its occurrence.

(d) Any material default in the payment or performance of any material obligation, or any defined event of default, under the terms of any contract or instrument (other than the Loan Documents), pursuant to which Borrower has incurred any debt or other liability to any person or entity, including Lender.

(e) Any default in the payment or performance of any obligation, or any defined event of default, under any of the Loan Documents other than this Agreement.

(f) Borrower shall become insolvent, or shall suffer or consent to or apply for the appointment of a receiver, trustee, custodian or liquidator of itself or any of its property, or shall

generally fail to pay its debts as they become due, or shall make a general assignment for the benefit of creditors; Borrower shall file a voluntary petition in bankruptcy, or seeking reorganization, in order to effect a plan or other arrangement with creditors or any other relief under the Bankruptcy Reform Act, Title 11 of the United States Code, as amended or recodified from time to time or any successor statute ("Bankruptcy Code"), or under any state or federal law granting relief to debtors, whether now or hereafter in effect; or any involuntary petition or proceeding pursuant to said Bankruptcy Code or any other applicable state or federal law relating to bankruptcy, reorganization or other relief for debtors is filed or commenced against Borrower, or Borrower shall file an answer admitting the jurisdiction of the court and the material allegations of any involuntary petition; or shall be adjudicated a bankrupt, or an order for relief shall be entered by any court of competent jurisdiction under said Bankruptcy Code or any other applicable state or federal law relating to bankruptcy, reorganization or other relief for debtors.

6.2 ACCELERATION. If an Event of Default shall occur, (a) any indebtedness of Borrower under any of the Loan Documents, any term thereof to the contrary notwithstanding, shall (at Lender's option and without notice) become immediately due and payable without presentment, demand, protest or notice of dishonor, all of which are hereby expressly waived by Borrower; (b) the obligation, if any, of Lender to permit further borrowings hereunder shall immediately cease and terminate; and (c) Lender shall have all rights, powers and remedies available under each of the Loan Documents, or accorded by law, including without limitation the right to resort to any or all security for any of the Advances and to exercise any or all of the rights of a beneficiary or secured party pursuant to applicable law. All rights, powers and remedies of Lender in connection with each of the Loan Documents may be exercised at any time by Lender and from time to time after the occurrence of an Event of Default, are cumulative and not exclusive, and shall be in addition to any other rights, powers or remedies provided by law or equity. Notwithstanding the foregoing, the occurrence of an Event of Default shall not extinguish Borrower's right to convert any amount owed to Lender into the Note Shares, as provided for in Section 1.3 herein.

ARTICLE VII.

GENERAL PROVISIONS

7.1 NO WAIVER. No delay, failure or discontinuance of Lender in exercising any right, power or remedy under any of the Loan Documents shall affect or operate as a waiver of such right, power or remedy; nor shall any single or partial exercise of any such right, power or remedy preclude, waive or otherwise affect any other or further exercise thereof or the exercise of any other right, power or remedy. Any waiver, permit, consent or approval of any kind by Lender of any breach of or default under any of the Loan Documents must be in writing and shall be effective only to the extent expressly set forth in such writing.

7.2 NOTICES. All notices, requests and demands which any party is required or may desire to give to any other party under any provision of this Agreement must be in writing delivered to each party at the following addresses:

BORROWER: Hyseq, Inc.
670 Almanor Avenue
Sunnyvale, California 94085
Facsimile: (408) 524-8145
Attn: Legal Department

LENDER: Dr. George B. Rathmann
5404 Lake Washington Blvd., N.E., Apt. I
Kirkland, Washington 98033

or to such other address as any party may designate by written notice to all other parties. Each such notice, request and demand shall be deemed given or made as follows: (a) if sent by hand delivery, upon delivery; (b) if sent by overnight courier, upon the earlier to the date of receipt or two (2) days after delivery to the courier; (c) if sent by mail, upon the earlier of the date of receipt or five (5) days after deposit in the U.S. mail, first class and postage prepaid; or (d) if sent by telecopy, upon receipt.

7.3 INDEMNITY, COSTS, EXPENSES AND ATTORNEYS' FEES. Borrower shall indemnify Lender against, hold Lender harmless from, and pay to Lender immediately upon demand, the full amount of all costs and expenses, including reasonable attorneys' fees, incurred by Lender in connection with (a) Lender's administration of this Agreement and each of the other Loan Documents, and the preparation of this Agreement and the other Loan Documents and any amendments and waivers hereto and thereto, (b) the enforcement of Lender's rights and/or the collection of any amounts which become due to Lender under any of the Loan Documents (including in connection with any bankruptcy, reorganization, "work-out" or similar circumstance or proceeding), and (c) the prosecution or defense of any claim or action in any way related to any of the Loan Documents or the transactions contemplated thereby, including without limitation any action for declaratory relief.

7.4 Successors; Assignment. This Agreement shall be binding on and inure to the benefit of the heirs, executors, administrators, legal representatives, successors and assigns of the parties; provided however, that Borrower may not assign or transfer its interest hereunder without the prior written consent of Lender. Lender reserves the right to sell, assign, transfer, negotiate or grant participations in all or any part of, or any interest in, Lender's rights and benefits under this Agreement, the Note and each of the other Loan Documents. In connection therewith, Lender may disclose all documents and information which Lender now has or may hereafter acquire relating to any of the Advances, Borrower or its business, or any collateral required hereunder or granted in connection herewith.

7.5 Entire Agreement; Counterparts; Amendment. This Agreement and each of the other Loan Documents constitute the entire agreement between Borrower and Lender with respect

to the Advances and supersede all prior negotiations, communications, discussions and correspondence concerning the subject matter hereof. This Agreement may be executed in any number of counterparts and may be amended or modified only by a written instrument executed by each party hereto.

7.6 No Third Party Beneficiaries. This Agreement is made and entered into for the sole protection and benefit of the parties hereto and their respective permitted successors and assigns, and no other person or entity shall be a third party beneficiary of, or have any direct or indirect cause of action or claim in connection with, this Agreement or any other of the Loan Documents to which it is not a party.

7.7 Severability of Provisions. If any provision of this Agreement shall be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity without invalidating the remainder of such provision or any remaining provisions of this Agreement.

7.8 Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the State of California, except to the extent that Lender has greater rights or remedies under federal law, in which case such choice of California state law shall not be deemed to deprive Lender of such rights and remedies as may be available under federal law.

7.9 Arbitration. All disputes arising in connection with this Agreement shall be finally settled by arbitration. The arbitration shall be held in San Jose, California, and conducted in accordance with the Rules of the American Arbitration Association. Judgment upon the award rendered may be entered in any court having jurisdiction, or application may be made to such court for a judicial acceptance of the award and an order or enforcement. Each party shall bear its own expenses of the arbitration, but the arbitrator's fees and costs shall be borne equally between the parties participating in the arbitration.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first written above.

HYSEQ, INC.

/s/ Ted W. Love

By: Dr. Ted W. Love
Title: President and Chief Executive Officer

DR. GEORGE B. RATHMANN

/s/ George B. Rathmann

Dr. George B. Rathmann

EXHIBIT A

FORM OF CONVERTIBLE PROMISSORY NOTE

THE SECURITIES REPRESENTED BY THIS NOTE HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933. SUCH SECURITIES MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION UNLESS SUCH SALE OR TRANSFER IS EXEMPT FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

CONVERTIBLE PROMISSORY NOTE

Sunnyvale, California
August 6, 2001

$20,000,000.00

FOR VALUE RECEIVED, Hyseq, Inc., a Nevada corporation (the "Borrower"), promises to pay to the order of Dr. George B. Rathmann, ("Lender"), the lesser of (i) $20,000,000 and (ii) the outstanding principal amount of all Advances made by Lender under that certain Line of Credit Agreement, dated as of August 6, 2001, by and between the Borrower and Lender (the "Agreement").

The principal amount hereof is payable at the times and in the amounts set forth in the Agreement. Borrower also promises to pay interest on the Advances from the date of this Note until paid in full at the rates and at the times determined in accordance with the Agreement. This Note is subject to repayment and prepayments at the option of Borrower as, and to the extent, provided in the Agreement.

This Note is issued pursuant to and entitled to the benefits of the Agreement to which reference is hereby made for a more complete statement of the terms and conditions under which the Advances evidenced hereby were made and are to be repaid. Capitalized terms used herein without definition shall have the meanings set forth in the Agreement.

Borrower shall pay all payments of principal and of interest on the Advances to the order of Lender at such plan as Lender may from time to time designate in writing, in lawful money of the United States of America.

Notwithstanding the foregoing, and subject to the limitation set forth in Section 1.8 of the Agreement, the total amount outstanding on this Note may, at any time up to and including the Maturity Date and upon the mutual agreement of Borrower and Lender (the "Conversion Notice"), be converted into that number of shares of Borrower's Common Stock as shall equal the quotient obtained by dividing the amount outstanding on this Note (i) by the average closing price of the Borrower's Common Stock on the Nasdaq National Market as reported in the Wall Street Journal for the twenty Trading Days (defined herein) ending on the second Trading Day immediately prior to the day of such conversion, or (ii) in connection with an offering Borrower's equity securities, by the per share price of the Common Stock at which such equity securities shall

be offered for sale by Borrower. "Trading Day" shall mean any day on which the Nasdaq National Market is open and available for at least five hours for the trading of securities.

The Note Shares to be issued to Lender upon the conversion of this Note will not be registered under the Securities Act, or qualified under any state securities laws on the grounds that the offering and sale of the Note Shares as contemplated by the Loan Documents are exempt from registration under the Securities Act and any applicable state securities laws.

The certificate(s) representing the Note Shares shall bear the following legend:

> THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM SATISFACTORY TO THE ISSUER THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR UNLESS SOLD PURSUANT TO RULE 144 OF SUCH ACT.

Upon the occurrence of an Event of Default, the unpaid balance of the principal amount of this Note and all other obligations of Borrower under the Agreement, together with all accrued but unpaid interest thereon, may automatically become, or may be declared to be, due and payable in the manner, upon the conditions and with the effect provided in the Agreement.

This Note shall be governed by and construed and enforced in accordance with the internal laws of the State of California, without regard to conflicts of laws provisions. The terms of this Note are subject to amendment only in the manner provided in the Agreement.

The obligation of the Borrower to pay the principal of and interest on the Advances at the place, and at the times, and in the currency prescribed in this Note and in the Agreement is absolute and unconditional.

Borrower promises to pay all costs and expenses, including all attorneys' fees and expenses, all as provided in the Agreement, actually incurred in the collection and enforcement of this Note, including any such costs, expenses or fees actually incurred in any appeal in connection with the collection and enforcement of this Note. Borrower and endorsers of this Note hereby consent to renewals and extensions of time at or after the maturity hereof, without notice, and hereby waive diligence, presentment, protest, demand and notice of every kind and, to the full extent permitted by law, the right to plead any statute of limitations as a defense to any demand hereunder.

IN WITNESS WHEREOF, Borrower has caused this Note to be executed and delivered by its duly authorized officer, as of the day and year and at the place first above written.

BORROWER

HYSEQ, INC.

By: /s/ Ted W. Love

Name:
Title:

TRANSACTIONS ON LINE OF CREDIT NOTE

Date	Amount of Loan Made This Date	Amount of Principal Paid This Date	Outstanding Principal Balance This Date	Notation Made By

Schedule to Convertible Promissory Note

EXHIBIT B

FORM OF DRAWING REQUEST

[HYSEQ LETTERHEAD]

_____, 200__

Dr. George B. Rathmann
5404 Lake Washington Blvd., N.E., Apt. I
Kirkland, Washington 98033

Re: Drawing Request

Dear Dr. Rathmann:

Please take notice that pursuant to that certain Line of Credit Agreement, (the "Agreement"), dated as of August 6, 2001, Hyseq, Inc., (the "Borrower") desires to borrow on Advance of _____ Dollars ($_____) from Dr. George B. Rathmann, (the "LENDER"), on _____, 200__. Capitalized terms not otherwise defined shall have the meanings assigned to them in the Agreement.

The Borrower hereby certifies that as of the date of this Drawing Request, except as disclosed to Lender:

(a) all of Borrower's representations and warranties contained in the Agreement shall be true, correct and complete in all material respects to the same extent as though made on and as of the date hereof;

(b) no Event of Default shall have occurred and shall continue, or shall result from, making the Advance;

(c) no law or regulation shall prohibit, and no order, judgment or decree of any court, arbitrator or governmental authority shall purport to enjoin or restrain Lender from making the Advance; and

(d) no change having a Material Adverse Effect on Borrower, either individually or in the aggregate, shall have occurred since the date of the Agreement.

HYSEQ, INC.

By:

Name:
Title:

EXHIBIT 10.20

SETTLEMENT AGREEMENT

between

HYSEQ, INC.

and

AFFYMETRIX, INC.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

SETTLEMENT AGREEMENT

This Settlement Agreement (this "AGREEMENT") is entered into this 24th day of October, 2001 (the "Effective Date") by and between Hyseq, Inc., a Nevada corporation ("HYSEQ") and Affymetrix, Inc., a Delaware corporation ("AFFYMETRIX") (each a "PARTY," collectively the "PARTIES").

W I T N E S S E T H:

WHEREAS, Hyseq and Affymetrix have had various disputes which in part have led to the commencement of certain litigation matters, including but not limited to Hyseq, Inc., Plaintiff/Counterdefendant v. Affymetrix, Inc., Defendant/Counterclaimant, Case No. C 97-20188 RMW (ENE), United States District Court, Northern District of California, San Jose Division; Affymetrix, Inc., Plaintiff v. Hyseq, Inc., Defendant, Case No C 99-21163 JF, United States District Court, Northern District of California, San Jose Division; and Hyseq, Inc., Plaintiff/Counterdefendant v. Affymetrix, Inc., Defendant/Counterclaimant, Case No. C 00-20050 RMW, United States District Court, Northern District of California, San Jose Division (collectively, the "MATTERS"); and

WHEREAS, the Parties desire to reach an amicable resolution of the Matters in an efficient and expeditious manner; and

WHEREAS, contemporaneously with the execution and delivery of this Agreement, Hyseq and Affymetrix have entered into the [***] and certain Related Agreements (as such term is defined in the [***]) (collectively the "RELATED AGREEMENTS");

NOW THEREFORE, for and in consideration of the promises contained herein and in the Related Agreements, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Definitions. For purposes of this Agreement, the following terms have the meanings hereinafter indicated:

"AFFYMETRIX PATENTS" means the Affymetrix Patents-In-Suit, all patents and/or patent applications claiming priority to or common priority with the Patents-In-Suit; all foreign counterparts of such Patents-In-Suit, patents, and /or patent applications; all continuations, continuations-in-part and divisionals of such patents-in-suit, patents, and/or patent applications; and all reissues and re-examinations of any of the foregoing; and all patents issuing from such patent applications.

"AFFYMETRIX PATENTS-IN-SUIT" means U.S. Patent Nos. 5,795,716, 5,744,305 and 5,800,992.

"AFFILIATES" means any present or former company, partnership, corporation or like entity, in any country, which, directly or indirectly (i) wholly or substantially owns or controls an entity, directly or indirectly, or (ii) is wholly or substantially owned or controlled by that entity, directly or indirectly. As used herein, substantial ownership or control includes, but is not limited to, ownership or control of more than fifty percent (50%) of the

voting stock or equity of an entity or effective management control by contract or otherwise. Affiliates that may become affiliated in the future are explicitly excluded from this definition.

"CLAIMS" means any and all causes of action, demands, agreements, contracts, covenants, representations, warranties, promises, undertakings, actions, obligations, controversies, debts, costs, expenses, attorneys' fees, expert witness fees, court costs, accounts, damages, losses, injuries and liabilities, of whatever kind or nature, in law, equity, administrative proceeding, or otherwise, present and future, whether known or unknown, suspected or unsuspected, for or by reason of any matter, cause or thing whatsoever from the beginning of time through and including the date hereof, whether sounding in contract, tort or otherwise.

"HYSEQ PATENTS" means the Hyseq Patents-In-Suit, all patents and/or patent applications claiming priority to or common priority with the Patents-In-Suit; all foreign counterparts of such Patents-In-Suit, patents, and /or patent applications; all continuations, continuations-in-part and divisionals of such patents-in-suit, patents, and/or patent applications; and all reissues and re-examinations of any of the foregoing; and all patents issuing from such patent applications.

"HYSEQ PATENTS-IN-SUIT" means U.S. Patent Nos. 5,202,231, 5,525,464, 5,695,940, 6,018,041 and 5,972,619.

"MATTERS" has the meaning specified in the Recitals, above.

"PTO" means the United States Patent and Trademark Office.

2. Representations, Warranties, and Indemnities.

2.1 Each of Hyseq and Affymetrix represents and warrants to the other that, as of the date hereof, it is a corporation, duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has all requisite power and authority, corporate or otherwise, to execute, deliver and perform this Agreement. This Agreement is a legal, valid and binding obligation enforceable against each of Affymetrix and Hyseq in accordance with its terms and conditions, except as such enforceability may be limited by applicable bankruptcy, insolvency, moratorium, reorganization or similar laws, from time to time in effect, affecting creditors rights generally.

2.2 Hyseq represents and warrants to Affymetrix that it is the exclusive owner of the Hyseq Patents and has the sole and exclusive right to assert each of the Hyseq Patents without limitation, free and clear of any and all claims, rights, liens or encumbrances of any nature whatsoever, including any claims of any university or other educational institution or any governmental agency, and has the full right and authority to license or assign such Patents.

2.3 Affymetrix represents and warrants to Hyseq that it is the exclusive owner of the Affymetrix Patents and has the sole and exclusive right to assert each of the Affymetrix

Patents without limitation, free and clear of any and all claims, rights, liens or encumbrances of any nature whatsoever, including any claims of any university or other educational institution or any governmental agency, and has the full right and authority to license or assign such Patents.

2.4 Except for the representations and covenants expressly set forth in this Agreement and the Related Agreements, no Party has made any statement or representation to any other Party regarding a fact relied upon by the other Party in entering into this Agreement or the Related Agreements and no Party has relied upon any statement, representation, or promise of any other Party, or of any representative or attorney for any other Party, in executing this Agreement or in making the settlement provided for in this Agreement and the Related Agreements.

2.5 Each Party to this Agreement represents and warrants that it has not assigned or transferred any portion of the Claims being released hereunder to any other person, individual, firm, corporation or entity, and that no other person, individual, firm, corporation or entity has any lien, right, claim or interest in any such Claims. Furthermore, each Party represents and warrants that this Agreement and the Related Agreements do not and shall not conflict with or constitute a default under the terms, conditions or provisions of its charter documents or any other agreement, understanding or commitment of such Party nor is the authorization, consent or approval of any other person or entity required for the execution and performance hereof. Without limiting the generality of the foregoing, Hyseq represents and warrants that nothing contained in this Settlement Agreement or the Related Agreements conflicts with or constitutes a default under the terms, conditions, or provisions of [***]. Each Party to this Agreement shall indemnify, defend, and hold harmless any other Party to [***] this Agreement from and against any and all of such Claims arising out of, related to, or connected with any prior assignment or transfer, or any purported assignment or transfer, of any of such Claims or the breach of any other representation in this Section 2.

