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Registration No. 333-6729

3,527,991 SHARES

[LEXICON LOGO]

# LEXICON GENETICS INCORPORATED

COMMON STOCK

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This prospectus relates to the resale of previously issued shares of our common stock by selling stockholders. The selling stockholders are offering up to 3,527,991 shares of our common stock.

We will not receive any proceeds from the sale of the shares offered by the selling stockholders.

The selling stockholders may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Our common stock is listed on The Nasdaq National Market under the symbol "LEXG". The last reported sale price on September 27, 2001 was $7.00 per share.

INVESTING IN THE COMMON STOCK INVOLVES RISKS. SEE "RISK FACTORS" BEGINNING ON PAGE 4.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is October 1, 2001.

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YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS DOCUMENT OR TO WHICH WE HAVE REFERRED YOU. NEITHER WE NOR THE SELLING STOCKHOLDERS HAVE AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT. THIS DOCUMENT MAY ONLY BE USED WHERE IT IS LEGAL TO SELL THESE SECURITIES. THE INFORMATION IN THIS DOCUMENT MAY ONLY BE ACCURATE ON THE DATE OF THIS DOCUMENT.

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In this prospectus, "Lexicon," "we," "us" and "our" refer to Lexicon Genetics Incorporated.

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## LEXICON GENETICS INCORPORATED

Lexicon Genetics Incorporated is a drug discovery company of the post-genome era, using gene knockout technology to define the functions of genes for the discovery of pharmaceutical products. We are using this technology to expand our LexVision program and fuel drug discovery programs in cancer, cardiovascular disease, immune disorders, neurological disease, diabetes and obesity. We have established drug discovery alliances and functional genomics collaborations with leading pharmaceutical and biotechnology companies, research institutions and academic institutions throughout the world to commercialize our technology and further develop our discoveries.

We generate our gene function discoveries using knockout mice - mice whose DNA has been altered to disrupt, or "knock out," the function of the altered gene. Our patented gene trapping and gene targeting technologies enable us to rapidly generate these knockout mice by altering the DNA of genes in a special variety of mouse cells, called embryonic stem (ES) cells, which can be cloned and used to generate mice with the altered gene. We employ an integrated platform of advanced medical technologies to systematically discover the functions and potential pharmaceutical uses of the genes we have knocked out. We believe that our LexVision database, which captures and catalogues the information resulting from this analysis, and our OmniBank library of more than 150,000 knockout mouse clones provide us and our collaborators significant opportunities to discover and develop pharmaceutical products based on genomics - the study of genes and their function.

In July 2001, we acquired Coelacanth Corporation, a company that uses proprietary chemistry technologies to rapidly discover new chemical entities for drug development. Coelacanth forms the core of our new Lexicon Pharmaceuticals division, combining our novel, functionally defined targets from the human genome with high performance chemistry technologies to discover new drugs. We believe the combination of our industrialized in vivo gene function discovery platform with Coelacanth's established chemistry capability will place us in a superior position to form drug discovery alliances.

Lexicon Genetics was incorporated in Delaware in July 1995, and commenced operations in September 1995. Our corporate headquarters are located at 4000 Research Forest Drive, The Woodlands, Texas 77381, and our telephone number is (281) 364-0100. Our corporate website is located at www.lexicon-genetics.com. Information found on our website should not be considered part of this prospectus.

## RISK FACTORS

You should carefully consider the following risk factors and all other information contained in this prospectus before purchasing our common stock. Investing in our common stock involves a high degree of risk. If any of the following risks actually occurs, we may not be able to conduct our business as currently planned and our financial condition and operating results could be seriously harmed. In addition, the trading price of our common stock could decline due to the occurrence of any of these risks, and you may lose all or part of your investment. See "Special Note Regarding Forward-Looking Statements."

### RISKS RELATED TO OUR BUSINESS

#### WE HAVE A HISTORY OF NET LOSSES, AND WE EXPECT TO CONTINUE TO INCUR NET LOSSES AND MAY NOT ACHIEVE OR MAINTAIN PROFITABILITY

We have incurred net losses since our inception, including net losses of approximately $26.0 million for the year ended December 31, 2000 and $17.9 million for the six months ended June 30, 2001. As of June 30, 2001, we had an accumulated deficit of approximately $72.8 million. We are unsure when we will become profitable, if ever. The size of our net losses will depend, in part, on the rate of growth, if any, in our revenues and on the level of our expenses.

We derive substantially all of our revenues from subscriptions to our databases, functional genomics collaborations for the development and, in some cases, analysis of knockout mice, and technology licenses, and will continue to do so for the foreseeable future. Revenues from database subscriptions, collaborations and licenses are uncertain because our existing agreements have fixed terms or relate to specific projects of limited duration. Our ability to secure future agreements will depend upon our ability to address the needs of our potential future subscribers and collaborators.

A large portion of our expenses are fixed, including expenses related to facilities, equipment and personnel. In addition, we expect to spend significant amounts to fund research and development and to enhance our core technologies. As a result, we expect that our operating expenses will increase significantly in the near term and, consequently, we will need to generate significant additional revenues to achieve profitability. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis.

#### OUR QUARTERLY OPERATING RESULTS HAVE BEEN AND LIKELY WILL CONTINUE TO FLUCTUATE, AND WE BELIEVE THAT QUARTER-TO-QUARTER COMPARISONS OF OUR OPERATING RESULTS ARE NOT A GOOD INDICATION OF OUR FUTURE PERFORMANCE

Our quarterly operating results have fluctuated in the past and are likely to do so in the future. In addition to the risks and uncertainties described in this section, some of the factors that could cause our operating results to fluctuate include:

- our ability to establish new database subscriptions or research contracts with collaborators and new technology licenses, and the timing of such arrangements;
- the expiration or other termination of database subscriptions or research contracts with our collaborators or technology licenses, which may not be renewed or replaced;
- the success rate of our discovery efforts leading to milestone payments and royalties;
- the timing and willingness of our collaborators to commercialize pharmaceutical products which would result in milestone payments and royalties; and
- general and industry-specific economic conditions, which may affect our and our collaborators' research and development expenditures.

Due to the likelihood of fluctuations in our revenues and expenses, we believe that quarter-to-quarter comparisons of our operating results are not a good indication of our future performance. Our operating results in

some quarters may not meet the expectations of stock market analysts and investors. In that case, our stock price would probably decline.

WE ARE AN EARLY-STAGE COMPANY WITH AN UNPROVEN BUSINESS STRATEGY

Our business strategy of using our gene sequence databases and knockout mice to select promising candidates for drug target development and commercializing our discoveries through collaborations and alliances is unproven. Our success will depend upon our ability to enter into additional collaboration and alliance agreements on favorable terms, determine which genes have potential value and select an appropriate commercialization strategy for each potential product we or our collaborators choose to pursue.

Biotechnology and pharmaceutical companies have successfully developed and commercialized only a limited number of gene-based pharmaceutical products to date. We have not proven our ability to identify gene-based drugs or drug targets with commercial potential, or to develop or commercialize drugs or drug targets that we do identify. It is difficult to successfully select those genes with the most potential for commercial development, and we do not know that any pharmaceutical products based on genes that we discover can be successfully commercialized. In addition, we may experience unforeseen technical complications in the processes we use to generate our gene sequence database and functional genomics resources. These complications could materially delay or limit the use of those databases and resources, substantially increase the anticipated cost of generating them or prevent us from implementing our processes at appropriate quality and throughput levels.

WE FACE SUBSTANTIAL COMPETITION IN THE DISCOVERY OF THE DNA SEQUENCES OF GENES AND THEIR FUNCTIONS AND IN OUR DRUG DISCOVERY AND PRODUCT DEVELOPMENT EFFORTS

There are a finite number of genes in the human genome, and we believe that the majority of such genes have been identified by us or others conducting genomic research and that virtually all will be identified within the next few years. We face significant competition in our efforts to discover and patent the sequence and other information derived from such genes from entities using alternative, and in some cases higher volume and larger scale, approaches for the same purpose.

We also face competition from entities using more traditional methods to discover genes related to particular diseases. Many of these entities have substantially greater financial, scientific and human resources than we do. A large number of universities and other not-for-profit institutions, many of which are funded by the U.S. and foreign governments, are also conducting research to discover genes. A substantial portion of this research has been conducted under the international Human Genome Project, a multi-billion dollar program funded by the U.S. government and The Wellcome Trust. One or more of these entities may discover and establish a patent position in one or more of the genes that we wish to study or use in the development of a pharmaceutical product.