3. Mutual Release of Claims.

3.1 Release by Hyseq. Hyseq, on behalf of itself and its present and former officers, directors, employees, agents, attorneys, assigns, predecessors, subsidiaries, Affiliates, divisions and successors-in-interest (collectively, the "HYSEQ RELEASING PARTIES"), does hereby forever and irrevocably release, acquit, and discharge, and covenant not to sue or bring or maintain any Claim, action or proceeding against, Affymetrix, its present and former officers, directors, employees, predecessors, subsidiaries, Affiliates and divisions (the "AFFYMETRIX RELEASED PARTIES") and/or any of them, from or regarding any and all Claims that the Hyseq Releasing Parties have, had, or may have against any of the Affymetrix Released Parties arising up to the Effective Date. This release includes, without limitation, any Claims asserted in the Matters, any Claims relating to the filing or prosecution of the Matters, and any other Claims whatsoever, whether arising from negligent or intentional acts or omissions or otherwise. Hyseq, for itself and the other Hyseq Releasing Parties, also hereby forever and irrevocably releases, acquits, and discharges, and covenants not to sue or bring or maintain any Claim, action or proceeding against, any [***] of the Affymetrix Released Parties and/or any of them, from or regarding any and all Claims

that the Hyseq Releasing Parties have, had, or may have against any of them exclusively arising out of their making, using, importing, selling, or offering to sell any Affymetrix [***] product up to the Effective Date.

3.2 Release by Affymetrix. Affymetrix, on behalf of itself and its present and former officers, directors, employees, agents, attorneys, assigns, predecessors, subsidiaries, Affiliates, divisions and successors-in-interest (collectively, the "AFFYMETRIX RELEASING PARTIES"), does hereby forever and irrevocably release, acquit, and discharge, and covenant not to sue or bring or maintain any Claim, action or proceeding against, Hyseq, its present and former officers, directors, employees, predecessors, subsidiaries, Affiliates and divisions (the "HYSEQ RELEASED PARTIES") and/or any of them, from or regarding any and all Claims that the Affymetrix Releasing Parties have, had, or may have against any of the Hyseq Released Parties arising up to the Effective Date. For purposes of this release provision, [***]. This release includes, without limitation, any Claims asserted in the Matters, any Claims relating to the filing or prosecution of the Matters, and any other Claims whatsoever, whether arising from negligent or intentional acts or omissions or otherwise. Affymetrix, for itself and the other Affymetrix Releasing Parties, also hereby forever and irrevocably releases, acquits, and discharges, and covenants not to sue or bring or maintain any Claim, action or proceeding against, any [***] of the Hyseq Released Parties and/or any of them, from or regarding any and all Claims that the Affymetrix Releasing Parties have, had, or may have against any of them exclusively arising out of their making, using, importing, selling, or offering to sell any Hyseq [***] product up to the Effective Date.

3.3 Section 1542 Waiver. Affymetrix and Hyseq have each been fully advised by its respective attorneys of the contents and meaning of Section 1542 of the Civil Code of the State of California, which reads as follows:

> "SECTION 1542. (GENERAL RELEASE- CLAIMS EXTINGUISHED.) A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."

Affymetrix and Hyseq each expressly waive and relinquish all rights and benefits under Section 1542, and any similar law or common law principle of similar effect of any state or territory of the United States and any foreign jurisdiction, with respect to the Claims released hereby, and expressly consent that this Agreement will be given full force and effect according to each and all of its express terms and provisions, including with respect to the release of any claims that are unknown or unsuspected that Affymetrix or Hyseq may have against each other.

3.4 Finality of Waiver. The Parties hereby expressly and knowingly acknowledge that each may, after execution of this Agreement, discover facts different from or in addition to those which each knows or believes to be true with respect to the claims released in this Agreement. Nonetheless, each Party agrees that this Agreement shall be and remain in full force and effect in all respects, notwithstanding such different or additional

facts. It is the intention hereby fully, finally, and forever to settle all such matters, and release any and all Claims relating to those matters, which do now exist or previously have existed by and among the Parties. In furtherance of such intention, the releases given in this Agreement shall be and remain in effect as full and completed releases of such Matters, notwithstanding the discovery by any of the Parties of the existence of any additional or different Claims or facts relating to the Claims. Similarly, in entering into this Agreement, each Party assumes the risk of mistake, and if any Party should subsequently discover that any fact it relied upon in entering into this Agreement was untrue, or that its understanding of the facts or law was incorrect, such Party shall not be entitled to set aside this Agreement or be entitled to recover any damages on that account unless the mistake was due to an intentional misrepresentation by the other Party. This Agreement, and the Releases it contains, is intended, pursuant to the advice of independently selected legal counsel, to be final and binding between and among the Parties to this Agreement regardless of any claims of mistake of fact or law or of any other circumstances whatsoever.

3.5 The Releases provided for in this Section 3 shall survive the termination of this Agreement and the termination of any or all of the Related Agreements. No dispute or claimed breach of any of such Agreements nor failure of consideration nor the inadequacy of the remedies therefor shall in any way affect the full enforceability of such releases which the parties acknowledge and agree are final, binding and not subject to termination or modification after the Effective Date.

4. Dismissal with Prejudice/Withdrawal.

4.1 Each of Affymetrix and Hyseq acknowledges and agrees that the Patents-In-Suit asserted by the other Party are valid and enforceable, except as otherwise determined by the Court or the PTO.

4.2 The Parties agree that they jointly will within two days of the Effective Date sign and file with the United States District Court for the Northern District of California, (i) a Stipulation and Proposed Order of Dismissal and Final Judgment substantially in the form attached hereto as Exhibit A in Cases No. 97-20188 and 00-20050 and (ii) a Stipulation and Proposed Order of Dismissal and Final Judgment substantially in the form attached hereto as Exhibit B in Case No. 99-21163.

4.3 Affymetrix and Hyseq mutually agree to settle the interference proceedings titled Chee v. Drmanac, Interference No. 104,552 in the form attached hereto as Exhibit C.

4.4 In the event that the Court declines to enter the Final Judgments in substantially the forms set forth in Exhibits A and B, each Party shall have the right for a period of seven (7) days to terminate this Agreement and the Related Agreements.

4.5 The Parties represent and warrant that there are no adverse proceedings between them that are filed, pending or planned other than the Matters and Interference No. 104,552. It is the intention of the Parties to settle all outstanding disputes between them. If any pending adverse proceeding was omitted from the Matters, the parties intend to settle

any such litigation, proceeding or action and therefore agree to take all necessary steps to withdraw from, discontinue, terminate or dismiss such omitted adverse proceeding.

4.6 (a) Hyseq has reviewed and analyzed the Affymetrix Patents-In Suit, and agrees that it will not in the future, directly or indirectly, oppose, contest, or dispute the priority, validity or enforceability of any Affymetrix Patents in any United States or foreign court, agency, or other tribunal, now or in the future, and that it will not seek reexamination or modification of any Affymetrix Patents. Hyseq agrees not to actively seek [***] interferences with [***]. Hyseq further agrees that it [***].

(a) Affymetrix has reviewed and analyzed the Hyseq Patents-In-Suit, and agrees that it will not in the future, directly or indirectly, oppose, contest, or dispute the priority, validity or enforceability of any Hyseq Patents in any United States or foreign court, agency, or other tribunal, now or in the future, and that it will not seek reexamination or modification of any Hyseq Patents. Affymetrix agrees not to actively seek [***] interferences with [***]. Affymetrix further agrees that it [***].

5. Miscellaneous.

5.1 The Parties agree to keep the terms of this Agreement confidential, and agree not to disclose the terms of this Agreement, except pursuant to a mutually-agreed press release, and except as may be (i) necessary for the purpose of enforcing any provision of this Agreement, or (ii) lawfully required by any governmental agency. Notwithstanding the foregoing, both Parties may agree to inform any court with jurisdiction over a Matter of the existence of a settlement and the Parties may file this Agreement and any other related agreements in the PTO as required under 35 U.S.C. Section 135(c). If this Agreement or any of the Related Agreements is sought in discovery, the Party responding to discovery shall promptly notify all Parties and shall do everything possible to maintain the confidentiality of the Agreement.

5.2 Each Party represents and acknowledges that it has read this Agreement and fully understands and agrees to its terms, and that each Party has been represented by counsel in connection with the negotiation and execution of this Agreement.

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

5.4 The Parties agree that this Agreement will be governed by and construed in accordance with the internal laws of the State of California applicable to agreements made and to be performed entirely within such State, without regard to the conflicts of laws principles of such State.

5.5 This Agreement and the Related Agreements contain the entire set of agreements among the Parties with respect to the matters contained herein, and may be amended only by written agreement signed by the Parties to the Agreement. The provisions of all of such agreements shall be construed together so as to give effect to the provisions of each of the agreements to the greatest extent possible, except that under no circumstances

will the releases granted to the Parties in Section 3 above be terminated or modified in any manner whatsoever.

5.6 This Agreement is intended only for the benefit of the Parties hereto, the Hyseq Released Parties and the Affymetrix Released Parties, and the beneficiaries expressly referenced in this Agreement. No other person or entity is entitled to any rights or benefits hereunder.

5.7 Each Party shall perform any further acts, and sign and deliver any further instruments and documents, as may be required to accomplish the purposes of this Agreement; provided, however, that nothing in this provision shall be interpreted to modify any of the specific terms of this Agreement.

5.8 Any notice, requests, delivery, approval or consent required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered in person, transmitted by commercial overnight courier, or transmitted by telex telegram or telecopy (facsimile, with confirmed receipt) to the Party to whom it is directed at its address shown below or such other address as such Party shall have last given by notice to the other Party (referred to herein as "NOTICE"). All notices shall be effective upon receipt.

If to Hyseq, addressed to:

Hyseq, Inc.
675 Almanor Ave.
Sunnyvale, CA 94085
Attn: General Counsel
Fax: (408) 524-8145

If to Affymetrix, addressed to:

Affymetrix, Inc.
3380 Central Expressway
Santa Clara, California 95051
Attn: General Counsel
Fax: (408) 481-4709

5.9 Neither Party shall assign any of its rights or obligations hereunder without the prior, written consent of the other Party, which other Party may [***], except that no such consent shall be required with respect to a merger, consolidation, reorganization, sale of stock or sale or transfer of substantially all of the business and assets of a Party related to the Matters, provided that [***]. This Agreement shall be binding upon the permitted successors and permitted assigns of the Parties. Any assignment not in accordance with the above shall be void.

5.10 The prevailing Party in any action to enforce this Agreement will be entitled to recover its attorneys fees and costs in connection with such action.

5.11 In the event that one or more of the provisions of this Agreement is held to be invalid, illegal or unenforceable in any respect, such provision will nevertheless remain valid, legal and enforceable in all other respects and to such extent as may be permissible. In addition, any such invalidity, illegality or unenforceability will not affect any other provision hereof, and this Agreement will be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed in counterparts as of the date first written above.

AFFYMETRIX, INC.

By: /s/ Barbara A. Caulfield

Name: Barbara A. Caulfield

Title: Executive Vice President and General Counsel

HYSEQ, INC.

By: /s/ Ted Love

Name: Ted Love

Title: President and Chief Executive Officer

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

Exhibit A

MARSHALL, O'TOOLE, GERSTEIN, MURRAY & BORUN
Kevin M. Flowers, Ph.D. (Ill. Bar No. 06242895)
William K. Merkel, Ph.D. (Ill. Bar No. 06225636)
6300 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606-6402

Attorneys for Plaintiff/Counterdefendant Hyseq, Inc.

IRELL & MANELLA LLP
Morgan Chu (SBN 70446)
Richard de Bodo (SBN 128199)
Jeffrey L. Arrington (SBN 139435)
1800 Avenue of the Stars
Los Angeles, California 90067-4276

Attorneys for Defendant/Counterclaimant Affymetrix, Inc.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

HYSEQ, INC.,	Case No. C 97-20188 RMW (ENE)
Plaintiff/Counterdefendant,	Case No. C 00-20050 RMW
v.	STIPULATION AND PROPOSED ORDER OF
AFFYMETRIX, INC.,	DISMISSAL AND FINAL JUDGMENT
Defendant/Counterclaimant.	

Honorable Ronald M. Whyte

STIPULATION OF DISMISSAL AND JUDGMENT
CASE NOS. C 97-20188 RMW (ENE) AND C 00 20050 RMW

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

Plaintiff and Counterdefendant Hyseq, Inc. ("Hyseq") and Defendant and Counterclaimant Affymetrix, Inc. ("Affymetrix") have entered into a confidential settlement which provides a basis for settlement and judgment of the claims and counterclaims in these actions. Pursuant to this settlement, Hyseq and Affymetrix, by and through their respective counsel, hereby stipulate to the dismissal with prejudice and conclusion of all claims and counterclaims in these actions.

The Court having duly deliberated thereon,

IT IS HEREBY ORDERED, ADJUDGED AND DECREED that final judgment is hereby entered as follows:

1. The parties admit that all claims of the asserted patents are valid and enforceable.

2. This Court shall retain jurisdiction over the implementation of or disputes arising out of the parties' settlement, including the jurisdiction to order any appropriate remedy under law or equity. The settlement also encompasses another case involving the parties, Affymetrix, Inc. v. Hyseq, Inc., Case No. C 99-21163 JF.

3. Case Nos. C 97-20188 RMW and C 00-20050 are dismissed with prejudice.

4. Each party shall bear its own attorneys' fees and costs of suit.

Dated: ----------

MARSHALL, O'TOOLE, GERSTEIN, MURRAY & BORUN

By: ----------
Kevin M. Flowers Ph.D.
Attorneys for Plaintiff/Counterdefendant
Hyseq, Inc.

Dated: ----------

IRELL & MANELLA LLP

By: ----------
Richard de Bodo
Attorneys for Defendant/Counterclaimant
Affymetrix, Inc.

IT IS SO ORDERED.

DATED: ----------

Honorable Ronald M. Whyte
United States District Judge

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

Exhibit B

IRELL & MANELLA LLP
Morgan Chu (SBN 70446)
Richard de Bodo (SBN 128199)
Jeffrey L. Arrington (SBN 139435)
1800 Avenue of the Stars
Los Angeles, California 90067-4276

Attorneys for Plaintiff Affymetrix, Inc.

MARSHALL, O'TOOLE, GERSTEIN, MURRAY & BORUN
Kevin M. Flowers, Ph.D. (Ill. Bar No. 06242895)
William K. Merkel, Ph.D. (Ill. Bar No. 06225636)
6300 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606-6402

Attorneys for Defendant Hyseq, Inc.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

AFFYMETRIX, INC.,	Case No. C 99-21163 JF
Plaintiff,	STIPULATION AND PROPOSED ORDER OF
v.	DISMISSAL AND FINAL JUDGMENT
HYSEQ, INC.,	
Defendant.	Honorable Jeremy Fogel

STIPULATION OF DISMISSAL AND JUDGMENT
CASE NO. C 99-21163 JF

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

Plaintiff Affymetrix, Inc. ("Affymetrix") and Defendant Hyseq, Inc. ("Hyseq") have entered into a confidential settlement which provides a basis for settlement and judgment of the claims in this action. Pursuant to the settlement, Affymetrix and Hyseq, by and through their respective counsel, hereby stipulate to the dismissal with prejudice and conclusion of all claims in this action, with each party to bear its own attorneys' fees and costs of suit.

The Court having duly deliberated thereon,

IT IS HEREBY ORDERED, ADJUDGED AND DECREED that final judgment is hereby entered as follows:

1. The parties admit that all claims of the asserted patents are valid and enforceable.

2. The Court, Honorable Ronald M. Whyte, shall retain jurisdiction over the implementation of or disputes arising out of the parties' settlement, including the jurisdiction to order any appropriate remedy under law or equity. The settlement also encompasses two other cases involving the parties, Hyseq, Inc. v. Affymetrix, Inc., Case No. C 97-20188 RMW (ENE) and Hyseq, Inc. v. Affymetrix, Inc., Case No. C 00-20050 RMW.

3. Case No. C 99-20163 is dismissed with prejudice.

4. Each party shall bear its own attorneys' fees and costs of suit.

Dated: ----------

IRELL & MANELLA LLP

By: ----------
Richard de Bodo
Attorneys for Plaintiff Affymetrix, Inc.

Dated: ----------

MARSHALL, O'TOOLE,GERSTEIN, MURRAY & BORUN

By: ----------
Kevin M. Flowers Ph.D.
Attorneys for Defendant Hyseq, Inc.

IT IS SO ORDERED.

Dated: ----------

Honorable Jeremy Fogel
United States District Judge

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

Exhibit C

INTERFERENCE SETTLEMENT AGREEMENT
(BETWEEN HYSEQ, INC. AND AFFYMETRIX, INC.)

This Settlement of Interference Agreement is made as of this 24th day of October, 2001 (the "Effective Date") by and among Hyseq, Inc., a Nevada corporation (herein "Hyseq"), having a place of business in Sunnyvale, CA, and Affymetrix, Inc., a Delaware corporation (herein "Affymetrix"), having a place of business in Santa Clara, California.

WHEREAS, the United States Patent and Trademark Office ("PTO") has declared Interference No. 104,552 between US Patent Nos. 5,795,716 and 5,974,164 of Affymetrix, and Application No. 09/358,875 of Hyseq, in order to determine priority between the parties with respect to inventions; and

WHEREAS, Hyseq and Affymetrix have been involved in litigation, opposition, interference, attempted interference and other adverse proceedings involving their respective patents and patent applications in various countries; referred to herein as "Litigation Proceedings"; and

WHEREAS, Hyseq and Affymetrix have resolved and settled the Litigation Proceedings on an amicable basis and have entered into a Settlement Agreement, which agreement includes a provision that the parties will enter into a Interference Settlement Agreement to resolve Interference No. 104,552.

Hyseq and Affymetrix do hereby agree as follows:

1. PRELIMINARY MOTIONS

1.1 The parties agree that no preliminary motions or preliminary statements will be filed in this interference.

2. TERMINATION OF INTERFERENCE

2.1 On or before November 15, 2001 Hyseq, through its attorneys, shall file an abandonment of contest in Interference No. 104,552.

3. FUTURE INTERFERENCES

3.1 Affymetrix agrees not to actively seek [***] interferences with [***].

3.2 Hyseq agrees not to actively seek [***] interferences with [***].

3.3 The parties are [***].

4. FILING OF AGREEMENT

4.1 Promptly after this agreement is executed by both parties Affymetrix will file a copy of this Interference Settlement Agreement and all collateral agreements with the PTO as required by 35 U.S.C. Section 135(c) and 37 C.F.R. Section 1.666(b), requesting that the copies of this Interference Settlement Agreement and any collateral agreement filed therewith be held separate from the file of the interference, and made available only to Government agencies upon written request, or to any person upon petition and showing of good cause. In the event that such a written request is made or such a petition is filed, it is respectfully requested that the persons identified below be notified before such request or petition is granted:

Edward J. Keeling, Esq.
Townsend and Townsend and Crew LLP
Two Embarcadero Center, 8th Floor
8th Floor
San Francisco, CA 94111-3834
Phone: (415) 576-0200
Fax: (415) 576-0300

Michael R. Weiner
Marshall, Gerstein & Borun
6300 Sears Tower
233 South Wacker Drive
Chicago, IL 60606-6402
Phone: (312) 474-6300
Fax: (312) 474-0448

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

IN WITNESS WHEREOF, the parties have caused this Interference Settlement Agreement to be executed by their authorized officials.

AGREED TO:

Hyseq, Inc.

By:

- ---
Printed Name

- ---
Title

- ---
Date

Affymetrix, Inc.

By:

- ---
Printed Name

- ---
Title

- ---
Date

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EXHIBIT 10.21

INTERFERENCE SETTLEMENT AGREEMENT
(BETWEEN HYSEQ, INC. AND AFFYMETRIX, INC.)

This Settlement of Interference Agreement is made as of this 24th day of October, 2001 (the "Effective Date") by and among Hyseq, Inc., a Nevada corporation (herein "Hyseq"), having a place of business in Sunnyvale, CA, and Affymetrix, Inc., a Delaware corporation (herein "Affymetrix"), having a place of business in Santa Clara, California.