We face significant competition in our drug discovery and product development efforts from entities using traditional knockout mouse technology and other functional genomics technologies, as well as from those using other traditional drug discovery techniques. These competitors may develop products earlier than we do, obtain regulatory approvals faster than we can and develop products that are more effective than ours. Our ability to use our patent rights to prevent competition in the creation and use of knockout mice is more limited outside of the United States. Competitors could discover and establish patents in genes or gene products that we or our collaborators identify as a drug target or therapeutic protein. Numerous companies, academic institutions and government consortia are engaged in efforts to determine the function of genes and gene products. Furthermore, other methods for conducting functional genomics research may ultimately prove superior, in some or all respects, to the use of knockout mice. In addition, technologies more advanced than or superior to our gene trapping technology may be developed, thereby rendering our gene trapping technology obsolete.

WE RELY HEAVILY ON COLLABORATORS TO DEVELOP AND COMMERCIALIZE PHARMACEUTICAL PRODUCTS BASED ON GENES THAT WE IDENTIFY AS PROMISING CANDIDATES FOR DEVELOPMENT AS DRUG TARGETS

Since we do not currently possess the resources necessary to develop, obtain approvals for or commercialize potential pharmaceutical products based on genes contained in our databases or genes that we identify as promising candidates for development as drug targets or therapeutic proteins, we must enter into

collaborative arrangements to develop and commercialize these products. We will have limited or no control over the resources that any collaborator may devote to this effort. Any of our present or future collaborators may not perform their obligations as expected. These collaborators may breach or terminate their agreements with us or otherwise fail to conduct product discovery, development or commercialization activities successfully or in a timely manner. Further, our collaborators may elect not to develop pharmaceutical products arising out of our collaborative arrangements or may not devote sufficient resources to the development, approval, manufacture, marketing or sale of these products. If any of these events occurs, we may not be able to develop or commercialize potential pharmaceutical products.

Some of our agreements provide us with rights to participate in the commercial development of compounds or therapeutic approaches derived from our collaborations or access to our databases, technology or intellectual property. We may not be able to obtain such rights in future collaborations or agreements. Our ability to obtain such rights depends in part on the validity of our intellectual property, the advantages and novelty of our technologies and databases and our negotiating position relative to each potential collaborator or customer. Previous attempts by others in the industry to obtain these rights with respect to the development of knockout mice and related technologies have generated considerable controversy, especially in the academic community.

ANY CANCELLATION BY OR CONFLICTS WITH OUR COLLABORATORS COULD HARM OUR BUSINESS

Our collaboration agreements may not be renewed and may be terminated in the event either party fails to fulfill its obligations under these agreements. Any failure to renew or cancellation by a collaborator could mean a significant loss of revenues and volatility in our earnings.

In addition, we may pursue opportunities in fields that could conflict with those of our collaborators. Moreover, disagreements could arise with our collaborators over rights to our intellectual property or our rights to share in any of the future revenues of compounds or therapeutic approaches developed by our collaborators. These kinds of disagreements could result in costly and time-consuming litigation. Any conflict with our collaborators could reduce our ability to obtain future collaboration agreements and could have a negative impact on our relationship with existing collaborators, adversely affecting our business and revenues. Some of our collaborators could also become competitors in the future. Our collaborators could develop competing products, preclude us from entering into collaborations with their competitors or terminate their agreements with us prematurely. Any of these developments could harm our product development efforts.

WE HAVE NO EXPERIENCE IN DEVELOPING AND COMMERCIALIZING PHARMACEUTICAL PRODUCTS ON OUR OWN

Our ability to develop and commercialize pharmaceutical products on our own will depend on our ability to internally develop preclinical, clinical, regulatory and sales and marketing capabilities, or enter into arrangements with third parties to provide those functions. We may not be successful in developing these capabilities or entering into agreements with third parties on favorable terms, or at all. Further, our reliance upon third parties for these capabilities could reduce our control over such activities and could make us dependent upon these parties. Our inability to develop or contract for these capabilities would significantly impair our ability to develop and commercialize pharmaceutical products.

WE MAY ENGAGE IN FUTURE ACQUISITIONS, WHICH MAY BE EXPENSIVE AND TIME CONSUMING AND FROM WHICH WE MAY NOT REALIZE ANTICIPATED BENEFITS

We may acquire additional businesses, technologies and products, if we determine that these businesses, technologies and products complement our existing technology or otherwise serve our strategic goals. We currently have no commitments or agreements with respect to any acquisitions. If we do undertake any transactions of this sort, the process of integrating an acquired business, technology or product may result in operating difficulties and expenditures and may absorb significant management attention that would otherwise be available for ongoing development of our business. Moreover, we may never realize the anticipated benefits of any acquisition. Future acquisitions could result in potentially dilutive issuances of our equity securities, the incurrence of debt and contingent liabilities and amortization expenses related to goodwill and other intangible assets, which could adversely affect our results of operations and financial condition.

IF WE LOSE OUR KEY PERSONNEL OR ARE UNABLE TO ATTRACT AND RETAIN ADDITIONAL PERSONNEL, WE MAY BE UNABLE TO PURSUE COLLABORATIONS OR DEVELOP OUR OWN PRODUCTS

We are highly dependent on Arthur T. Sands, M.D., Ph.D., our president and chief executive officer, as well as other principal members of our management and scientific staff. The loss of any of these personnel would have a material adverse effect on our business, financial condition or results of operations and could inhibit our product development and commercialization efforts. Although we have entered into employment agreements with some of our key personnel, including Dr. Sands, these employment agreements are for a limited period of time and not all key personnel have employment agreements.

Recruiting and retaining qualified scientific personnel to perform future research and development work will be critical to our success. Competition for experienced scientists is high. Failure to recruit and retain scientific personnel on acceptable terms could prevent us from achieving our business objectives.

WE MAY ENCOUNTER DIFFICULTIES IN MANAGING OUR GROWTH, WHICH COULD INCREASE OUR LOSSES

We have experienced a period of rapid growth that has placed and, if this growth continues, will continue to place a strain on our human and capital resources. If we are unable to manage our growth effectively, our losses could increase. The number of our employees increased from 57 at December 31, 1997 to 93 at December 31, 1998, 122 at December 31, 1999, 287 at December 31, 2000 and 371 at June 30, 2001. We intend to increase the number of our employees significantly during the remainder of 2001. Our ability to manage our operations and growth effectively requires us to continue to expend funds to improve our operational, financial and management controls, reporting systems and procedures. If we are unable to successfully implement improvements to our management information and control systems in an efficient or timely manner, or if we encounter deficiencies in existing systems and controls, our management may not have adequate information to manage our day-to-day operations.

BECAUSE OUR ENTIRE OMNIBANK MOUSE CLONE LIBRARY IS LOCATED AT A SINGLE FACILITY, THE OCCURRENCE OF A DISASTER COULD SIGNIFICANTLY DISRUPT OUR BUSINESS

Our OmniBank mouse clone library and its back-up are stored in liquid nitrogen freezers located at our facility in The Woodlands, Texas. If a disaster such as a fire, flood, hurricane, tornado or similar event significantly damages or destroys the facility in which our mouse clone library and back-up are stored, our business could be disrupted until we could regenerate the library and, as a result, our stock price could decline. Our business interruption insurance may not be sufficient to compensate us in the event of a major interruption due to such a disaster.

WE MAY NEED ADDITIONAL CAPITAL IN THE FUTURE AND, IF IT IS NOT AVAILABLE, WE WILL HAVE TO CURTAIL OR CEASE OPERATIONS

Our future capital requirements will be substantial and will depend on many factors, including our ability to obtain database subscription and collaboration agreements and government grants, the amount and timing of payments under such agreements and grants, the level and timing of our research and development expenditures, market acceptance of our products, the resources we devote to developing and supporting our products and other factors. Our capital requirements will also be affected by any expenditures we make in connection with license agreements and acquisitions of and investments in complementary technologies and businesses.