WHEREAS, the United States Patent and Trademark Office ("PTO") has declared Interference No. 104,552 between US Patent Nos. 5,795,716 and 5,974,164 of Affymetrix, and Application No. 09/358,875 of Hyseq, in order to determine priority between the parties with respect to inventions; and

WHEREAS, Hyseq and Affymetrix have been involved in litigation, opposition, interference, attempted interference and other adverse proceedings involving their respective patents and patent applications in various countries; referred to herein as "Litigation Proceedings"; and

WHEREAS, Hyseq and Affymetrix have resolved and settled the Litigation Proceedings on an amicable basis and have entered into a Settlement Agreement, which agreement includes a provision that the parties will enter into a Interference Settlement Agreement to resolve Interference No. 104,552.

Hyseq and Affymetrix do hereby agree as follows:

1. PRELIMINARY MOTIONS

1.1 The parties agree that no preliminary motions or preliminary statements will be filed in this interference.

2. TERMINATION OF INTERFERENCE

2.1 On or before November 15, 2001 Hyseq, through its attorneys, shall file an abandonment of contest in Interference No. 104,552.

3. FUTURE INTERFERENCES

3.1 Affymetrix agrees not to actively seek [***] interferences with [***].

3.2 Hyseq agrees not to actively seek [***] interferences with [***].

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24B-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

3.3 The parties are [***].

4. FILING OF AGREEMENT

4.1 Promptly after this agreement is executed by both parties Affymetrix will file a copy of this Interference Settlement Agreement and all collateral agreements with the PTO as required by 35 U.S.C. Section 135(c) and 37 C.F.R. Section 1.666(b), requesting that the copies of this Interference Settlement Agreement and any collateral agreement filed therewith be held separate from the file of the interference, and made available only to Government agencies upon written request, or to any person upon petition and showing of good cause. In the event that such a written request is made or such a petition is filed, it is respectfully requested that the persons identified below be notified before such request or petition is granted:

Edward J. Keeling, Esq.
Townsend and Townsend and Crew LLP
Two Embarcadero Center, 8th Floor
8th Floor
San Francisco, CA 94111-3834
Phone: (415) 576-0200
Fax: (415) 576-0300

Michael R. Weiner
Marshall, Gerstein & Borun
6300 Sears Tower
233 South Wacker Drive
Chicago, IL 60606-6402
Phone: (312) 474-6300
Fax: (312) 474-0448

IN WITNESS WHEREOF, the parties have caused this Interference Settlement Agreement to be executed by their authorized officials.

AGREED TO:

Hyseq, Inc.

By: /s/ Ted Love

Ted Love

Printed Name

President and Chief Executive Officer

Title

October 24, 2001

Date

Affymetrix, Inc.

By: /s/ Barbara A. Caulfield

Barbara A. Caulfield

Printed Name

Executive Vice President and General Counsel

Title

October 24, 2001

Date

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24B-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT 10.22

Product Development and Supply Agreement

N-Mer, Inc.
and
Affymetrix, Inc.

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AGREEMENT

This agreement ("Agreement"), dated as of October 24, 2001, between Affymetrix, Inc. ("Affymetrix") a Delaware corporation having its principal place of business at 3380 Central Expressway, Santa Clara, California 95051, and N-Mer, Inc. ("N-Mer") a Delaware corporation having its principal place of business at 670 Almanor Avenue, Sunnyvale, CA 94086.

RECITALS

WHEREAS, Affymetrix has research, development, and manufacturing capabilities and facilities, and has developed certain rights relevant to DNA probe array based technology.

WHEREAS, N-Mer has certain intellectual property rights, research and development capabilities, and facilities to conduct research and development activities for the N-Mer Field.

WHEREAS, Affymetrix and N-Mer desire to enter into an agreement whereby Affymetrix will supply N-Mer with DNA probe arrays for use in the N-Mer Field.

NOW, THEREFORE, in consideration of the mutual covenants and promises contained in this Agreement, Affymetrix and N-Mer agree as follows:

1 DEFINITIONS

1.1 "Affiliate" shall mean any corporation, company, partnership, joint venture and/or firm which is controlled by or controls a Party or is under common control with a Party, but only for so long as such Affiliate remains an Affiliate of a Party, and only if such Affiliate is bound by the terms of this Agreement. For clarity, an Affiliate shall retain rights pursuant to this Agreement only for so long as such Affiliate remains an Affiliate of the designated entity and only if such Affiliate is bound by the terms of this Agreement. For purposes of this Section, "control" shall mean, in the case of corporations (or equivalents of corporations), direct or indirect ownership of at least [***] percent ([***]%) of the stock having the right to vote for directors of such corporation or, in the case of partnerships, at least [***] percent ([***]%) of the ownership interest in such partnership. In any case, "control" shall require the right to direct day-to-day management and direction of the entity. Notwithstanding the foregoing, if local law requires a minimum percentage of local ownership, control will be established by direct or indirect beneficial ownership of [***] percent ([***]%) of the maximum ownership percentage that may, under such local law, be owned by foreign interests. [***].

1.2 "Affymetrix Field" means Probe Array-based products for use in all applications excluding uses wherein [***] provided that within such Probe Array or set of Probe Arrays used to assay [***] and intended to be used together, the collection of probes shall satisfy [***] the following criteria:

(1) All Non-Control Probes are designed based on a specific reference sequence [***];

(2) Control probes on any array represent less than [***]% of all

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probes on that array and all other probes are Non-Control Probes; and

(3) Collectively the sequence of the Informative Probe Portions of the probes of any [***].

For example, without limiting the foregoing, the Parties agree that "Affymetrix Field" includes [***].

It is the intent of the Parties that the "Affymetrix Field" and "N-Mer Field" are mutually exclusive.

1.3 "Affymetrix Work Plan Technology" shall mean the patents, patent applications, trade secrets and other Information owned or controlled by Affymetrix that is [***] to perform the Parties' obligations under the Work Plan.

1.4 "Affymetrix License Agreement" shall mean the License Agreement, dated as of the date hereof, between Affymetrix and Callida Genomics, Inc.

1.5 "Bacterial Clinical Diagnostics" shall mean the use of Probe Arrays in the determination of [***] where the results of the assay are reported to a caregiver or his/her patient for use in a therapeutic decision for that patient.

1.6 "Confidential Information" means any and all non-public and proprietary Information that is specifically designated as such and that is disclosed by either Party to the other in any form in connection with this Agreement and that, if orally disclosed, shall be reduced in writing and delivered to the receiving Party within thirty (30) days of such disclosure.

1.7 "Control Probe" means a probe within the Probe Array [***].

1.8 "Custom Probe Arrays" shall refer to Probe Arrays the manufacture of which requires the creation of one or more custom mask designs for particular probe sequences identified by N-Mer pursuant to Sections 3.1 or 3.2, specifically for and only for use in the N-Mer Field.

1.9 "Effective Date" shall mean the Closing Date (as such term is defined in the Preferred Stock Purchase Agreement, dated as of the date hereof, among Affymetrix, N-Mer, Callida Genomics, Inc. and Hyseq, Inc.).

1.10 "Information" means any data, results, inventories, information, know-how, processes, machines, trade secrets, techniques, methods, development, material, or compositions of matter or other information of any type or kind.

1.11 "Informative Probe Portion" of a probe means that portion of a probe sequence that is [***]; the Informative Probe Portion being characterized by an Informative Probe Length that is [***].

1.12 "N-Mer Field" means Probe Array-based products for use in all applications, excluding the following: (a) uses wherein [***] probes in the array is [***], and (b) Bacterial Clinical Diagnostics; provided that within such Probe Array or set of Probe Arrays used to assay a target nucleic acid, the collection of probes shall satisfy all of the following criteria:

(1) Each Non-Control Probe is designed without use of a reference sequence [***]; and

(2) Control probes represent less than [***]% of all probes on any single array and all other probes are Non-Control Probes.

It is the intent of the Parties that the "Affymetrix Field" and "N-Mer Field" are mutually exclusive.

1.13 "N-Mer's Area Of Interest" shall mean the use of Probe Arrays and related reagents, protocols, instrumentation and software supplied hereunder, solely for use in and licensed for use only in the N-MER Field: a) as a research tool for internal research and development of applications of, or assays associated with, Probe Arrays supplied by Affymetrix hereunder, b) pursuant to the Product Solicitation Agreement, for the distribution or sale of Probe Arrays supplied pursuant to this Agreement to end users for internal research purposes or to generate databases for commercial license in accordance with Section 3.6, or c) in the event that the Product Solicitation Agreement terminates, for the distribution or sale of Probe Arrays supplied pursuant to this Agreement to end users for internal research purposes or to generate databases for commercial license in accordance with Section 3.6.

1.14 "Non-Control Probe" means a probe within the Probe Array that provides information about the sequence of the target nucleic acid in the sample.

1.15 "Lot" shall refer to a specified minimum purchase quantity of Probe Arrays for the particular wafer format of Probe Array specified by N-Mer, and which will be identified by Affymetrix within [***] of submission of a design of a Custom Probe Array by N-Mer; provided, however, that a Lot shall not be more than (i) [***] Probe Arrays in a [***] Probe Array/wafer format for research and development and (ii) [***] Probe Arrays in a [***] Probe Array/wafer format or an equivalent proportional number of Probe Arrays in a different Probe Array/wafer format for commercial purposes. The Project Coordination Committee shall have a right at the commencement of a design for a Custom Probe Array, [***], to request Affymetrix to vary the size of a Lot upwards or downwards. Affymetrix will use [***] efforts to accommodate such request provided such variance does not [***].

1.16 "New Process Custom Probe Array" shall mean all Custom Probe Arrays that are not Standard Custom Probe Arrays.

1.17 "Party" shall mean Affymetrix or N-Mer. "Parties" shall mean Affymetrix and N-Mer.

1.18 "Probe Array" means a single Solid Support having affixed thereto oligonucleotide, including nucleic acid, probes [***]; provided that [***].

1.19 "Product Solicitation Agreement" shall mean the agreement of that name between Affymetrix and N-Mer of even date herewith.

1.20 "Project Coordination Committee" or "PCC" shall have the meaning assigned to it in Section 6.1.

1.21 "Solid Support" means a nonporous planar surface of a solid material; [***].

1.22 "Standard Custom Probe Array" shall mean a Custom Probe Array where the probe sequence at any given position is [***] and where such Custom Probe Array is fabricated using the same equipment and process as Affymetrix then standard probe arrays sold to [***] or more Third Parties.

1.23 "System(s)" shall mean fluidics station(s), work station(s), probe array reader(s), and associated software, such software licensed to N-Mer, and such fluidics station(s) and probe array reader(s) sold to N-Mer, only for use with Probe Arrays sold hereunder.

1.24 "Term" shall mean the period beginning on the Effective Date and ending upon dissolution of N-Mer. For purposes of this agreement, if Affymetrix exercises the Option (as such term is defined in the Option Agreement, dated as of the date hereof, among Affymetrix, N-Mer and Callida Genomics, Inc.) such exercise shall be deemed to be a dissolution of N-Mer.

1.25 "Third Party" shall mean any person or entity other than Affymetrix, N-Mer, or Affiliates of either.

1.26 "Work Plan" shall mean the plan set forth in Exhibit A, and as may be amended from time to time in writing by agreement of the Project Coordination Committee.

2 PRODUCT DEVELOPMENT PLAN

2.1 Performance of Work Plan. Affymetrix and N-Mer shall collaborate together to develop technology and products as set forth in the Work Plan. N-Mer shall bear all costs and expenses for the Parties' work required by the Work Plan. The Parties shall use [***] efforts to perform their respective obligations in compliance with the Work Plan, including, without limitation, the schedules set forth therein. Affymetrix shall supply such services at [***]. The Parties shall exchange Confidential Information as reasonably required to perform the Work Plan, provided that a Party may disclose Confidential Information of the other Party (i) solely to employees who need to know such Confidential Information in order to perform their obligations under the Work Plan and (ii) to consultants and/or advisors provided that such consultants and advisors have signed confidentiality agreements at least as strict as the confidentiality provisions in this Agreement and provided further that such disclosure shall occur only with the prior written consent of the Party whose Confidential Information is proposed to be disclosed, which consent shall not be unreasonably denied, conditioned or delayed. Changes to the Work Plan shall be subject to the mutual agreement of the Project Coordination Committee, [***].

2.2 License to Perform Work Plan. Affymetrix hereby grants N-Mer a royalty-free, fully paid-up, worldwide, non-exclusive license, without the right to grant sublicenses, under the

Affymetrix Work Plan Technology, solely to perform N-Mer's obligations under the Work Plan. For purposes of clarity, no right of distribution or sale is provided under this Section 2.2.

2.3 License Under Affymetrix Work Plan Technology. Affymetrix hereby grants to N-Mer a royalty-free, fully paid-up, worldwide, non-exclusive license, without the right to grant sublicenses, under the Affymetrix Work Plan Technology, solely as required in connection with the use (for development of products to be sold under the Product Solicitation Agreement), manufacture, and importation of [***] to be used solely in conjunction with Custom Probe Arrays made by Affymetrix pursuant to this Agreement. Affymetrix hereby grants to N-Mer a non-exclusive license (without the right to sublicense), under the Licensed Patents (as such term is defined in the Affymetrix License Agreement), solely in the N-Mer Field, and under the Patents-in-Interference (as such term is defined in the Affymetrix License Agreement), in all fields, excluding Bacterial Clinical Diagnostics, in each case on the same terms and subject to the same conditions as the licenses to such Licensed Patents and Patents-in-Interference granted by Affymetrix under the Affymetrix License Agreement, except that this license shall be used solely in conjunction with Custom Probe Arrays made by Affymetrix pursuant to this Agreement.

2.4 Supply of Material and Services. Affymetrix shall supply N-Mer with Custom Probe Arrays, chip design services, Systems and other reagents and services as provided in the Work Plan that are necessary for N-Mer to perform its obligations under the Work Plan. Such supply shall be pursuant to the terms set forth in Section 3 below.

3 PROBE ARRAY SUPPLY

3.1 Standard Custom Probe Array Design. During the Term, N-Mer may provide to Affymetrix probe sequences for Standard Custom Probe Arrays. Upon Affymetrix' receipt of such probe sequences and such [***] related information, Affymetrix shall use [***] efforts to design, lay out, and procure masks for such Standard Custom Probe Arrays according to the schedule quoted to N-Mer at the time N-Mer orders such Standard Custom Probe Arrays pursuant to Section 3.3; provided, however, that such schedule will identify a time for completion that is [***]. Affymetrix shall bill N-Mer for process development, design and layout services for Standard Custom Probe Arrays at [***]. Affymetrix will make or procure masks and bill N-Mer at a price equal to [***].

3.2 New Process Custom Probe Array Design. Affymetrix shall use [***] efforts to develop processes to manufacture New Process Custom Probe Arrays pursuant to the Work Plan. After Affymetrix determines [***] the feasibility of the manufacture of New Process Custom Probe Arrays pursuant to the Work Plan, N-Mer may identify probe sequences for New Process Custom Probe Arrays. Upon Affymetrix' receipt of such probe sequences and such [***] related information, Affymetrix shall use [***] efforts to design, lay out, and procure masks for New Process Custom Probe Arrays according to the schedule quoted to N-Mer at the time N-Mer orders such New Process Custom Probe Arrays pursuant to Section 3.3; provided, however, that such schedule shall provide for time periods [***]. Affymetrix shall bill N-Mer for design and layout services for New Process Custom Probe Arrays at [***]. Affymetrix will make or procure masks and bill N-Mer at a price equal to [***].

3.3 Custom Probe Array Supply.

3.3.1 General. N-Mer shall procure its requirements of Custom Probe Arrays exclusively from Affymetrix; provided, however, that if Affymetrix is unable to supply Custom Probe Arrays under the terms and conditions of this Agreement, N-Mer shall have the right to [***]; and, provided further, [***]. Affymetrix shall use [***] efforts to deliver such quantities of the Custom Probe Arrays specified in a forecast made pursuant to Section 3.4 and in compliance with specifications [***] pursuant to the Work Plan. N-Mer shall have the right to purchase Custom Probe Arrays in any format size commercially available that is sold by Affymetrix to [***] or more Third Parties at the time of such purchase by N-Mer.

3.3.2 Standard Custom Probe Arrays. N-Mer shall have the right to order its requirements of Standard Custom Probe Arrays from Affymetrix, provided that in such orders N-Mer will identify probe sequences for each Standard Custom Probe Array [***]. If the information received by Affymetrix does not include such [***] information, Affymetrix will advise N-Mer of any and all additional needed information. Affymetrix shall deliver such Standard Custom Probe Arrays according to the schedule quoted to N-Mer at the time N-Mer orders such Standard Custom Probe Arrays; provided, however, that such schedule will identify a time for completion that is [***]. Affymetrix shall supply such Standard Custom Probe Arrays using standard quality control procedures [***].

3.3.3 New Process Custom Probe Arrays. After Affymetrix determines [***] the feasibility of the manufacture of New Process Custom Probe Arrays pursuant to the Work Plan, N-Mer shall have the right to order its requirements of New Process Custom Probe Arrays from Affymetrix, provided that in such orders N-Mer will identify probe sequences for each New Process Custom Probe Array [***]. If the information received by Affymetrix does not include such [***] information, Affymetrix will advise N-Mer of any and all additional needed information. Affymetrix shall deliver such New Process Custom Probe Arrays according to the schedule quoted to N-Mer at the time N-Mer orders such Standard Custom Probe Arrays; provided, however, that such schedule shall provide for delivery periods [***]. Affymetrix shall evaluate and manufacture New Process Custom Probe Arrays using quality control procedures that are [***]. To the extent the Project Coordination Committee agrees on additional quality control procedures applicable to New Process Custom Probe Arrays, Affymetrix shall use [***] efforts to comply with all such procedures.

3.3.4 Quantities; Manufacturing Capacity. In no event will Affymetrix be obligated to provide more than [***] ([***] Probe Array/wafer format equivalent) Standard Custom Probe Arrays in any [***] period for research and development purposes, nor more than [***] ([***] Probe Array/wafer format equivalent) Standard Custom Probe Arrays in any [***] period for distribution to Third Parties unless mutually agreed to in writing. In no event will Affymetrix be obligated to provide

more than the number of New Process Custom Probe Arrays that can be produced from the use of [***] percent ([***]%) of the capacity of [***] dedicated manufacturing line selected by Affymetrix in any [***] period for research and development purposes and [***] percent ([***]%) of the capacity of [***] dedicated manufacturing lines in any [***] period for commercialization purposes. Notwithstanding the foregoing, Affymetrix shall use [***] efforts to supply additional Custom Probe Arrays to N-Mer provided that such incremental supply [***] and, provided further, that if Affymetrix can not reasonably satisfy such incremental demand for Custom Probe Arrays [***], then Affymetrix shall use [***] efforts to expand capacity to supply such additional demand, provided that, to the extent capital equipment cumulatively costing more than [***] dollars ($[***]) is required by Affymetrix to provide for supply of New Process Custom Probe Arrays, then: (i) Affymetrix shall so notify N-Mer in writing of such requirements, including, without limitation, an itemized list of each piece of such equipment, its intended use, anticipated cost, and projected delivery date; (ii) upon N-Mer's written request, Affymetrix shall [***]; and (iii) Affymetrix shall [***]. Unless otherwise agreed by the Parties, the "[***] Term" for such N-Mer Equipment shall be the later of (i) [***] from the procurement by Affymetrix of such N-Mer Equipment or (ii) the last day of any [***] period after the [***] period referred to in the preceding clause during which such N-Mer Equipment [***]. All right, title and interest in, to and under such N-Mer Equipment shall be [***]. Notwithstanding anything in this Agreement to the contrary, N-Mer shall have no right to (i) [***], (ii) [***] or (iii) enter the premises of Affymetrix. [***]. During the [***] Term, Affymetrix shall use N-Mer Equipment [***].