We anticipate that our existing capital resources will enable us to maintain our currently planned operations for at least the next several years. However, changes may occur that would consume available capital resources significantly sooner than we expect. If our capital resources are insufficient to meet future capital requirements, we will have to raise additional funds to continue the development of our technologies and complete the commercialization of products, if any, resulting from our technologies. We may be unable to raise sufficient additional capital; if so, we will have to curtail or cease operations.

## RISKS RELATED TO OUR INDUSTRY

### OUR ABILITY TO PATENT OUR DISCOVERIES IS UNCERTAIN BECAUSE PATENT LAWS AND THEIR INTERPRETATION ARE HIGHLY UNCERTAIN AND SUBJECT TO CHANGE

The patent positions of biotechnology firms generally are highly uncertain and involve complex legal and factual questions that will determine who has the right to develop a particular product. No clear policy has emerged regarding the breadth of claims covered in biotechnology patents. The biotechnology patent situation outside the United States is even more uncertain and is currently undergoing review and revision in many countries. Changes in, or different interpretations of, patent laws in the United States and other countries might allow others to use our discoveries or to develop and commercialize our products without any compensation to us. We anticipate that these uncertainties will continue for a significant period of time.

### OUR PATENT APPLICATIONS MAY NOT RESULT IN ENFORCEABLE PATENT RIGHTS

Our disclosures in our patent applications may not be sufficient to meet the statutory requirements for patentability. Additionally, our current patent applications cover many genes and we expect to file patent applications in the future covering many more genes. As a result, we cannot predict which of our patent applications will result in the granting of patents or the timing of the granting of our patents. Our ability to obtain patent protection based on genes or partial gene sequences will depend, in part, upon identification of a function for the gene or gene sequences sufficient to meet the statutory requirement that an invention have utility and that a patent application describe the invention with sufficient specificity. While the U.S. Patent and Trademark Office has issued guidelines for the examination of patent applications claiming gene sequences, their therapeutic uses and novel proteins coded by such genes, the impact of these guidelines is uncertain and may delay or negatively impact our patent position. Biologic data in addition to that obtained by our current technologies may be required for issuance of patents or human therapeutics. If required, obtaining such biologic data could delay, add substantial costs to, or affect our ability to obtain patent protection. There can be no assurance that the disclosures in our current or future patent applications, including those we may file with our collaborators, will be sufficient to meet these requirements. Alternatively, if the level of biologic or other experimental data required to obtain a patent is determined to be minimal, then other companies who emphasize determining the gene sequence without significant biologic function information will obtain a prior and superior patent position to us and our collaborators. Even if patents are issued, there may be current or future uncertainty as to the scope of the coverage or protection provided by any such patents. In addition, the Human Genome Project, as well as many companies and institutions, have identified genes and deposited partial gene sequences in public databases and are continuing to do so. These public disclosures might limit the scope of our claims or make unpatentable subsequent patent applications on full-length genes.

Other companies or institutions have filed and will file patent applications that attempt to patent genes or gene sequences that may be similar to our patent applications. The U.S. Patent and Trademark Office could decide competing patent claims in an interference proceeding. Any such proceeding would be costly, and we may not prevail. In addition, patent applications filed by third parties may have priority over patent applications we file. In this event, the prevailing party may require us or our collaborators to stop pursuing a potential product or to negotiate a license arrangement to pursue the potential product. We may not be able to obtain a license from the prevailing party on acceptable terms, or at all.

Some court decisions indicate that disclosure of a partial sequence may not be sufficient to support the patentability of a full-length sequence. These decisions have been confirmed by recent pronouncements of the U.S. Patent and Trademark Office. We believe that these court decisions and the uncertain position of the U.S. Patent and Trademark Office present a significant risk that the U.S. Patent and Trademark Office will not issue patents based on patent disclosures limited to partial gene sequences, like those represented in our human gene trap database. In addition, we are uncertain about the scope of the coverage, enforceability and commercial protection provided by any patents issued on the basis of partial gene sequences.