3.4 Forecasts. Beginning on the Effective Date and on the [***] during the Term of this Agreement, N-Mer will provide a [***] forecast of Custom Probe Arrays to be supplied by Affymetrix during the following [***] period. The forecast will be provided according to a mechanism and on forms [***]. The [***] of each such forecast shall constitute a firm order for the Custom Probe Arrays set forth in [***]; provided, however, that Custom Probe Arrays shall only be purchased by N-Mer in whole Lot increments and in quantities subject to Section 3.3.4. The [***] of such forecast will be for capacity planning purposes only, and shall not constitute a firm order by N-Mer nor a commitment by Affymetrix. Delivery times for all Custom Probe Arrays ordered hereunder will be quoted at the time Affymetrix receives a firm order for such products and in compliance with Section 3.3.

3.5 Shipping; Title and Risk of Loss. Affymetrix shall pack Custom Probe Arrays supplied under this Agreement in Affymetrix' standard shipping packages and ship to the address specified by N-Mer. Unless otherwise mutually agreed to in writing deliveries will be [***]. Affymetrix will ship via [***]. Title and risk of loss or damage for deliveries will pass to N-Mer upon [***]. [***] will pay all shipping costs, duties, and sales taxes.
[***].

3.6 Permitted Uses. All Custom Probe Arrays purchased pursuant to this Agreement may only be used within N-Mer's Area of Interest. N-Mer may not, and will not allow any Third Party to: 1) transfer the Custom Probe Arrays provided by Affymetrix pursuant to this Agreement to Third Parties other than (i) in the course of distribution to end users pursuant to

[***] or (ii) in the event of termination of the Product Solicitation Agreement; or 2) transfer to any Third Party [***] with Custom Probe Arrays supplied to N-Mer for [***] purposes under this Agreement; or 3) provide [***] to any Third Party using the Custom Probe Arrays provided by Affymetrix pursuant to this Agreement; or 4) allow any Third Party to [***] the Custom Probe Arrays supplied by Affymetrix to N-Mer under this Agreement except pursuant to distribution in the event that (i) [***] or (ii) in the event of termination of the Product Solicitation Agreement; or 5) [***], or otherwise use outside of N-Mer's Area of Interest, the Probe Arrays delivered hereunder; or 6) [***] the Custom Probe Arrays delivered hereunder, except that [***] is permitted for work performed under the Work Plan or for otherwise permitted internal research and development work performed by N-Mer; or 7) use or, [***], of the Custom Probe Arrays delivered hereunder outside of the N-Mer Field. N-Mer and its Affiliates will allow Affymetrix [***] access during regular business hours and with advance written notice to ensure compliance with these prohibitions. The Custom Probe Arrays transferred pursuant to this Agreement are not licensed for use in violation of the above restrictions. In the event that N-Mer wishes to provide for end users to be permitted to [***] using the Probe Arrays supplied hereunder, Affymetrix will permit N-Mer to do so provided N-Mer shall [***].

3.7 System Supply. N-Mer has the right to issue, upon execution of this Agreement and from time to time thereafter, as approved by the Project Coordination Committee, purchase orders for the System(s) and reagents that are [***] required for N-Mer to perform its research and development activities as permitted under this Agreement and the Product Solicitation Agreement. Such System(s) and reagents shall be supplied at [***]. N-Mer shall be permitted to use such Systems, including software and reagents, purchased at [***] in the N-Mer Area of Interest. The supply of all other Systems and reagents for commercial purposes shall be at [***]. N-Mer shall also be permitted to use such Systems purchased hereunder at [***] in a manner consistent with the permitted uses of such Systems when sold by Affymetrix to Third Parties customers.

4 PROPRIETARY RIGHTS

4.1 No [***]. Until the end of the Term, N-Mer will [***]. This paragraph shall not confer on N-Mer or any Third Party any rights under the patent rights of Affymetrix.

4.2 License Limitation. Except as otherwise stated herein, including, without limitation, Sections 2.2, 2.3, 3.6 and 3.7, N-Mer acknowledges and understands that no license is conveyed or implied for use of the Systems herein.

4.3 Covenant Not to Assert Inventions. N-Mer covenants not to assert the patent rights in any [***] to the Probe Arrays supplied hereunder against Affymetrix [***], for use outside of the N-Mer Field.

5 COMPENSATION

5.1 For each Custom Probe Array delivered to N-Mer or its Affiliates for researching and developing products in the N-MER Field, N-Mer will pay Affymetrix [***] for such Probe

Arrays. For each Probe Array delivered to N-Mer or its Affiliates for distribution to end users, N-Mer shall pay Affymetrix according to the following formula:

PER UNIT PROBE ARRAY PRICE = [***]

where [***] is calculated under general accepted accounting principles as applied by [***]. For purposes of clarity, for capital equipment paid for by N-Mer at the time such capital equipment is purchased, pursuant to Section 3.3, the [***]. For the purposes of calculating the [***] described in the above formula, Affymetrix will look to [***]. Notwithstanding the foregoing, in no event shall Affymetrix charge N-Mer more than the following amounts for Standard Custom Probe Arrays: $[***] per Standard Custom Probe Array in a [***] Probe Array/wafer format; $[***] per Standard Custom Probe Array in a [***] Probe Array/wafer format; $[***] per Standard Custom Probe Array in a [***] Probe Array/wafer format and $[***] per Standard Custom Probe Array in a [***] Probe Array/wafer format.

5.2 Notwithstanding the foregoing or any provision to the contrary in this Agreement, N-Mer will be responsible for any and all [***] for Probe Arrays supplied to N-Mer hereunder, and the Probe Array fees described in Section 5.1 of this Agreement shall be exclusive of any such [***].

5.3 All amounts referred to in this Section 5 will be invoiced by Affymetrix when due. All Custom Probe Arrays supplied under this Agreement will be deemed accepted unless they are returned to Affymetrix within [***] of delivery to N-Mer, with written explanation of the basis on which such Probe Arrays have been returned on Affymetrix' standard "Return Materials Authorization" according to the procedures provided for in such Return Materials Authorization, including, without limitation, [***]. All payments will be made to Affymetrix [***] from the date of invoicing by Affymetrix. Late payments shall earn interest at the rate equal to the lesser of [***] percent ([***]%) per month or the maximum rate allowable under law. All payments in this Agreement will be made in the form of a check or wire transfer to Affymetrix in United States Dollars.

6 PROJECT COORDINATION

6.1 The Parties will form a committee (the "Project Coordination Committee" or "PCC") to aid in coordinating the performance of this Agreement, including, without limitation, the Work Plan. The PCC will have general responsibility for ensuring the performance of this Agreement pursuant to the terms of this Agreement. The PCC shall be composed of two (2) representatives of each of Affymetrix and N-Mer as each shall respectively appoint and be reasonably acceptable to the other Party. Each Party by its representative(s) shall cast one vote on the PCC. A quorum shall consist of at least one PCC representative from each Party. The PCC shall act only with the [***]. A Party's representatives shall serve at the discretion of such Party and may be substituted for or replaced at any time by such Party. The PCC shall have its first meeting within [***] after the Effective Date. Thereafter, the PCC shall meet at least [***] during the Term, except at such times as the Parties mutually believe there are no significant agenda items. The site of such meetings shall alternate between the offices of Affymetrix and N-

Mer, (or any other site mutually agreed upon by the Parties) or be arranged by video conference. The proceedings of all meetings of the PCC shall be prepared alternately by the Parties, unless otherwise agreed, and sent to both Parties. In the event that the PCC is unable to reach a decision by [***] with respect to any matter and such inability continues for a period of [***] after the date on which the matter is first submitted to the PCC, each Party shall refer the matter to the Chief Executive Officers of Affymetrix and N-Mer for resolution. Each Party shall set forth in writing a proposed solution to the impasse. If an acceptable resolution is not achieved, either Party may choose to arbitrate the issue(s) in accordance with Section 11.5.1. The Parties shall use reasonable efforts to [***].

7 CONFIDENTIALITY

7.1 For a period of [***] from following the expiration of this Agreement, each Party shall maintain the Confidential Information of the other Party in strict confidence (including the terms of this Agreement), and shall not disclose, divulge, or otherwise communicate such Confidential Information of the other, or use it for any purpose, except as permitted or contemplated by this Agreement, and in order to carry out the terms and objectives of this Agreement. Without limiting the foregoing, the Parties will use [***] precautions to prevent and restrain the unauthorized disclosure of any Confidential Information of the other Party. The provisions of this paragraph shall not apply to Confidential Information which:

7.1.1 was known or used by the receiving Party or its Affiliates without any restriction on disclosure, prior to its date of disclosure to the receiving Party, as evidenced by the prior written records of the receiving Party or its Affiliates; or

7.1.2 either before or after the date of the disclosure to the receiving Party is lawfully disclosed without restriction on disclosure to the receiving Party or its Affiliates by an independent, unaffiliated Third Party rightfully in possession of the Confidential Information, provided that if such Confidential Information is provided to the receiving Party by a Third Party rightfully in possession of the Confidential Information, but with restrictions on disclosure, the receiving Party may use such Confidential Information in accordance with such restrictions of the Third Party;

7.1.3 either before or after the date of the disclosure to the receiving Party becomes published or generally known to the public through no fault or omission of the receiving Party or its Affiliates;

7.1.4 is required to be disclosed by the receiving Party or its Affiliates to comply with applicable laws, to comply with a court order, or to comply with governmental regulations, provided that the receiving Party provides prior written notice of such disclosure to the other Party and takes reasonable and lawful actions to avoid and/or minimize the degree of such disclosure;

7.1.5 is independently developed by the receiving Party or its Affiliates without reference to the Confidential Information.

7.2 N-Mer may publish the results of use of the Probe Arrays after [***] advance notice to the Project Coordination Committee as set forth in this Section 7.2; provided, however, that in no event shall N-Mer publish Affymetrix' Confidential Information without the prior written approval of Affymetrix. Subject to the limitations of the foregoing and Section 3 above N-Mer may publish the results of its research at its sole discretion. In the event that N-Mer chooses to publish such results, if Affymetrix scientists have contributed to such work, authorship will be according to scientific input and Affymetrix will cooperate in such publications. If it is decided that publications will be made pursuant to this Section, Affymetrix and N-Mer will provide the Project Coordination Committee draft versions of all publications reporting results of the use of the Probe Arrays, and will provide at least [***] for technical review thereof, and will allow for removal of Confidential Information.

8 REPRESENTATIONS AND WARRANTIES

8.1 Both Parties to this Agreement represent and warrant that they have the full right and authority to enter into and perform this Agreement.

8.2 Affymetrix represents and warrants that the Probe Arrays delivered hereunder do not incorporate the [***] of a Third Party. EXCEPT FOR THE FOREGOING SENTENCE, AFFYMETRIX DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES RELATING TO INTELLECTUAL PROPERTY, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. With respect to Third Party tort claims that arise from the use, handling or storage of the products supplied to N-Mer pursuant to this Agreement, Affymetrix shall [***].

9 INDEMNITY

9.1 Indemnity by Affymetrix. Affymetrix shall indemnify, defend and hold N-Mer and its Affiliates, successors-in-interest, assigns, agents, employees, officers and directors (the "N-Mer Indemnitees") harmless from and against any and all liability, damage, loss, cost or expense (including reasonable attorneys' fees) arising out of Third Party claims or suits related to: (i) Affymetrix' performance of, or failure to perform, its obligations under this Agreement; (ii) breach by Affymetrix of its representations and warranties under this Agreement; or (iii) any suit or proceeding brought against N-Mer or its Affiliates to the extent based on a claim that [***]; provided, however, that Affymetrix' obligations pursuant to this Section 9.1 will not apply to the extent such claims or suits result from the gross negligence or willful misconduct of any of the N-Mer Indemnitees. Affymetrix will settle or defend any suit or proceeding brought against N-Mer to the extent based on a claim that the Probe Arrays delivered hereunder [***]. Affymetrix shall have no liability under this paragraph to the extent that [***] ("Non-Covered Claims"). Notwithstanding the foregoing, Affymetrix will have no obligation to defend or indemnify the N-Mer Indemnitees with respect to Third Party claims arising out of breach by N-Mer of its representations and warranties set forth in this Agreement.

9.2 Indemnity by N-Mer. N-Mer shall indemnify, defend and hold Affymetrix and its Affiliates, successors-in-interest, assigns, agents, employees, officers and directors (the "Affymetrix Indemnitees") harmless from and against any and all liability, damage, loss, cost or

expense (including reasonable attorneys' fees) arising out of Third Party claims or suits related to: (i) N-Mer's performance of, or failure to perform, its obligations under this Agreement; (ii) breach by N-Mer of its representations and warranties under this Agreement; (iii) any suit or proceeding based on [***] brought against Affymetrix for Non-Covered Claims; provided, however, that N-Mer's obligations pursuant to this Section 9.2 will not apply to the extent such claims or suits result from the gross negligence or willful misconduct of any of the Affymetrix Indemnitees. Notwithstanding the foregoing, N-Mer will have no obligation to defend or indemnify the Affymetrix Indemnitees with respect to Third Party claims arising out of breach by Affymetrix of its representations and warranties set forth in this Agreement.

9.3 Conditions to Indemnification. As a condition to a Party's right to receive indemnification under this Section 9, it shall: (i) promptly notify ("Claim Notice") the other Party as soon as it becomes aware of a claim or suit for which indemnification may be sought pursuant hereto (provided that the failure to give a Claim Notice promptly shall not prejudice the rights of an indemnified Party except to the extent that the failure to give such prompt notice materially adversely affects the ability of the indemnifying Party to defend the claim or suit); (ii) cooperate with the indemnifying Party in the defense of such claim or suit, at the expense of the indemnifying Party; and (iii) if the indemnifying Party confirms in writing to the indemnified Party its intention to defend such claim or suit within [***] of receipt of the Claim Notice, permit the indemnifying Party to control the defense of such claim or suit, including without limitation the right to select defense counsel; provided that if the indemnifying Party fails to (x) provide such confirmation in writing within the [***] period; or (y) diligently and reasonably defend such suit or claim at any time, its right to defend the claim or suit shall terminate immediately in the case of (x) and otherwise upon [***] written notice to the indemnifying Party and the indemnified Party may assume the defense of such claim or suit at the sole expense of the indemnifying Party and may settle or compromise such claim or suit without the consent of the indemnifying Party. In no event, however, may the indemnifying Party compromise or settle any claim or suit in a manner which admits fault or negligence on the part of any indemnified Party or that otherwise materially affects such indemnified Party's rights under this Agreement or requires any payment by an indemnified Party without the prior written consent of such indemnified Party. Subject as expressly provided above, the indemnifying Party will have no liability under this Section 10 with respect to claims or suits settled or compromised without its prior written consent. Affymetrix' liability under Section 9.1(iii) shall be limited to [***]. N-Mer's liability under Section 9.2(iii) shall be limited to [***]. In the event that the Probe Arrays [***]. This paragraph states the entire liability for [***] and is in lieu of all other warranties, express or implied except as stated in Section 8.

10 TERM AND TERMINATION

10.1 This Agreement shall extend until the end of the Term unless terminated earlier by a Party for cause by written notice if the other Party (or its Affiliate) materially breaches any material provision of this Agreement and fails to substantially cure such breach within [***] of written notice describing the breach and the intent of the notifying Party to terminate the Agreement in the event such breach is not substantially cured.

10.2 Upon termination of this Agreement, the following provisions will survive: Sections 1, 7, 8, 9 and 11 (in their entirety) and Sections 3.6, 4.2, 4.3 and 10.2.

11 MISCELLANEOUS

11.1 N-MER UNDERSTANDS THAT THE PROBE ARRAYS DELIVERED HEREUNDER ARE NOT FDA APPROVED. N-MER AGREES NOT TO USE THE PROBE ARRAYS DELIVERED HEREUNDER IN ANY CLINICAL OR OTHER SETTING REQUIRING FDA REVIEW OR APPROVAL. [***]. THE PROBE ARRAYS AND SYSTEMS ARE NOT LICENSED EXCEPT AS SPECIFICALLY RECITED HEREIN UNDER ANY INTELLECTUAL PROPERTY RIGHTS OF AFFYEMTRIX.

11.2 Neither Party nor any of its Affiliates shall issue any press release or otherwise publicly disseminate any information relating to this Agreement without the prior written approval of the other Party, [***], or except as otherwise required by law.

11.3 Neither this Agreement nor the rights, interests or obligations of either Party may be assigned by such Party without the prior written consent of the other Party, which shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Affymetrix may assign any rights or obligations of this Agreement to a Party who acquires all or substantially all of the assets of the business of Affymetrix to which this Agreement relates by merger or sale of assets or otherwise. For purposes of clarity, any [***] shall be deemed to be a transfer of rights and obligations hereunder. Any attempted or purported assignment in violation of the foregoing shall be void. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the successors and permitted assigns of each Party hereto.

11.4 This Agreement shall be construed according to the laws of California without regard to conflict of law provisions.

11.5

11.5.1 In the event of any controversy or claim relating to, arising out of or in any way connected to any provision of this Agreement ("Dispute"), the Parties shall seek to settle their differences amicably between themselves. Any unresolved Dispute shall be finally resolved by final and binding arbitration. Whenever a Party shall decide to institute arbitration proceedings, it shall give written notice to that effect to the other Party. The Party giving such notice shall refrain from instituting the arbitration proceedings for a period of [***] following such notice to allow the Parties to attempt to resolve the Dispute between themselves. If the Parties are still unable to resolve the dispute, the Party giving notice may institute the arbitration proceeding. The procedure for the arbitration will be as follows: 1. [***] arbitrator will be chosen in accordance with the arbitration selection rules of JAMS. The selection process will take a maximum of [***]. 2. The arbitration will take place under JAMS rules to the extent the rules are not superceded by the agreements of the party to arbitrate or any agreed limitation on damages. 3. The letter of allegation and a response shall be filed with [***] arbitrator within [***] of the selection and agreement of [***] arbitrator to participate. 4. The Parties

agree that [***] in connection with any arbitration that may take place pursuant to this Section 11.5.1 and, therefore, the Parties and [***] arbitrator shall use their [***] efforts to conclude the arbitration, including the issuance of any award resulting therefrom, within a maximum of [***] from the time of the filing of the complaint or letter of allegation with [***] arbitrator. 5. The arbitration shall take place in the San Francisco Bay Area. 6. [***]. 7. [***]. Judgment on the award of [***] arbitrator may be entered in the Superior Court of Santa Clara County in the State of California. All Parties admit to the jurisdiction of the Superior Court of Santa Clara County in the State of California for purposes of enforcement of the award of [***] arbitrator and compelling arbitration in accordance with this Section 11.5.1. Except to the extent entry of judgment and any subsequent enforcement may require disclosure, all matters relating to the arbitration, including the award, shall be held in confidence by the Parties. Nothing in this Section 11.5.1 shall be construed to preclude a Party from seeking injunctive relief in a court of law for a breach of Section 7 where absent such relief such Party would suffer irreparable harm. [***].

11.6 The waiver by either Party of a breach or a default of any provision of this Agreement by the other Party shall not be construed as a waiver of any succeeding breach of the same or any other provision, nor shall any delay or omission on the part of either Party to exercise or avail itself of any right power or privilege that it has or may have hereunder operate as a waiver of any right, power or privilege by such Party.

11.7 This Agreement and the documents referred to herein, together with the Letter Agreement, dated as of the date hereof, among Affymetrix, N-Mer, Callida Genomics, Inc. and Hyseq, Inc., are the full understanding of the Parties with respect to the subject matter hereof and supersede all prior understandings and writings relating to the subject matter herein. No waiver alteration or modification of any of the provisions herein shall be binding unless in writing and signed by the Parties.