IF OTHER COMPANIES AND INSTITUTIONS OBTAIN PATENTS CLAIMING THE FUNCTIONAL USES OF GENES AND GENE PRODUCTS BASED UPON GENE SEQUENCE INFORMATION AND PREDICTIONS OF GENE FUNCTION, WE MAY BE UNABLE TO OBTAIN PATENTS FOR OUR DISCOVERIES OF BIOLOGICAL FUNCTIONS IN KNOCKOUT MICE

We intend to pursue patent protection covering the novel uses and functions of new and known genes and proteins in mammalian physiology and disease states. While an actual description of the biological function of a gene or protein should enhance a patent position, we cannot assure you that such information will increase the probability of issuance of any patents. Further, many other entities are currently filing patents on genes which are identical or similar to our filings. Many such applications seek to protect partial human gene sequences, full-length gene sequences and the deduced protein products encoded by the sequences while others use biological or other laboratory data. Some of these applications attempt to assign biologic function to the DNA sequences based on computer predictions. There is the significant possibility that patents claiming the functional uses of genes and gene products will be issued to our competitors based on such information.

WE ARE PRESENTLY INVOLVED IN PATENT LITIGATION AND MAY BE INVOLVED IN FUTURE PATENT LITIGATION AND OTHER DISPUTES REGARDING INTELLECTUAL PROPERTY RIGHTS, AND CAN GIVE NO ASSURANCES THAT WE WILL PREVAIL IN ANY SUCH LITIGATION OR OTHER DISPUTE

Our potential products and those of our collaborators may give rise to claims that they 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 genes through the use of high-speed sequencers. In addition, many companies have well-established patent portfolios directed to common techniques, methods and means of developing, producing and manufacturing pharmaceutical products. Other companies or institutions could bring legal actions against us or our collaborators for damages or to stop us or our collaborators from manufacturing and marketing the affected products. If any of these actions are successful, in addition to our potential liability for damages, these entities may require us or our collaborators to obtain a license in order to continue to manufacture or market the affected products or may force us to terminate manufacturing or marketing efforts.

We may need to pursue litigation against others to enforce our patents and intellectual property rights. Patent litigation is expensive and requires substantial amounts of management attention. In addition, the eventual outcome of any such litigation is uncertain.

On May 24, 2000, we filed a complaint against Deltagen, Inc. in U.S. District Court for the District of Delaware alleging that Deltagen is willfully infringing the claims of United States Patent No. 5,789,215, under which we hold an exclusive license from GenPharm International, Inc. This patent covers methods of engineering the animal genome, including methods for the production of knockout mice by homologous recombination, using isogenic DNA technology. In the complaint, we are seeking unspecified damages from Deltagen, as well as injunctive relief. Deltagen has counterclaimed for a declaratory judgment that the patent is invalid and unenforceable and is not infringed by Deltagen. On November 14, 2000, Deltagen filed an amended counterclaim alleging antitrust claims against us and GenPharm, for which Deltagen is seeking unspecified damages.

On October 13, 2000, we filed a second complaint against Deltagen, Inc. in U.S. District Court for the Northern District of California alleging that Deltagen is willfully infringing the claims of United States Patents Nos. 5,464,764, 5,487,992, 5,627,059, and 5,631,153, under which also we hold exclusive licenses from GenPharm International. These patents cover methods and vectors for using positive-negative selection for producing gene targeted, or "knockout," cells and animals, including the production of knockout mice by homologous recombination. In the complaint, we are seeking unspecified damages from Deltagen, as well as injunctive relief. Deltagen has counterclaimed for a declaratory judgment that the patents are invalid and unenforceable and are not infringed by Deltagen.

On September 19, 2001, we entered into a settlement of our patent infringement litigation against Deltagen. Under the terms of the settlement, Deltagen obtained a license under the patents covering our gene targeting technologies, Lexicon obtained access to Deltagen's DeltaBase(TM) database of mammalian genes and their in vivo functions, and all of the claims and counterclaims in our litigation against Deltagen were dismissed with prejudice. Our access to DeltaBase includes non-exclusive, perpetual licenses to the 250 drug targets currently represented in DeltaBase and the 1,000 additional drug targets that are to be added to DeltaBase over the next four years. We will

have the opportunity to receive payments for Deltagen's fee-for-service generation of knockout mice, and Deltagen will have the opportunity to receive milestone and royalty payments for potential therapeutic and diagnostic products we may develop from drug targets in DeltaBase. Neither party will pay access or license fees. We believe the terms of the settlement are favorable to us, and consider the settlement to be a successful resolution of our patent infringement litigation against Deltagen.