11.8 The headings in this Agreement are for convenience only and shall not be considered in construing this Agreement.

11.9 In the event that any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable because it is invalid or in conflict with any law of any relevant jurisdiction, the validity of the remaining provisions shall not be affected, and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular provision(s) held to be unenforceable.

11.10 None of the provisions of this Agreement shall be for the benefit of or enforceable by any Third Party.

11.11 Any notice required under this Agreement shall be made by overnight mail or courier to the addresses below.

If to N-Mer:

N-Mer, Inc.
670 Almanor Avenue
Sunnyvale, CA 94086
Attn: Dr. Radoje Drmanac
Facsimile Number: (408) 524-8141

If to Affymetrix:

Affymetrix, Inc.
3380 Central Expressway
Santa Clara, California 95051
Attn: General Counsel
Facsimile Number: (408) 731-5392

11.12 "Force Majeure" shall mean an Act of God, flood, fire, explosion, earthquake, strike, lockout, casualty or accident, war, civil commotion, act of public enemies, blockage or embargo, or any injunction, law, order proclamation, regulation, ordinance, demand or requirement of any government or any subdivision, authority representative thereof, or the inability, after all commercially reasonable efforts have been made, to procure materials, labor, equipment, transportation or energy sufficient to meet manufacturing needs without the necessity of allocation, or any other cause whatsoever, whether similar or dissimilar to those enumerated above, which are beyond the reasonable control of such Party, which the Party affected has used its reasonable best efforts to avoid, and which prevent, restrict or interfere with the performance by a Party of its obligations hereunder. The Party affected by Force Majeure shall give notice to the other Party promptly in writing and whereupon shall be excused from those obligations hereunder, to the extent of such prevention, restriction or interference, provided that the affected Party shall use its [***] efforts to overcome, avoid or remove such cause(s) of non-performance and shall continue performance whenever such cause(s) is removed with all possible speed. Nothing herein shall be deemed to require any Party to settle on terms unsatisfactory to such Party with regard to any [***].

11.13 This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their properly and duly authorized officers or representatives as set forth below.

Affymetrix, Inc.

By: /s/ Barbara A. Caulfield

Name: Barbara A. Caulfield

Title: Executive Vice President and General Counsel

Date: October 24, 2001

N-Mer, Inc.

By: /s/ George B. Rathmann

Name: George Rathmann

Title: Chairman and Interim Chief Executive Officer

Date: October 24, 2001

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT A
COLLABORATIVE WORK PLAN

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

INITIAL WORK PLAN FOR N-MER COMPANY

[***]

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT B
EXISTING AFFYMETRIX PRODUCTS

[***]

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24b-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT 10.23

PRODUCT SOLICITATION AGREEMENT

BETWEEN

N-MER, INC.

AND

AFFYMETRIX, INC.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24B-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

PRODUCT SOLICITATION AGREEMENT

This Product Solicitation Agreement (this "Agreement"), dated as of this 24th day of October 2001, by and between N-Mer, Inc., a Delaware corporation having its principal place of business at 670 Almanor Avenue, Sunnyvale, California 94085 (the "Company"), and Affymetrix, Inc., a Delaware corporation having its principal place of business at 3380 Central Expressway, Santa Clara, California 95051 ("Affymetrix"). The Company and Affymetrix will be referred to individually as a "Party" or collectively as the "Parties."

1. SCOPE OF ENGAGEMENT.

1.1 On the terms and conditions of this Agreement, the Company hereby engages Affymetrix for the term of this Agreement as the exclusive sales agent to solicit and procure orders throughout the world for the Company's products (the "Products"); provided, however, that the Company shall have the right pursuant to Section 1.2 to [***] basis in which case Affymetrix shall be engaged by the Company as the [***] sales agent to solicit and procure orders throughout the world for the Products as set forth in Section 1.2.

1.2 If the Company determines [***] that Affymetrix is in material breach of Section 4.1 of this Agreement, the Company shall provide Affymetrix written notice of such determination and shall set forth in such notice [***] the basis for such determination. Upon receipt of such notice, representatives of the Company and Affymetrix shall meet as appropriate for a period not to exceed [***] commencing on the date Affymetrix receives such notice to discuss whether Affymetrix is in material breach of Section 4.1 of this Agreement and to define in good faith the [***] to be performed and achieved by Affymetrix in the Maintenance Period (as defined below) in order to cure such alleged material breach. Such [***] shall be [***] by Affymetrix and the Company and shall be [***] of exclusive sales agents of products similar to the Products and consistent with the terms of this Agreement. In the event that representatives of the Company and Affymetrix are unable to agree [***] during such [***] period, the Company may initiate arbitration in respect of such dispute in accordance with Section 11.7 for the purpose of having the arbitral tribunal determine, within [***], whether Affymetrix is in material breach of Section 4.1 of this Agreement and, if so, the appropriate [***] to be performed and achieved by Affymetrix during the Maintenance Period in order to cure such alleged material breach. The "Maintenance Period" shall be a period of [***] commencing on the date that the [***] are agreed between the parties or determined by the arbitral tribunal. Affymetrix shall [***] agreed between the parties or determined by the arbitral tribunal pursuant to this Section 1.2 during the Maintenance Period, and the Company shall [***] with Affymetrix and [***] in order to enable Affymetrix to [***]. In the event that the Company determines in good faith that Affymetrix has not [***] agreed between the parties or determined by the arbitral tribunal pursuant to this Section 1.2 during the Maintenance Period and is in material breach of Section 4.1 of this Agreement (and Affymetrix does not agree with such determination), the Company shall have the right to initiate arbitration in respect of such dispute in accordance with Section 11.7; provided, however, that the Company and Affymetrix shall have the right to have such dispute heard by the same arbitrator that determined the [***] by Affymetrix during the Maintenance

Period (if [***] were determined by arbitration) and, provided further, that the Parties agree that [***] in connection with any such arbitration and the Parties shall use their [***] efforts to conclude such arbitration, including the issuance of any award resulting therefrom, within [***] of the initiation of such arbitration. Following the expiration of the Maintenance Period and upon initiation of arbitration by the Company as set forth in the preceding sentence, the exclusive sales agency set forth in this Agreement shall [***] only until a final determination of the arbitrator is delivered. In the event that the arbitral tribunal determines that Affymetrix has not [***] agreed between the parties or determined by the arbitral tribunal pursuant to this Section 1.2 during the Maintenance Period and is in material breach of Section 4.1 of this Agreement, then the arbitral tribunal shall provide in its award that the exclusive sales agency shall [***]. For purposes of clarity, the Company shall engage Affymetrix as the exclusive sales agent for the Products until the parties agree otherwise, or until [***]. The terms and conditions of Affymetrix' [***] sales agent relationship with the Company, [***], shall be [***].

1.3 Subject to the Company's then current policies (including the Company's then current credit policies), the Company shall accept [***] orders submitted by Affymetrix for the Products upon the Company's [***] terms and conditions unless the Company is unable to fill such orders using its [***] efforts.

1.4 All Product sales pursuant to an order submitted by Affymetrix shall be at the [***] price prescribed by the Company pursuant to Section 5.3 for such Product, [***].

1.5 No orders shall be binding on the Company unless and until accepted by the Company in accordance with the Company's then current policies and the terms of this Agreement. Affymetrix shall have no right, power or authority to bind the Company to any order or other obligation.

1.6 Affymetrix shall have the right to appoint sub-agents, [***].

2. TRADEMARK LICENSE. During the term of this Agreement, subject to the terms and conditions of this Agreement, the Company grants to Affymetrix a nonexclusive, worldwide, royalty free license solely to use the service marks, trademarks, tradenames and any other designations used by the Company in connection with the Products (collectively, the "Marks"), and the goodwill associated with such Marks, in connection with Affymetrix' solicitation and procurement of orders for the Products hereunder; provided, however, that Affymetrix shall use its [***] efforts to comply with the Company's [***] trademark policy in Affymetrix' use of the Marks. The Company shall have the right to audit and inspect, upon advance written notice and during regular business hours, Affymetrix' use of the Marks.

3. SERVICE AND SUPPORT. The Company and Affymetrix will cooperate in good faith to provide service and support to all customers who purchase Products under orders submitted by Affymetrix, including, without limitation, the following: (i) the Company shall train one (1) Affymetrix representative, appointed by Affymetrix and reasonably acceptable to the Company, in the basic operation of the Products such that such representative is sufficiently skilled to train other Affymetrix representatives to adequately refer service and support needs to the appropriate Party; (ii) Affymetrix shall be the principal contact for customer service and its trained representatives shall refer the service call to the appropriate Party as follows: the Company shall have the principal obligation and shall use [***] efforts to provide the service and customer support for components of the Products not purchased from Affymetrix pursuant to the Product Development and Supply Agreement, dated as of the date hereof (the "Supply Agreement"), between the Company and Affymetrix, and Affymetrix shall have the primary obligation and shall use [***] efforts to provide service and support for components of the Product purchased by the Company from Affymetrix. The parties will provide service and support for their respective components of the Products upon terms and conditions [***].

4. DUTIES OF AFFYMETRIX.

4.1 For so long as Affymetrix is the Company's exclusive [***] sales agent pursuant to Section 1, Affymetrix shall use its [***] efforts to solicit and procure orders for the Products, including, without limitation, to (i) distribute the marketing material and other information provided by the Company pursuant to Section 5.2; and (ii) to provide [***], including, without limitation, [***], to its sales personnel and third party agents that are comparable to [***] provided for other similar products sold by or on behalf of Affymetrix.

4.2 Whenever Affymetrix procures an order for the Products from a customer, Affymetrix shall within [***] after Affymetrix' receipt of such order, forward such order to the Company in such manner as is reasonably determined by the Company. Each such order shall be in the form of a purchase order as mutually agreed to by the Parties for Products, and shall contain all information required to be completed on such form.

4.3 Subject to Section 5.3, Affymetrix shall [***] quote the [***] prices and terms for the Products [***] from the Company.

4.4 Affymetrix shall make no representations or warranties relating to the Products or the Company, except for those that the Company expressly makes in writing to end-users regarding Products and those otherwise expressly authorized in writing by the Company.

5. DUTIES OF THE COMPANY.

5.1 For so long as Affymetrix is the Company's exclusive sales agent pursuant to Section 1, the Company shall not solicit or procure orders for the Products (except through Affymetrix pursuant to this Agreement) nor shall it appoint any other agents in relation to solicitation or procurement of orders for the Products.

5.2 The Company shall market and promote the Products and shall provide Affymetrix with [***] quantities of any applicable printed and soft copy (suitable for display on the web) marketing materials for the Products. Affymetrix will cooperate [***] with the Company to [***] all marketing and promotional materials regarding products supplied to the Company under the Supply Agreement or otherwise incorporating Affymetrix trademarks. Affymetrix shall have the right to use such materials in a reasonable manner solely in connection with its solicitation and procurement of orders for the Products pursuant to this Agreement. Affymetrix shall not alter or modify such marketing materials except by prior written agreement of the Company.

5.3 The Company shall inform Affymetrix within [***] of any [***] changes in the price for the Products. At any time after Affymetrix ceases to be the [***] sales agent of the Company, the Company shall inform Affymetrix within [***] of the acceptance of a purchase order from an end user for Products [***]. Upon such notice, Affymetrix shall [***].

5.4 The Company shall use commercially reasonable efforts to provide Affymetrix with [***] prior written notice of any material changes to product specifications, manufacturing methods, and marketing and sale documentation (excluding such changes made by Affymetrix that relate to components purchased from Affymetrix).

5.5 The Company shall ship to the end user all Products sold pursuant to complete orders submitted by Affymetrix and accepted by the Company pursuant to the terms of this Agreement.

5.6 The Company represents and warrants to Affymetrix that the Products (excluding components purchased from Affymetrix) are manufactured in accordance with all applicable laws and regulations [***]; provided, however, that the Company's liability under this sentence shall be limited to [***] During the term of this Agreement, the Company shall maintain product liability insurance with limits of coverage in an amount [***].

6. COMMISSION.

6.1 The Company shall pay Affymetrix a commission equal to [***] percent ([***]%) of the Commissionable Invoice Price (as defined below) on the sale of each Product pursuant to an order submitted by Affymetrix. For purposes of determining when a sale of a

Product occurs, the sale shall be deemed to occur on the date of shipment of the Product to the purchaser of the Product. All commission payments shall be made within [***] of the end of each [***] in which the sale was made. For purposes of calculating the commission payable by the Company to Affymetrix hereunder, the Commissionable Invoice Price shall mean the invoice price of each Product ([***]) less the price paid by the Company to Affymetrix for the components of each Product purchased from Affymetrix.

6.2 Each commission payment shall be accompanied by a report setting forth the Products sold in the previous month, the name of the purchaser, and the quantity and date of Product purchased, the date of shipment and calculations used to determine such commissions. The parties agree to develop mutually satisfactory forms and systems as mutually deemed appropriate to facilitate the tracking and calculation of Commissionable Invoice Price. Such reports and all information contained therein shall be Confidential Information of the Company and subject to the confidentiality obligations of this Agreement, including, without limitation, Section 10 of this Agreement.

6.3 The Company shall prepare and keep complete, and accurate records of all Product purchases and the commissions due therefrom.

6.4 The Company shall permit an independent certified public accounting firm of nationally recognized standing appointed by Affymetrix, and reasonably acceptable to the Company, to examine and audit the Company's records during reasonable business hours upon at least [***] prior written notice and no more frequently than [***] per year to the extent necessary to verify the accuracy of the reports delivered under Section 6.2 above. If such an audit correctly uncovers a deficiency in payment of commissions payable by the Company hereunder, the Company shall [***] pay such deficient amount, and if the amount of any such deficiency is greater than [***] percent ([***]%) of the total amount due during the audited period, the Company shall bear the reasonable out of pocket expenses of such accounting firm to conduct such audit, otherwise Affymetrix shall bear the costs of such audit.

7. TERM OF AGREEMENT.

7.1 This Agreement shall become effective on the Closing Date (as such term is defined in the Preferred Stock Purchase Agreement, dated as of the date hereof, among Affymetrix, Callida Genomics, Inc. and Hyseq, Inc.) and shall continue unless terminated in accordance with the terms and conditions hereof.

7.2 This Agreement may be terminated by either Party for cause by written notice if the other Party materially breaches any provision of this Agreement and fails to substantially cure such breach within [***] of written notice describing the breach and the intent of the notifying Party to terminate this Agreement in the event such breach is not substantially cured; provided however, that the [***] in accordance with Section 1.2 of this Agreement shall not give rise to termination of this Agreement.

7.3 At any time after the expiration of the Option (as such term is defined in the Option Agreement, dated as of the date hereof, among the Company, Callida Genomics, Inc. and Affymetrix) and after Affymetrix has [***] in accordance with Section 1.2, either Party shall have the right to terminate this Agreement upon [***] written notice of their intention to do so provided the cumulative amount of Net Sales of Products procured by Affymetrix is less than $[***] and the Net Sales of Products procured by Affymetrix in the preceding [***] period is less than $[***]. The term "Net Sales" means the amounts received by the Company from all sales procured by Affymetrix of any Product, including non-cash consideration, which shall be reflected in the Company's books and records maintained in accordance with the accounting principles used by the Company consistently applied across all of its products, less the following deductions with respect to such sale, to the extent included in the amounts invoiced or subsequently actually allowed and taken: [***]. A "sale" shall exclude [***].

7.4 The termination of this Agreement shall not release the Company from the obligation to pay any sum that may be owing to Affymetrix (whether then or thereafter due) or operate to discharge any liability that had been incurred by the Company prior to any such termination. Any termination of this Agreement shall not be an exclusive remedy, but shall be in addition to any legal or equitable remedies available. Sections 6 (only to the extent the Company has accepted orders from Affymetrix before such termination or expiration), 7.4, 8, 9, 10 and 11 shall survive any termination or expiration of this Agreement.

8. DISCLAIMER; INDEMNITY.

8.1 EXCEPT AS OTHERWISE PROVIDED HEREIN, NEITHER PARTY MAKES ANY WARRANTIES TO THE OTHER PARTY WITH RESPECT TO THE PRODUCTS AND SERVICES AND EACH DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE OR PARTICULAR PURPOSE AND NONINFRINGEMENT. EXCEPT AS OTHERWISE PROVIDED HEREIN, NEITHER PARTY ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY LIABILITY IN CONNECTION WITH THE SALE OR USE OF THE PRODUCTS.

8.2 The Company shall indemnify and hold Affymetrix and its directors, officers and employees (the "Affymetrix Indemnitees") harmless from and against all losses, liabilities, damages and expenses (including reasonable attorneys' fees and costs) resulting from all claims, demands, actions and other proceedings ("Claims") by any unaffiliated third party to the extent arising from (a) the breach of any representation, warranty or covenant of the Company under this Agreement, or (b) [***] liability caused by [***], except in each case to the extent caused by the breach of any representation, warranty or covenant of Affymetrix under this Agreement or the gross negligence or willful misconduct of the Affymetrix Indemnitees or in the event that such Claims are caused by the components of each Product purchased from Affymetrix.

8.3 Affymetrix shall indemnify and hold the Company and its directors, officers and employees (the "Company Indemnitees") harmless from and against all losses,

liabilities, damages and expenses (including reasonable attorneys' fees and costs) resulting from all claims, demands, actions and other proceedings by any unaffiliated third party to the extent arising from the breach of any representation, warranty or covenant of Affymetrix under this Agreement, except in each case to the extent caused by the breach of any representation, warranty or covenant of the Company under this Agreement or the gross negligence or willful misconduct of the Company Indemnitees.

8.4 A Party (the "Indemnitee") that intends to claim indemnification under this Section 8 shall promptly notify the other Party (the "Indemnitor") of any claim, demand, action or other proceeding for which the Indemnitee intends to claim such indemnification. The Indemnitor shall have the right to participate in, and to the extent the Indemnitor so desires jointly with any other indemnitor similarly noticed, to assume the defense thereof with counsel selected by the Indemnitor; provided, however, that the Indemnitee shall have the right to retain its own counsel, with the fees and expenses to be paid by the Indemnitor, if representation of the Indemnitee by the counsel retained by the Indemnitor would be inappropriate due to actual or potential differing interests between the Indemnitee and any other party represented by such counsel in such proceedings. The indemnity obligations under this Section 8 shall not apply to amounts paid in settlement of any claim, demand, action or other proceeding if such settlement is effected without the prior express written consent of the Indemnitor, [***]. The failure to deliver notice to the Indemnitor within a reasonable time after notice of any such claim or demand, or the commencement of any such action or other proceeding, if prejudicial to its ability to defend such claim, demand, action or other proceeding, shall relieve such Indemnitor of any liability to the Indemnitee under this Section 8 with respect thereto, but the omission so to deliver notice to the Indemnitor shall not relieve it of any liability that it may have to the Indemnitee otherwise than under this Section 8. The Indemnitor may not settle or otherwise consent to an adverse judgment in any such claim, demand, action or other proceeding, that diminishes the rights or interests of the Indemnitee, or admits liability or fault of the Indemnitee, without the prior [***] written consent of the Indemnitee, [***]. The Indemnitee, its employees and agents, shall reasonably cooperate with the Indemnitor and its legal representatives in the investigation of any claim, demand, action or other proceeding covered by this Section 8.

9. LIABILITY LIMITATION.

EXCEPT AS SPECIFIED UNDER SECTION 8, NEITHER PARTY WILL BE LIABLE UNDER ANY SECTION OR SUBJECT MATTER OF THIS AGREEMENT OR UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

10. CONFIDENTIALITY.

10.1 For a period of [***] from following the expiration of this Agreement, each Party shall maintain the Confidential Information of the other Party (including the terms of this Agreement) in strict confidence, and shall not disclose, divulge, or otherwise communicate such Confidential Information of the other, or use it for any purpose, except as permitted by this Agreement, and in order to carry out the terms and objectives of this Agreement; provided,

however, that such disclosure shall be solely to: (i) employees who need to know such Confidential Information in order to perform the receiving Party's obligations under this Agreement; and (ii) solely upon prior written notice to, and approval by, the disclosing Party, to third party consultants who are bound by confidentiality obligations at least as strict as those set forth in this Agreement. Without limiting the foregoing, the parties will use any and all [***] precautions to prevent and restrain the unauthorized disclosure of any Confidential Information of the other Party. The provisions of this paragraph shall not apply to Confidential Information which:

(a) was known or used by the receiving Party or its affiliates without any restriction on disclosure, prior to its date of disclosure to the receiving Party, as evidenced by the prior written records of the receiving Party or its affiliates; or

(b) either before or after the date of the disclosure to the receiving Party is lawfully disclosed without restriction on disclosure to the receiving Party or its affiliates by an independent, unaffiliated third party rightfully in possession of the Confidential Information, provided that if such Confidential Information is provided to the receiving Party by a third party rightfully in possession of the Confidential Information, but with restrictions on disclosure, the receiving Party may use such Confidential Information in accordance with such restrictions of the third party;

(c) either before or after the date of the disclosure to the receiving Party becomes published or generally known to the public through no fault or omission of the receiving Party or its affiliates;

(d) is required to be disclosed by the receiving Party or its affiliates to comply with applicable laws, to comply with a court order, or to comply with governmental regulations, provided that the receiving Party provides prior written notice of such disclosure to the other Party and takes [***] actions to avoid and/or minimize the degree of such disclosure; or

(e) is independently developed by the receiving Party or its affiliates without reference to the Confidential Information.

11. MISCELLANEOUS.

11.1 Neither Party nor any of its affiliates shall issue any press release or otherwise publicly disseminate any information relating to this Agreement without the prior written approval of the other Party, [***], or except as otherwise required by law.

11.2 Each Party represents and acknowledges that it has read this Agreement and fully understands and agrees to its terms, and that each Party has been represented by counsel in connection with the negotiation and execution of this Agreement.

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

11.4 This Agreement shall be construed according to the laws of California without regard to conflict of law provisions.

11.5 Any notice, requests, delivery, approval or consent required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been sufficiently given if delivered to the Party to whom it is directed at its address shown below or such other address as such Party shall have last given by notice to the other Party (referred to herein as "notice"). All notices shall be effective upon receipt.

If to the Company, addressed to:

N-Mer, Inc.
670 Almanor Avenue
Sunnyvale, CA 94086
Attn: Dr. Radoje Drmanac
Facsimile Number: (408) 524-8141

If to Affymetrix, addressed to:

Affymetrix, Inc.
3380 Central Expressway
Santa Clara, California 95051
Attn: General Counsel
Fax: (408) 481-4709

11.6 Affymetrix may assign any rights or obligations of this Agreement to a party who acquires all or substantially all of the assets of Affymetrix or of that part of the business of Affymetrix to which this Agreement relates by merger or sale of assets or otherwise. The Company may not assign or transfer any rights or obligations of this Agreement by merger or sale of assets or otherwise to a third party or its affiliates without the prior written consent of Affymetrix which must be obtained and will not be unreasonably withheld or delayed. For purposes of clarity, any [***] shall be deemed to be a transfer of rights and obligations hereunder. Any attempted or purported assignment in violation of the foregoing shall be void. This Agreement shall inure to the benefit of, and be binding upon, the Parties and their successors and permitted assigns. Except as otherwise expressly provided herein, the rights and obligations hereunder may not be assigned or delegated by any Party hereto without the prior written consent of each other Party hereto.

11.7 ARBITRATION. In the event of any controversy or claim relating to, arising out of or in any way connected to any provision of this Agreement ("Dispute"), the Parties shall seek to settle their differences amicably between themselves. Any unresolved Dispute shall be finally resolved by final and binding arbitration. Whenever a Party shall decide to institute arbitration proceedings, it shall give written notice to that effect to the other Party. The Party giving such notice shall refrain from instituting the arbitration proceedings for a period of [***] following such notice to allow the Parties to attempt to resolve the Dispute between

themselves. If the Parties are still unable to resolve the dispute, the Party giving notice may institute the arbitration proceeding. The procedure for the arbitration will be as follows: 1. [***] will be chosen in accordance with the arbitration selection rules of JAMS. The selection process will take a maximum of [***]. 2. The arbitration will take place under JAMS rules to the extent the rules are not superceded by the agreements of the party to arbitrate or any agreed limitation on damages. 3. The letter of allegation and a response shall be filed with [***] arbitrator within [***] of the selection and agreement of [***] arbitrator to participate. 4. The Parties agree that [***] in connection with any arbitration that may take place pursuant to this Section 11.7 and, therefore, the Parties and [***] arbitrator shall use their [***] efforts to conclude the arbitration, including the issuance of any award resulting therefrom, within a maximum of [***] from the time of the filing of the complaint (or, if applicable, in the time periods otherwise specified in Section 1.2) or letter of allegation with [***] arbitrator. 5. The arbitration shall take place in the San Francisco Bay Area. 6. [***] Judgment on the award of [***] arbitrator may be entered in the Superior Court of Santa Clara County in the State of California. All Parties admit to the jurisdiction of the Superior Court of Santa Clara County in the State of California for purposes of enforcement of the award of [***] arbitrator and compelling arbitration in accordance with this Section 11.7. Except to the extent entry of judgment and any subsequent enforcement may require disclosure, all matters relating to the arbitration, including the award, shall be held in confidence by the Parties. Nothing in this Section 11.7 shall be construed to preclude a Party from seeking injunctive relief in a court of law for a breach of Section 10 where absent such relief such Party would suffer irreparable harm.

11.8 This Agreement and the documents referred to herein, together with the Letter Agreement, dated as of the date hereof, among Affymetrix, N-Mer, Callida Genomics, Inc. and Hyseq, Inc., are the full understanding of the Parties with respect to the subject matter hereof and supersede all prior understandings and writings relating to the subject matter herein. No waiver alteration or modification of any of the provisions herein shall be binding unless in writing and signed by the Parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

N-MER, INC.

By: /s/ George B. Rathmann

Name: George Rathmann

Title: Chairman and Interim Chief Executive Officer

AFFYMETRIX, INC.

By: /s/ Barbara A. Caulfield

Name: Barbara A. Caulfield

Title: Executive Vice President and General Counsel

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED AND FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION PURSUANT TO RULE 24B-2 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED.

EXHIBIT 10.24

N-MER, INC.

OPTION AGREEMENT

This Option Agreement (the "Agreement") is entered into as of October 24, 2001, among Callida Genomics, Inc., a Delaware corporation ("CGI"), N-Mer, Inc., a Delaware corporation ("N-Mer"), and Affymetrix, Inc., a Delaware corporation ("Affymetrix").

RECITALS

WHEREAS, CGI, Hyseq, Inc., a Nevada corporation ("Hyseq"), and Affymetrix have entered into the Preferred Stock Purchase Agreement, dated as of the date hereof (the "Stock Purchase Agreement");

WHEREAS, N-Mer and Affymetrix have entered into the Product Development and Supply Agreement, dated as of the date hereof (the "Supply Agreement"), and the Product Solicitation Agreement, dated as of the date hereof (the "Product Solicitation Agreement");

WHEREAS, this Agreement is being entered into in order to induce Affymetrix to enter into the Stock Purchase Agreement, Supply Agreement and Product Solicitation Agreement and to consummate the transactions contemplated thereby;

WHEREAS, N-Mer is a wholly-owned subsidiary of CGI; and

WHEREAS, CGI wishes to grant Affymetrix an option to acquire 81% of the capital stock of N-Mer.

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements set forth herein, the parties hereto hereby agree as follows:

ARTICLE I

SECTION 1.1 DEFINITIONS. As used in this Agreement, the following terms shall have the meanings set forth below:

"Affiliate" shall mean with respect to any Person (i) any other Person that directly or indirectly through one or more intermediaries controls or is controlled by or is under common control with such Person, (ii) or any other Person owning or controlling 25% or more of the outstanding voting securities of or other ownership interest in such Person or (iii) any officer, director, general partner, managing partner or member of such Person.

"Business Day" shall mean a day other than a Saturday or Sunday on which commercial banks in New York, New York are not required or permitted under applicable laws or regulations to close.

"Capital Lease Obligations" shall mean, with respect to any Person, the obligation of such Person to pay rent or other amounts under any lease with respect to any property (whether

real, personal or mixed) acquired or leased by such Person that is required to be accounted for under generally accepted accounting principles as a liability on a consolidated balance sheet of such Person.

"CGI Shares" shall mean (i) all shares of Series A-1 Preferred Stock, par value $0.001 per share, of CGI purchased on the Effective Date by Affymetrix pursuant to the Stock Purchase Agreement, (ii) all Additional Shares (as such term is defined in the Stock Purchase Agreement) purchased by Affymetrix in a Qualified Financing pursuant to Article VI of the Stock Purchase Agreement, (iii) any shares of common stock, par value $0.001 per share, of CGI issued upon conversion of the foregoing and (iv) any securities issued successively in exchange for or in respect of the foregoing, whether pursuant to a merger or consolidation, as a result of any successive stock split or reclassification of, or stock dividend on, any of the foregoing or otherwise.

"Closing" shall have the meaning set forth in Section 2.3.

"Closing Date" shall mean the date of the Closing.

"Common Stock" shall mean the shares of common stock, par value $0.001 per share, of N-Mer.

"Co-Sale Consideration" shall mean the gross cash and other property received as consideration by Affymetrix for the CGI Shares transferred by Affymetrix in exercise of its co-sale rights under Section 2.1 of the CGI Stockholders Agreement, which consideration shall be prior to the payment of all fees, expenses, taxes and other charges paid by Affymetrix in respect thereof.

"Cumulative N-Mer Array Program Investment" shall mean the cumulative operating expenses incurred and recognized by N-Mer as reflected in the Income Statement.

"Effective Date" shall mean the Closing Date (as such term is defined in the Stock Purchase Agreement).

"Excess Indebtedness" shall mean (i) the amount of Indebtedness of N-Mer as of the Closing minus (ii) $1,000,000.

"Equity Securities" shall mean any securities having voting rights in the election of the Board of Directors of CGI not contingent upon default, or any securities evidencing an ownership interest in CGI, or any securities convertible into or exercisable for any shares of the foregoing, or any agreement or commitment to issue any of the foregoing, including, without limitation, Common Stock and Preferred Stock, par value $0.001 per share, of CGI.

"Exercise Notice" shall have the meaning set forth in Section 2.2.

"First Period" shall mean the period commencing on the Effective Date and ending on the third anniversary of this Agreement.

"CGI Stockholders Agreement" shall mean the Stockholders Agreement, dated as of the date hereof, among CGI, Hyseq and Affymetrix.

"HSR Act" shall mean the Hart-Scott-Rodino Antitrust Improvements Act of 1976 or any successor law, and regulations and rules issued pursuant to that Act or any successor law.

"Income Statement" means a statement of income prepared in accordance with generally accepted accounting principles consistently applied for the period from the date of this Agreement to the date of delivery of the Exercise Notice.

"Indebtedness" shall mean, with respect to any Person, (i) all obligations of such Person for borrowed money or for the deferred purchase price of property or services (including all obligations, contingent or otherwise, of such Person in connection with letters of credit, bankers' acceptances, Interest Rate Protection Agreement or other similar instruments, including currency swaps) other than indebtedness to trade creditors and service providers incurred in the ordinary course of business and payable on usual and customary terms, (ii) all obligations of such Person evidenced by bonds, notes, debentures or other similar instruments, (iii) all indebtedness created or arising under any conditional sale or other title retention agreement with respect to property acquired by such Person (even though the remedies available to the seller or lender under such agreement are limited to repossession or sale of such property), (iv) all Capital Lease Obligations of such Person, (v) all obligations of the types described in clauses (i), (ii), (iii) or (iv) above secured by (or for which the obligee has an existing right, contingent or otherwise, to be secured by) any Lien upon or in any property (including accounts, contract rights and other intangibles) owned by such Person, even though such Person has not assumed or become liable for the payment of such Indebtedness, (vi) all preferred stock issued by such Person which is redeemable, prior to full satisfaction of the Company's obligations under this Promissory Note, other than at the option of such Person, (vii) all Indebtedness of others subject to a Third Party Guaranty by such Person and (viii) all Indebtedness of any partnership of which such Person is a general partner.

"Interest Rate Protection Agreement" shall mean any interest rate swap agreement, interest rate cap agreement or similar hedging arrangement used by a Person to fix or cap a floating rate of interest on Indebtedness to a negotiated maximum rate or amount.

"Lien" shall mean a charge, mortgage, pledge, security interest, restriction, claim, lien, encumbrance or adverse claim of any nature whatsoever (other than any restrictions on transfer under state and/or federal securities laws).

"N-Mer Field" shall mean have the meaning ascribed to such term in the Product Development and Supply Agreement, dated as of the date hereof, between N-Mer and Affymetrix.

"Notice of Disagreement" shall have the meaning set forth in Section 2.2.

"Option" shall have the meaning set forth in Section 2.1.

"Option Purchase Price" shall have the meaning set forth in Section 2.1.

"Option Shares" shall mean 81% of the total number of shares of Common Stock outstanding on the Closing Date.

"Person" shall mean an individual, corporation (including any non-profit corporation), association, general or limited partnership, organization, business, firm, limited liability company, joint venture, trust, estate, or other entity, association or organization, whether constituting a separate legal entity or not.

"Qualified Financing" shall have the meaning ascribed to such term in the Stock Purchase Agreement.

"Securities Act" shall have the meaning set forth in Section 4.2.

"Second Period" shall mean the period commencing on the first day following the end of the First Period and ending on the date that is one year after the commencement of the Second Period.

"Term" means the First Period, the Second Period and the Third Period.

"Third Period" shall mean the period commencing on the first day following the end of the Second Period and ending at 11:59 p.m., California time, on the date that is one year after the commencement of the Third Period.

"Third Party Guaranty" means, with respect to any Person, any obligation, contingent or otherwise, of such Person guaranteeing or having the economic effect of guaranteeing any Indebtedness of any other Person (the "primary obligor") in any manner, whether directly or indirectly, and including any obligation of such Person, (i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness, (ii) to purchase property, securities or services for the purpose of assuring the holder of such Indebtedness of the payment of such Indebtedness of (iii) to maintain working capital, equity capital or the financial condition or liquidity of the primary obligor so as to enable the primary obligor to pay such Indebtedness.

"Work Plan" shall have the meaning ascribed to such term in the Supply Agreement.

ARTICLE II

TERMS OF OPTION

SECTION 2.1 GRANT OF OPTION. (a) CGI hereby grants Affymetrix an option to purchase the Option Shares at the purchase price set forth below and subject to the other terms and conditions set forth herein (the "Option").

(b) The purchase price for the Option Shares ("Option Purchase Price") shall consist of securities and cash as follows:

(i) (A) If Affymetrix has not transferred any CGI Shares in exercise of its co-sale rights under Section 2.1 of the CGI Stockholders Agreement, all CGI Shares; or

(B) If Affymetrix has transferred any of the CGI Shares in exercise of its co-sale rights under Section 2.1 of the CGI Stockholders Agreement, (1) the Co-Sale Consideration and (2) any CGI Shares not transferred by Affymetrix in exercise of such co-sale rights; and

(ii) (A) If the Option is exercised during the First Period, an amount of cash equal to (1) $32 million minus (2) the Excess Indebtedness;

(B) If the Option is exercised during the Second Period, an amount of cash equal to (1) the lesser of (x) the product of $32 million multiplied by a fraction, the numerator of which is the Cumulative N-Mer Array Program Investment and the denominator of which is $20 million or (y) $48 million minus (2) the Excess Indebtedness; or

(C) If the Option is exercised during the Third Period, an amount of cash equal to (1) the lesser of (x) the product of $36.8 million multiplied by a fraction, the numerator of which is the Cumulative N-Mer Array Program Investment and the denominator of which is $20 million or (y) $48 million minus (2) the Excess Indebtedness.

SECTION 2.2 EXERCISE OF OPTION. (a) The Option shall be exercisable, for all but not less than all of the Option Shares, at any time during the Term. Affymetrix may exercise the Option by delivering a written notice to CGI in substantially the form attached hereto as Annex A (the "Exercise Notice"). Delivery of the Exercise Notice shall constitute an irrevocable and binding commitment by Affymetrix to purchase from CGI, and a binding obligation of CGI to sell to Affymetrix, the Option Shares.

(b) CGI shall use commercially reasonable efforts to deliver the Income Statement to Affymetrix within ten (10) Business Days after receipt by CGI of the Exercise Notice. If Affymetrix elects to dispute any part of the Income Statement prior to the Closing, Affymetrix shall, not later than 5 p.m. California time on the fifth (5th) Business Day following delivery by CGI of the Income Statement to Affymetrix, deliver written notice to CGI of its intention to dispute the Income Statement ("Notice of Disagreement"). Promptly following receipt by CGI of a Notice of Disagreement, the Chief Financial Officers of CGI and Affymetrix shall meet together and attempt to resolve in good faith any dispute set forth therein. CGI and Affymetrix agree that the Income Statement shall be considered purely for the purposes of calculating the Option Purchase Price and for no other purpose.

SECTION 2.3 CLOSING. Subject to obtaining any required regulatory approvals and the expiration or termination of any waiting period applicable to the sale of the Option Shares under the HSR Act, the closing (the "Closing") of the purchase and sale of the Option Shares shall take place as soon as practicable after the earlier of (i) if a Notice of Disagreement is delivered, resolution of any dispute in respect of the Income Statement and (ii) if a Notice of Disagreement is not delivered, the lapse of the five (5) Business Day period provided for the delivery of a Notice of Disagreement, or such other date as Affymetrix and CGI shall mutually agree. The Closing shall be held at 10:00 a.m., local time, at the principal office of N-Mer. At such Closing, (i) CGI shall deliver to Affymetrix certificates or other documents evidencing the

Option Shares being sold, free and clear of any Liens (and CGI hereby represents and warrants to Affymetrix that such Option Shares shall, immediately prior to such sale, be so free and clear of Liens and that it shall have good and marketable title to such Option Shares), (ii) Affymetrix shall deliver to CGI the cash consideration to be paid for the Option Shares in accordance with Section 2.1 in cash by wire transfer in immediately available funds to an account specified by CGI to Affymetrix not less than five (5) days prior to such Closing and all Co-Sale Consideration deliverable pursuant to Section 2.1(b)(i)(B), (iii) Affymetrix shall deliver to CGI certificates or other documents evidencing the CGI Shares to be delivered by Affymetrix pursuant to Section 2.1(b) free and clear of any Liens (and Affymetrix hereby represents and warrants to CGI that such CGI Shares shall, immediately prior to such delivery, be so free and clear of Liens), (iv) N-Mer shall duly record the transfer on its books and records, (v) N-Mer, CGI and Affymetrix shall enter into a Stockholders' Agreement in substantially the form attached hereto as Annex B and a Registration Rights Agreement in substantially the form attached hereto as Annex C and (vi) N-Mer, CGI and Affymetrix shall execute such other documents and take such other action as shall be reasonably necessary to consummate the purchase and sale of the Option Shares on the terms contemplated by this Article II.

SECTION 2.4 AMENDMENT OF LICENSE AGREEMENT. If the Option is exercised during the Second Period or the Third Period and a Qualified Financing has not occurred prior to the Closing, then the License Agreement, dated as of the date hereof, between CGI and N-Mer shall be deemed amended as of the Closing such that Section 3.5 of such agreement is deleted in its entirety.

ARTICLE III

COVENANTS OF CGI AND N-MER

SECTION 3.1 RESTRICTIONS ON TRANSFER AND ISSUANCE OF COMMON STOCK.

CGI shall not, directly or indirectly, sell, assign, transfer or otherwise dispose of, or pledge, hypothecate or otherwise encumber, any of the shares of Common Stock. N-Mer shall not issue equity securities (including, without limitation, Common Stock) or securities convertible into equity securities to any Person; provided, however, that N-Mer may issue Common Stock to CGI.

SECTION 3.2 BASIC FINANCIAL INFORMATION AND REPORTING.

(a) N-Mer will maintain true books and records of account in which full and correct entries will be made of all its business transactions pursuant to a system of accounting established and administered in accordance with generally accepted accounting principles consistently applied.

(b) As soon as practicable after the end of each fiscal year of N-Mer, and in any event within ninety (90) days thereafter, N-Mer will furnish Affymetrix a consolidated balance sheet of N-Mer, as at the end of such fiscal year, and a consolidated statement of income and a consolidated statement of cash flows of N-Mer, for such year, all prepared in accordance with generally accepted accounting principles consistently

applied and setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail. As soon as practicable after the end of each fiscal year of N-Mer, and in any event within ninety (90) days thereafter, N-Mer will furnish Affymetrix a detailed schedule of the all amounts paid to each of Hyseq, CGI and Affymetrix during such year. Such financial statements and schedule shall be accompanied by a report and opinion thereon by independent public accountants selected by N-Mer's Board of Directors.

(c) N-Mer will furnish Affymetrix, as soon as practicable after the end of the first, second and third quarterly accounting periods in each fiscal year of N-Mer, and in any event within forty-five (45) days thereafter, a consolidated balance sheet of N-Mer as of the end of each such quarterly period, and a consolidated statement of income and a consolidated statement of cash flows of N-Mer for such period and for the current fiscal year to date, certified by an executive officer of N-Mer and prepared in accordance with generally accepted accounting principles, with the exception that no notes need be attached to such statements and normal, recurring year-end audit adjustments may not have been made. N-Mer will also furnish Affymetrix, as soon as practicable after the end of the first, second and third quarterly accounting periods in each fiscal year of N-Mer, and in any event within forty-five (45) days thereafter, a detailed schedule of the all amounts paid to each of Hyseq, CGI and Affymetrix during such quarterly period, certified by an executive officer of N-Mer.

(d) N-Mer will furnish Affymetrix, as soon as practicable after the end of each of the first two months in each fiscal quarter, and in any event within fifteen (15) days thereafter, a consolidated balance sheet of N-Mer as of the end of each such monthly period, and a consolidated statement of income and a consolidated statement of cash flows of N-Mer for such period and for the current fiscal year to date, certified by an executive officer of N-Mer and prepared in accordance with generally accepted accounting principles, with the exception that no notes need be attached to such statements and normal, recurring year-end audit adjustments may not have been made. N-Mer will also furnish Affymetrix, as soon as practicable after the end of each month, and in any event together with the financial statements furnished under Sections 3.2(b), (c) and (d), a detailed schedule of all amounts paid by N-Mer to each of Hyseq, CGI and Affymetrix and their respective Affiliates during such monthly period together with a detailed description of the basis for such payments (including the methodology used for allocating costs to N-Mer), certified by an executive officer of N-Mer.

SECTION 3.3 INSPECTION RIGHTS. Affymetrix (including its officers, employees, counsel, accountants and other representatives) shall have the right to visit and inspect any of the properties of N-Mer or any of its subsidiaries, and to discuss the affairs, finances and accounts of N-Mer or any of its subsidiaries with its officers and employees, and to review such books, contracts, records and other information as is reasonably requested all at such reasonable times and as often as may be reasonably requested.

SECTION 3.4 AFFILIATE TRANSACTIONS. Neither N-Mer nor any of its subsidiaries shall enter into any contract or transaction with or for the direct or indirect benefit of, or pay or provide any money or other form of consideration, directly or indirectly, to or for the benefit of,

or assume, guarantee or otherwise become liable for any indebtedness or other obligation of, or sell, lease (as lessor or lessee), transfer, give or otherwise assign or acquire any properties or assets, tangible or intangible, or services to or from, CGI or Hyseq or any of their respective Affiliates which is not in the ordinary course of business on terms at least as favorable to N-Mer or such subsidiary as an arm's-length arrangement or which is not in accordance with the Work Plan.

SECTION 3.5 LIMITATIONS ON LINE OF BUSINESS. N-Mer shall be primarily engaged in the N-Mer Field and shall pursue its business solely in accordance with the Work Plan, and shall not engage in any activities that are not directly related to the N-Mer Field and not in accordance with the Work Plan.

SECTION 3.6 LIMITATIONS ON CERTAIN ACTIVITIES. Neither N-Mer nor any of its subsidiaries shall take any action in respect of, and CGI shall not cause N-Mer to take any action in respect of, (i) the adoption, amendment, alteration or repeal of any provision or term of any certificate of incorporation or bylaws (or similar constituent documents) for N-Mer or any of its subsidiaries; (ii) any merger or consolidation involving N-Mer (other than any merger or consolidation of a wholly-owned subsidiary of N-Mer with or into N-Mer or another wholly-owned subsidiary of N-Mer); (iii) any reorganization, dissolution, liquidation or other winding-up or termination of N-Mer or any of its subsidiaries; (iv) the redemption, purchase, repurchase or other acquisition for value any equity securities of N-Mer or any of its subsidiaries (except for acquisitions of common stock by N-Mer pursuant to restricted stock, employment or consulting agreements which permit N-Mer to repurchase such shares upon termination of services to N-Mer or in exercise of N-Mer's right of first refusal upon a proposed transfer); (v) the payment or declaration of any dividend or distribution on any of equity securities of N-Mer (other than a dividend payable solely in common stock of N-Mer); and (vi) entering into, assuming or becoming bound by any contract to do any of the foregoing or otherwise attempting to do any of the foregoing, either directly or indirectly.

SECTION 3.7 TERMINATION OF COVENANTS. The covenants of CGI and N-Mer set forth in this Article III shall terminate upon the earlier of (i) the expiration of the Term and (ii) the Closing.

ARTICLE IV

REPRESENTATIONS AND WARRANTIES

SECTION 4.1 REPRESENTATIONS AND WARRANTIES OF CGI AND N-MER.

CGI and N-Mer, jointly and severally, hereby represent and warrant to Affymetrix as follows:

(a) ORGANIZATION AND GOOD STANDING. Each of CGI and N-Mer is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. Each of CGI and N-Mer has all requisite corporate power and authority to execute and deliver this Agreement and to carry out the provisions of this Agreement.

(b) CAPITALIZATION; VOTING RIGHTS. The authorized capital stock of N-Mer, as of the date of this Agreement, consist of 1,000 shares of Common Stock, of which 100 shares (the "Outstanding Shares") are issued and outstanding. All of the Outstanding Shares are owned by CGI. Except as may be granted pursuant to this Agreement, there are no outstanding options, warrants, puts, calls, rights (including conversion or preemptive rights and rights of first refusal), proxy or stockholder agreements, or agreements of any kind for the purchase or acquisition from N-Mer or CGI of any securities of N-Mer. The Outstanding Shares have been duly authorized, validly issued (including, without limitation, issued in compliance with applicable state and federal securities laws), fully paid and nonassessable and are, and shall be immediately prior to Closing, free of any Liens.

(c) AUTHORIZATION; BINDING OBLIGATIONS. All corporate action on the part of each of CGI and N-Mer, its officers, directors and stockholders necessary for the authorization, execution and delivery of this Agreement, the performance of all obligations of each of CGI and N-Mer hereunder and the sale and delivery of the Option Shares pursuant hereto has been taken. This Agreement is the valid and legally binding obligation of each of CGI and N-Mer enforceable against each of CGI and N-Mer in accordance with its terms, except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights; and (ii) as limited by general principles of equity that restrict the availability of specific performance, injunctive relief or other equitable remedies. The sale of the Option Shares will not be subject to any preemptive rights or rights of first refusal that have not been properly waived or complied with.

(d) COMPLIANCE WITH OTHER INSTRUMENTS. Neither CGI nor N-Mer is in violation or default and the execution and delivery of this Agreement and the performance of their respective obligations hereunder will not violate or cause a default under, or otherwise conflict with, any term of the Certificate of Incorporation or Bylaws of CGI or N-Mer, or of any provision of any mortgage, indenture, agreement, instrument or contract to which CGI or N-Mer is a party or by which CGI or N-Mer is bound. The execution, delivery and performance of and compliance with this Agreement, and the sale of the Option Shares pursuant hereto, will not, with or without the passage of time or giving of notice, result in any such violation, or be in conflict with or constitute a default under any such term or provision, or result in the creation of any Lien upon any of the properties or assets of CGI or N-Mer.

(e) COMPLIANCE WITH LAWS; PERMITS. Neither CGI nor N-Mer is in violation of, and the execution and delivery of this Agreement and the performance by each of CGI and N-Mer of its obligations hereunder will not violate, any statute, rule, regulation, order or restriction of any domestic or foreign government or any instrumentality or agency thereof in respect of the conduct of its business or the ownership of its properties which violation would materially and adversely affect the business, financial condition, results of operations or prospects of either CGI or N-Mer. No governmental orders, permissions, consents, approvals or authorizations are required to be obtained and no registrations or declarations are required to be filed in connection with the execution and delivery of this Agreement and the offer, sale and delivery of the

Option Shares, or the other transactions to be consummated at the Closing, as contemplated in this Agreement, except for such orders, permissions, consents, approvals or authorizations as may be required under applicable federal or state securities laws.

SECTION 4.2 REPRESENTATIONS AND WARRANTIES OF AFFYMETRIX.

Affymetrix hereby represents and warrants to CGI and N-Mer as follows:

(a) AUTHORIZATION; BINDING OBLIGATIONS. Affymetrix has all necessary power and authority to execute and deliver this Agreement and to carry out its obligations hereunder. All actions on the part of Affymetrix required for the due authorization, execution and delivery of this Agreement have been taken. This Agreement is the valid and legally binding obligation of Affymetrix, enforceable in accordance with its terms, except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium or other laws of general application affecting enforcement of creditors' rights; and (ii) as limited by general principles of equity that restrict the availability of specific performance, injunctive relief or other equitable remedies.

(b) PURCHASE ENTIRELY FOR OWN ACCOUNT. Affymetrix is acquiring the Option, and will acquire the Option Shares (together with the Option, the "Securities"), for its own account, not as a nominee or agent, for investment and not with a view to the resale or distribution of any part thereof.

(c) INVESTMENT EXPERIENCE. Affymetrix is an "accredited investor" within the meaning of Rule 501(a) under the Securities Act of 1933, as amended (the "Securities Act"). Affymetrix has such knowledge and experience in financial and business matters that Affymetrix is capable of evaluating the merits and risks of the investment contemplated hereby and otherwise to protect its own interests in connection with the purchase of the Securities.

(d) RESTRICTED SECURITIES. Affymetrix understands that the Securities are being offered in transactions not involving any public offering in the United States within the meaning of the Securities Act, that the Securities have not been registered under the Securities Act and that Affymetrix may not resell, pledge or otherwise transfer any Securities except (A) pursuant to an effective registration statement under the Securities Act, (B) in an offshore transaction complying with Rule 904 of Regulation S under the Securities Act, or (C) pursuant to another applicable exemption from registration.

(e) NO PUBLIC MARKET. Affymetrix understands that no public market now exists for any of the securities issued by N-Mer and that neither N-Mer nor CGI has made any assurances that a public market will ever exist for such securities.

(f) LEGENDS. Affymetrix understands that the Option Shares, and any securities issue in respect thereof or in exchange therefor, may bear the following legend until such time, if any, as (A) the Option Shares or such securities (i) are sold in compliance with Rule 144 under the Securities Act (or a comparable successor provision) or pursuant to an effective registration statement under the Securities Act or (ii) are

eligible for sale pursuant to Rule 144(k) under the Securities Act (or a comparable successor provision), or (B) the Company receives an opinion of counsel reasonably acceptable to it to the effect that such legend may be removed:

> "THE SECURITIES EVIDENCED HEREBY HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT (A) (1) IF REGISTERED UNDER THE SECURITIES ACT OR (2) IN A TRANSACTION EXEMPT FROM, OR NOT SUBJECT TO, SUCH REGISTRATION (IT BEING UNDERSTOOD THAT NO REPRESENTATION CAN BE MADE AS TO THE AVAILABILITY OF AN EXEMPTION) AND (B) IN ACCORDANCE WITH ALL APPLICABLE SECURITIES LAWS OF THE STATES OF THE UNITED STATES."

The Shares will also bear any legend required by the laws of the State of California, including any legend required by the California Department of Corporations and Sections 417 and 418 of the California Corporations Code.

(g) LIENS. The CGI Shares held by Affymetrix on the Closing Date are held by it free and clear of any Liens.

ARTICLE V

MISCELLANEOUS

SECTION 5.1 GOVERNING LAW. This Agreement shall be governed in all respects by the laws of the State of California without regard to the conflicts of laws principles thereof.

SECTION 5.2 SURVIVAL; INDEMNIFICATION. The representations, warranties, covenants and agreements contained in this Agreement shall survive the execution and delivery of this Agreement and the Closing. Each party agrees to indemnify each other party against any and all claims, demands, losses, damages, liabilities, lawsuits, and other proceedings, judgments and awards, and costs and expenses (including reasonable attorneys' fees and expenses) incurred by such other party or any Affiliate of such other party arising from any breach by such party of any of its representations, warranties, covenants or agreements in this Agreement.

SECTION 5.3 SUCCESSORS AND ASSIGNS. This Agreement shall inure to the benefit of, and be binding upon, the parties and their successors and permitted assigns. Except as otherwise expressly provided herein, the rights and obligations hereunder may not be assigned or delegated by any party hereto without the prior written consent of each other party; provided, however, that Affymetrix may assign this Agreement to any of its Affiliates or to any Person (or any of such Person's Affiliates) that consolidates or merges with or into, or otherwise acquires, Affymetrix or the business of Affymetrix to which this Agreement relates or purchases, leases or otherwise acquires all or substantially all of the assets of Affymetrix or the assets of that part of the business of Affymetrix to which this Agreement relates. Any assignment or delegation contrary to the provisions hereof shall be null and void.

SECTION 5.4 ENTIRE AGREEMENT. This Agreement, together with the Letter Agreement, dated as of the date hereof, among CGI, Affymetrix, N-Mer and Hyseq, constitutes the full and entire understanding and agreement between the parties with regard to the subject matter hereof.

SECTION 5.5 SEVERABILITY. In case any provision of the Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

SECTION 5.6 AMENDMENT AND WAIVER. This Agreement may be amended or modified, and any term or provision of this Agreement may be waived, only upon the written consent of the parties hereto.

SECTION 5.7 DELAYS OR OMISSIONS. It is agreed that no delay or omission to exercise any right, power or remedy accruing to a party, upon any breach, default or noncompliance by the party under this Agreement, shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach, default or noncompliance thereafter occurring. It is further agreed that any waiver, permit, consent or approval of any kind or character on either party's part of any breach, default or noncompliance under this Agreement or any waiver on such party's part of any provisions or conditions of this Agreement must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, by law, or otherwise afforded to any party, shall be cumulative and not alternative.

SECTION 5.8 NOTICES. All notices, consents or other communications shall be in writing, and shall be deemed to have been duly given and delivered when delivered by hand, or when mailed by registered or certified mail, return receipt requested, postage prepaid, or when received via telecopy, telex or other electronic transmission, in all cases addressed to the party for whom intended at its address set forth below:

If to CGI:

Callida Genomics, Inc.
670 Almanor Avenue
Sunnyvale, California 94085

Telephone: (408) 524-8100
Facsimile: (408) 524-8141
Attention: Dr. Radoje Drmanac

If to N-Mer:

N-Mer, Inc.
670 Almanor Avenue
Sunnyvale, California 94085

Telephone: (408) 524-8100

Facsimile: (408) 524-8141
Attention: Dr. Radoje Drmanac

with a copy to (which shall not constitute notice):

Latham & Watkins
135 Commonwealth Drive
Menlo Park, California 94025

Telephone: (650) 328-4600
Facsimile: (650) 463-2600
Attention: Alan C. Mendelson, Esq.

If to Affymetrix:

Affymetrix, Inc.
3380 Central Expressway
Santa Clara, California 95051

Telephone: (408) 731-5000
Facsimile: (408) 731-5394
Attention: General Counsel

with a copy to (which shall not constitute notice):

Sullivan & Cromwell
1870 Embarcadero Road
Palo Alto, California 94303

Telephone: (650) 461-5600
Facsimile: (650) 461-5700
Attention: John L. Savva, Esq.

or such other address as a party shall have designated by notice in writing to the other party given in the manner provided by this Section.

SECTION 5.9 TITLES AND SUBTITLES. The titles of the sections and subsections of the Agreement are for convenience of reference only and are not to be considered in construing this Agreement.

SECTION 5.10 COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

SECTION 5.11 BROKER'S FEES. Each party hereto represents and warrants that no agent, broker, investment banker, person or firm acting on behalf of or under the authority of

such party hereto is or will be entitled to any broker's or finder's fee or any other commission directly or indirectly in connection with the transactions contemplated herein.

SECTION 5.12 EXPENSES. Each party shall pay all costs and expenses that it incurs with respect to the negotiation, execution, delivery and performance of this Agreement and all of the transactions contemplated herein.

SECTION 5.13 ATTORNEY'S FEES. If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, costs and necessary disbursements in addition to any other relief to which such party may be entitled.

SECTION 5.14 FURTHER ASSURANCES. Each party shall use its respective reasonable efforts at any time and from time to time to execute and deliver to the applicable party such further documents and instruments and to take all such further actions as such other party to this Agreement reasonably may request to consummate the transactions contemplated by this Agreement.

SECTION 5.15 REQUIRED APPROVALS As promptly as practicable after the delivery of the Exercise Notice, CGI shall, and shall cause N-Mer to, make all filings required to be made by them in order to consummate the sale of the Option Shares to Affymetrix (including all filings under the HSR Act). Between the date of the delivery of the Exercise Notice and the Closing Date, CGI shall, and shall cause N-Mer to, cooperate with Affymetrix with respect to all filings that Affymetrix reasonably elects to make or is required to make in connection with the sale of the Option Shares to Affymetrix (including taking all actions reasonably requested by Affymetrix to cause early termination of any applicable waiting period under the HSR Act).

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date set forth in the first paragraph hereof.

CALLIDA GENOMICS, INC.

By: /s/ George B. Rathmann

Name: George B. Rathmann
Title: Chairman and Interim Chief Executive Officer

N-MER, INC.

By: /s/ George B. Rathmann

Name: George B. Rathmann
Title: Chairman and Interim Chief Executive Officer

AFFYMETRIX, INC.

By: /s/ Barbara A. Caulfield

Name: Barbara A. Caulfield
Title: Executive Vice President and General Counsel

NOTICE OF EXERCISE

The undersigned _____, a__ , pursuant to the provisions of that certain Option Agreement, entered into as of October __, 2001 (the "Agreement"), among Callida Genomics, Inc., a Delaware corporation ("CGI"), N-Mer, Inc., a Delaware corporation ("N-Mer"), and Affymetrix, Inc., a Delaware corporation ("Affymetrix"), hereby agrees to purchase [81] shares of Common Stock, par value $0.001 per share, of N-Mer.

The undersigned further acknowledges that it has reviewed the representations and warranties contained in Section 4.2 of the Agreement and by its signature below hereby makes such representations and warranties to CGI and agrees to be bound by all the terms and conditions contained in the Agreement.

Dated: _____

[AFFYMETRIX, INC.]

_____

Name:

Title:

AMENDMENT TO THE OPTION AGREEMENT

This Amendment to the Option Agreement (this "Amendment") is entered into as of November 13, 2001, among Callida Genomics, Inc., a Delaware corporation ("CGI"), N-Mer, Inc., a Delaware corporation ("N-Mer"), and Affymetrix, Inc., a Delaware corporation ("Affymetrix").

WHEREAS, CGI, N-Mer and Affymetrix entered into the Option Agreement (the "Agreement") on October 24, 2001; and

WHEREAS, the parties hereto desire to correct a mistake in Section 4.1(b) of the Agreement relating to the capitalization of N-Mer.

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements set forth herein, the parties hereto hereby agree as follows:

1. AMENDMENT TO SECTION 4.1(b) OF THE AGREEMENT. Section 4.1(b) of the Agreement is hereby amended to replace the number "1,000" appearing in the first sentence of such section with the number "100".

2. NO OTHER AMENDMENTS; EFFECT OF AMENDMENT. Except as expressly amended by Section 1 of this Amendment, the Agreement shall remain in full force and effect in the form in which it existed immediately prior to the execution and delivery of this Amendment. This Amendment shall be deemed effective, and Section 4.1(b) shall be deemed amended, for all purposes, as of the time of first signing of the Agreement.

3. GOVERNING LAW. This Amendment shall be governed in all respects by the laws of the State of California without regard to the conflicts of laws principles thereof.

4. ENTIRE AGREEMENT. This Amendment, together with the Agreement and the Letter Agreement, dated as of October 24, 2001, among CGI, Affymetrix, N-Mer and Hyseq, constitutes the full and entire understanding and agreement between the parties with regard to the subject matter hereof.

5. COUNTERPARTS. This Amendment may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

6. EXPENSES. Each party shall pay all costs and expenses that it incurs with respect to the negotiation, execution, delivery and performance of this Amendment and all of the transactions contemplated herein.

7. DEFINITIONS. Capitalized terms used but not defined herein shall have the meaning ascribed to them in the Agreement.

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment to the Option Agreement as of the date set forth in the first paragraph hereof.

CALLIDA GENOMICS, INC.

By:_____
Name:
Title:

N-MER, INC.

By:_____
Name:
Title:

AFFYMETRIX, INC.

By:_____
Name:
Title:

(Signature page to Amendment to the Option Agreement)

EXHIBIT 10.25

HYSEQ INC.

STOCK OPTION AGREEMENT

Granted To	Grant Date	Number of Shares	Price Per Share	Social Security Number
George B. Rathmann	February 1, 2000	1,000,000	$31.688	

1. You are hereby granted, in connection with and in partial consideration of your initial employment by Hyseq, Inc. (the "COMPANY") as its Chairman of the Board, an option (the "OPTION") to purchase, at the above stated price, upon and subject to the provisions and conditions hereinafter set forth, 1,000,000 shares of common stock, $.001 par value per share ("COMMON STOCK"), of the Company, which Option shall become exercisable for the number of shares and on the dates as shown below. This Option is a non-statutory stock option, which is not granted under any stock option plan sponsored by the Company, and is neither designated as, nor intended to be, an incentive stock option.

Number of Shares	Accrual Date
333,333	February 1, 2000
333,333	February 1, 2001
333,334	February 1, 2002

Unless earlier terminated pursuant to the terms of this Agreement, the Option shall expire on January 31, 2010.

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I hereby acknowledge receipt of this Option and understand that it is governed by the terms of this contract. I acknowledge that I am aware of the provisions contained in this contract whereby the Board of Directors of the Company (the "BOARD OF DIRECTORS") may terminate or amend this contract. I further acknowledge that the grant hereby made to me does not, under any circumstances, create any right for me to receive any grant in the future.

/s/ GEORGE B. RATHMANN Date 2/1/2000

George B. Rathmann

2. To exercise your Option to purchase any shares hereunder, it shall be necessary for you, on or after the date on which such purchase privilege accrues and prior to the above-stated expiration date, to make payment in full to the Company, in cash or in Common Stock of the Company or in a combination thereof, for the shares which you so elect to purchase, at the price per share herein described, whereupon you will receive the shares for which you thus make payment; provided, however, if all or part of the payment is in shares of Common Stock of the Company, that if such shares were acquired pursuant to an incentive stock option plan (as defined in Section 422 of the Internal Revenue Code of 1986, as amended (the "CODE")) of the Company, then the applicable holding period requirements of Section 422 of the Code have been met with respect to such shares, and, provided further, that if you are subject to the reporting requirements of Section 16 of the Securities Exchange Act of 1934, as amended from time to time, then, if (i) such shares were granted pursuant to an option, then such option must have been granted at least six (6) months prior to the exercise of the Option hereunder, and (ii) such shares were purchased other than through the grant and exercise of an option, such shares were owned by you for more than six (6) months prior to the exercise of the Option hereunder. If all or part of the payment is in shares of Common Stock of the Company, such shares shall be valued at their fair market value on the date of exercise.

3. The Board of Directors reserves and shall have the right, by written notice to you, to amend or terminate the provisions of this contract in any manner that it may deem necessary or advisable to carry out the purpose of this grant as the result of, or to comply with, any change in applicable regulations, interpretation or statutory enactment, provided that any such change shall be applicable only to the shares for which payment shall not then have been made as herein provided.

4. Upon the termination of your employment with the Company for any reason or no reason, the unvested portion of the Option shall be forfeited. Except as set forth in Paragraph 5, the vested unexercised portion of the Option shall be exercisable by you for a period of thirty (30) days following such a termination of your employment, or, if earlier, until the expiration of the originally prescribed term of the Option. Upon the expiration of such thirty (30) day period (or, if earlier, the originally prescribed term of the Option), the unexercised Option shall expire and be forfeited.

5. Upon the termination of your employment with the Company as the result of your death or disability while an employee, the outstanding vested portion of the Option will be exercisable by you (or your legal representative or designated beneficiary) for one (1) year following your death or disability, or, if earlier, until the expiration of the originally prescribed term of the Option. Upon the expiration of such one (1) year period (or, if earlier, the originally prescribed term of the Option), the unexercised Option shall expire and be forfeited. For purposes of this Agreement, disability shall mean permanent and total disability as defined in Section 22(e)(3) of the Code.

6. (a) If the outstanding shares of Common Stock are increased, decreased or changed into, or exchanged for, a different number or kind of shares or securities of the Company through a reorganization or merger in which the Company is the surviving entity, or through a combination, recapitalization, reclassification, stock split, stock dividend, stock consolidation or otherwise, an appropriate adjustment shall be made in the number and kind of shares that may be issued pursuant to the Option. The corresponding adjustment to the consideration payable with respect to the Option shall also be made. Any such adjustment, however, shall be made without change to the total payment, if any, applicable to the portion of the Option not exercised with a corresponding adjustment in the price for each share.

(b) In the event of a "change of control" of the Company, the Option, whether or not exercisable pursuant to the schedule set forth in Paragraph 1 at the time of the change of control, shall become immediately exercisable. A change of control shall be deemed to occur on the earliest of (i) the acquisition by any entity, person, or group of beneficial ownership, as that term is defined in Rule 13d-3 under the Securities Exchange Act of 1934, of more than 50% of the outstanding capital stock of the Company entitled to vote for the election of directors ("VOTING STOCK"); (ii) the commencement by any entity, person, or group (other than the Company or a subsidiary of the Company) of a tender offer or an exchange offer for more than 50% of the outstanding Voting Stock of The Company; (iii) the effective time of (A) a merger or consolidation of the Company with one or more corporations as a result of which the holders of the outstanding Voting Stock of the Company immediately prior to such merger hold less than 50% of the Voting Stock of the surviving or resulting corporation, or (B) a transfer of substantially all of the property or assets of the Company other than to an entity of which the Company owns at least 80% of the Voting Stock; or (iv) the election to the Board, without the recommendation or approval of the incumbent Board of the lesser of (A) three directors, or (B) directors constituting a majority of the number of directors of the Company then in office.

7. The Option herein granted shall be exercisable during your lifetime only by you or your legal representative, and in the event of your death then thereafter only by your beneficiary, and in any event only in accordance with and subject to the provisions and conditions herein set forth. You may name, from time to time, any beneficiary or beneficiaries (who may be named contingently or successively). Each designation will revoke all prior designations and will be effective only when filed in writing with the Company during your lifetime. In the absence of any such designation, your estate shall be deemed to be your beneficiary.

8. This contract and the purchase privilege or Option herein granted shall not otherwise by transferable by you, expressly or by operation of law, and any attempted transfer or other disposition thereof by you shall be void and shall nullify this Option and result in the cancellation of this contract by the Company.

9. If the exercise of this Option requires withholding of tax under any law, including, without limitation, under any federal, state or local law, the Company may require you to pay to it or may withhold from your compensation, at its discretion, the amount of such withholding prior to issuing any Common Stock or retain such amount from any payment otherwise due to you.

10. Neither this Option nor any shares to be acquired pursuant to the exercise of any rights relating to this Option have been or will be registered under any securities laws other than the federal securities laws of the United States and the Company has no obligation to register this Option or any such shares. Any shares acquired pursuant to rights relating to this Option may not be sold, transferred or otherwise traded in the absence of registration under or an exemption from any applicable requirements of any securities laws applicable to you, and each certificate representing such shares shall bear an appropriate legend to such effect, if applicable.

11. Nothing in this contract shall interfere with or limit in any way the right of the Company to terminate employment at any time, nor confer upon you any right to continue in the employ of the Company for any period of time or to continue your present or any other rate of compensation.

12. The issuance of shares of Common Stock shall be subject to all applicable laws, rules and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required. It is the intent of the parties that: (i) the terms of this contract shall be governed by, and construed in accordance with, the laws of the State of Nevada, and (ii) the terms of the contract shall be subject to the jurisdiction of the courts of the State of Nevada

13. Please acknowledge receipt of this Option at the bottom of the duplicate copy of the first page herewith enclosed and return the same within thirty (30) days from the date you receive this Option Agreement to the office of Hyseq, Inc., Attention: Lewis S. Gruber, 670 Almanor Avenue, Sunnyvale, California 94086.

HYSEQ, INC.

By: /s/ LEWIS S. GRUBER

Lewis S. Gruber
Its: President and Chief Executive Officer

EXHIBIT 10.26

HYSEQ INC.

STOCK OPTION AGREEMENT

Granted To	Grant Date	Number of Shares	Price Per Share	Social Security Number
George B. Rathmann	August 21, 2001	1,000,000	$8.635	

1. You are hereby granted, in connection with and in partial consideration of your continued employment by Hyseq, Inc. (the "Company") as its Chairman of the Board, an option (the "Option") to purchase, at the above stated price, upon and subject to the provisions and conditions hereinafter set forth, 1,000,000 shares of common stock, $.001 par value per share ("Common Stock"), of the Company, which Option shall become exercisable for the number of shares as shown below on the later of (i) the accrual date set forth below and (ii) such date whereon the stockholders of the Company approve the grant of this Option. This Option is a non-statutory stock option, which is not granted under any stock option plan sponsored by the Company, and is neither designated as, nor intended to be, an incentive stock option.

Number of Shares	Accrual Date
1/4th of total number of shares	one year after grant date
1/48th of total number of shares	each monthly anniversary after the one year anniversary of the grant date

Unless earlier terminated pursuant to the terms of this Agreement, the Option shall expire on ten years minus one day after the date of grant.

I hereby acknowledge receipt of this Option and understand that it is governed by the terms of this contract. I acknowledge that I am aware of the provisions contained in this contract whereby the Board of Directors of the Company (the "Board of Directors") may terminate or amend this contract. I further acknowledge that the grant hereby made to me does not, under any circumstances, create any right for me to receive any grant in the future.

/s/ GEORGE B. RATHMANN Date 8/21/2001

George B. Rathmann

2. To exercise your Option to purchase any shares hereunder, it shall be necessary for you, on or after the date on which such purchase privilege accrues and prior to the above-stated expiration date, to make payment in full to the Company, in cash or in Common Stock of the Company or in a combination thereof, for the shares which you so elect to purchase, at the price per share herein described, whereupon you will receive the shares for which you thus make payment; provided, however, if all or part of the payment is in shares of Common Stock of the Company, that if such shares were acquired pursuant to an incentive stock option plan (as defined in Section 422 of the Internal Revenue Code of 1986, as amended (the "Code")) of the Company, then the applicable holding period requirements of Section 422 of the Code have been met with respect to such shares, and, provided further, that if you are subject to the reporting requirements of Section 16 of the Securities Exchange Act of 1934, as amended from time to time, then, if (i) such shares were granted pursuant to an option, then such option must have been granted at least six (6) months prior to the exercise of the Option hereunder, and (ii) such shares were purchased other than through the grant and exercise of an option, such shares were owned by you for more than six (6) months prior to the exercise of the Option hereunder. If all or part of the payment is in shares of Common Stock of the Company, such shares shall be valued at their fair market value on the date of exercise.

3. The Board of Directors reserves and shall have the right, by written notice to you, to amend or terminate the provisions of this contract in any manner that it may deem necessary or advisable to carry out the purpose of this grant as the result of, or to comply with, any change in applicable regulations, interpretation or statutory enactment, provided that any such change shall be applicable only to the shares for which payment shall not then have been made as herein provided.

4. Upon the termination of your employment with the Company for any reason or no reason, the unvested portion of the Option shall be forfeited. Except as set forth in Paragraph 5, the vested unexercised portion of the Option shall be exercisable by you for a period of thirty (30) days following such a termination of your employment, or, if earlier, until the expiration of the originally prescribed term of the Option. Upon the expiration of such thirty (30) day period (or, if earlier, the originally prescribed term of the Option), the unexercised Option shall expire and be forfeited.

5. Upon the termination of your employment with the Company as the result of your death or disability while an employee, the outstanding vested portion of the Option will be exercisable by you (or your legal representative or designated beneficiary) for one (1) year following your death or disability, or, if earlier, until the expiration of the originally prescribed term of the Option. Upon the expiration of such one (1) year period (or, if earlier, the originally prescribed term of the Option), the unexercised Option shall expire and be forfeited. For purposes of this Agreement, disability shall mean permanent and total disability as defined in Section 22(e)(3) of the Code.

6.(a) If the outstanding shares of Common Stock are increased, decreased or changed into, or exchanged for, a different number or kind of shares or securities of the Company through a reorganization or merger in which the Company is the surviving entity, or through a combination, recapitalization, reclassification, stock split, stock

dividend, stock consolidation or otherwise, an appropriate adjustment shall be made in the number and kind of shares that may be issued pursuant to the Option. The corresponding adjustment to the consideration payable with respect to the Option shall also be made. Any such adjustment, however, shall be made without change to the total payment, if any, applicable to the portion of the Option not exercised with a corresponding adjustment in the price for each share.

(b) In the event of a "change of control" of the Company, the Option, whether or not exercisable pursuant to the schedule set forth in Paragraph 1 at the time of the change of control, shall become immediately exercisable. A change of control shall be deemed to occur on the earliest of (i) the acquisition by any entity, person, or group of beneficial ownership, as that term is defined in Rule 13d-3 under the Securities Exchange Act of 1934, of more than 50% of the outstanding capital stock of the Company entitled to vote for the election of directors ("Voting Stock"); (ii) the commencement by any entity, person, or group (other than the Company or a subsidiary of the Company) of a tender offer or an exchange offer for more than 50% of the outstanding Voting Stock of The Company; (iii) the effective time of (A) a merger or consolidation of the Company with one or more corporations as a result of which the holders of the outstanding Voting Stock of the Company immediately prior to such merger hold less than 50% of the Voting Stock of the surviving or resulting corporation, or (B) a transfer of substantially all of the property or assets of the Company other than to an entity of which the Company owns at least 80% of the Voting Stock; or (iv) the election to the Board, without the recommendation or approval of the incumbent Board of the lesser of (A) three directors, or (B) directors constituting a majority of the number of directors of the Company then in office.

7. The Option herein granted shall be exercisable during your lifetime only by you or your legal representative, and in the event of your death then thereafter only by your beneficiary, and in any event only in accordance with and subject to the provisions and conditions herein set forth. You may name, from time to time, any beneficiary or beneficiaries (who may be named contingently or successively). Each designation will revoke all prior designations and will be effective only when filed in writing with the Company during your lifetime. In the absence of any such designation, your estate shall be deemed to be your beneficiary.

8. This contract and the purchase privilege or Option herein granted shall not otherwise by transferable by you, expressly or by operation of law, and any attempted transfer or other disposition thereof by you shall be void and shall nullify this Option and result in the cancellation of this contract by the Company.

9. If the exercise of this Option requires withholding of tax under any law, including, without limitation, under any federal, state or local law, the Company may require you to pay to it or may withhold from your compensation, at its discretion, the amount of such withholding prior to issuing any Common Stock or retain such amount from any payment otherwise due to you.

10. Neither this Option nor any shares to be acquired pursuant to the exercise of any rights relating to this Option have been or will be registered under any securities laws other than the federal securities laws of the United States and the Company has no obligation to register this Option or any such shares. Any shares acquired pursuant to rights relating to this Option may not be sold, transferred or otherwise traded in the absence of registration under or an exemption from any applicable requirements of any securities laws applicable to you, and each certificate representing such shares shall bear an appropriate legend to such effect, if applicable.

11. Nothing in this contract shall interfere with or limit in any way the right of the Company to terminate employment at any time, nor confer upon you any right to continue in the employ of the Company for any period of time or to continue your present or any other rate of compensation.

12. The issuance of shares of Common Stock shall be subject to all applicable laws, rules and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required. It is the intent of the parties that: (i) the terms of this contract shall be governed by, and construed in accordance with, the laws of the State of Nevada, and (ii) the terms of the contract shall be subject to the jurisdiction of the courts of the State of Nevada.

13. Please acknowledge receipt of this Option at the bottom of the duplicate copy of the first page herewith enclosed and return the same within thirty (30) days from the date you receive this Option Agreement to the office of Hyseq, Inc., Attention: Ted W. Love, 670 Almanor Avenue, Sunnyvale, California 94085.

HYSEQ, INC.

By: /s/ Ted W. Love

Ted W. Love
President and Chief Executive Officer

Exhibit 21.1

Subsidiaries of Hyseq, Inc. as of December 31, 2001:

1. Hyseq Diagnostics, Inc., a Nevada corporation

2. Callida Genomics, Inc., a Delaware corporation

3. N-Mer, Inc., a Delaware corporation

EXHIBIT 23.1

Consent of KPMG LLP, Independent Auditors

We consent to the incorporation by reference in the registration statement on Form S-3 (No. 333-70134) and the registration statements on Form S-8 (Nos. 333-68172 and 333-68170) of Hyseq, Inc. of our report dated February 5, 2002, relating to the consolidated balance sheets of Hyseq, Inc. as of December 31, 2001 and 2000 and the related consolidated statements of operations, stockholders' equity and cash flows for the years then ended, which report appears in the December 31, 2001, annual report on Form 10-K of Hyseq, Inc.

/s/ KPMG LLP

San Francisco, California
March 28, 2002

Exhibit 23.2

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the registration statement (Form S-3 No. 333-70134) and the related prospectus and in the registration statements (Form S-8) pertaining to (Nos. 333-68172 and 333-68170) the 1995 Stock Option Plan and, the Non-Employee Director Stock Option Plan of Hyseq, Inc. of our report dated February 2, 2000, with respect to the consolidated statements of operations, stockholders' equity and cash flows for the year ended December 31, 1999, included in its Annual Report (Form 10-K) for the year ended December 31, 2001.

Palo Alto, California
March 29, 2002