We believe that there will continue to be significant litigation in our industry regarding patent and other intellectual property rights. We and many of our competitors have and are continuing to expend significant amounts of time, money and management resources on intellectual property litigation. If we become involved in additional litigation, it could consume a substantial portion of our resources and could negatively affect our results of operations.

Patent litigation involves substantial risks. Each time we sue for patent infringement we face the risk that the patent will be held invalid or unenforceable. Such a determination is binding on us for all future litigation involving that patent. Furthermore, in light of recent U.S. Supreme Court precedent, our ability to enforce our patents against state agencies, including state sponsored universities and research labs is limited by the Eleventh Amendment to the U.S. Constitution. Finally, opposition by academicians and the government may hamper our ability to enforce our patent against academic or government research laboratories. Enforcement of our patents may cause our reputation in the academic community to be injured.

ISSUED PATENTS MAY NOT FULLY PROTECT OUR DISCOVERIES, AND OUR COMPETITORS MAY BE ABLE TO COMMERCIALIZE PRODUCTS SIMILAR TO THOSE COVERED BY OUR ISSUED PATENTS

Issued patents may not provide commercially-meaningful protection against competitors. Other companies or institutions may challenge our or our collaborators' patents or independently develop similar products that could result in an interference proceeding in the Patent and Trademark Office or a legal action. In the event any single researcher or institution infringes upon our or our collaborators' patent rights, enforcing these rights may be difficult and time consuming. Others may be able to design around these patents or develop unique products providing effects similar to our products. We may be required to choose between pursuing litigation against infringers and being unable to recover damages or otherwise enforce our patent rights.

In addition, others may discover uses for genes or proteins other than those uses covered in our patents, and these other uses may be separately patentable. Even if we have a patent claim on a particular gene, the holder of a patent covering the use of that gene could exclude us from selling a product that is based on the same use of that gene. In addition, with respect to certain of our patentable inventions, we have decided not to pursue patent protection outside the United States, both because we do not believe it is cost effective and because of confidentiality concerns. Accordingly, our international competitors could develop, and receive foreign patent protection for gene sequences and functions for which we are seeking U.S. patent protection.

OUR RIGHTS TO THE USE OF TECHNOLOGIES LICENSED BY THIRD PARTIES ARE NOT WITHIN OUR CONTROL

We rely, in part, on licenses to use certain technologies that are material to our business. We do not own the patents that underlie these licenses. Our rights to use these technologies and practice the inventions claimed in the licensed patents are subject to our licensors abiding by the terms of those licenses and not terminating them. In many cases, we do not control the prosecution or filing of the patents to which we hold licenses. We rely upon our licensors to prevent infringement of those patents. The scope of our rights under our licenses may be subject to dispute by our licensors or third parties.

WE MAY BE UNABLE TO PROTECT OUR TRADE SECRETS

While we have entered into confidentiality agreements with employees and collaborators, we may not be able to prevent the disclosure of our trade secrets. In addition, other companies or institutions may independently develop substantially equivalent information and techniques.

WE MAY BECOME SUBJECT TO REGULATION UNDER THE ANIMAL WELFARE ACT, WHICH COULD SUBJECT US TO ADDITIONAL COSTS AND PERMIT REQUIREMENTS

The Animal Welfare Act, or AWA, is the federal law that currently covers animals in laboratories. It applies to institutions or facilities using any regulated live animals for research, testing, teaching or experimentation, including diagnostic laboratories and private companies in the pharmaceutical and biotechnology industries. The AWA currently does not cover rats or mice. However, the United States Department of Agriculture, which enforces the AWA, has entered into a proposed settlement agreement under which it has agreed to commence the process of adopting regulations under the AWA to include mice within its coverage.

Currently, the AWA imposes a wide variety of specific regulations which govern the humane handling, care, treatment and transportation of certain animals by producers and users of research animals, most notably personnel, facilities, sanitation, cage size, feeding, watering and shipping conditions. If the USDA includes mice in its regulations, we will become subject to registration, inspections and reporting requirements. Compliance with the AWA could be expensive, and the regulations eventually adopted by the USDA could impair our research and production efforts.

WE AND OUR COLLABORATORS ARE SUBJECT TO EXTENSIVE AND UNCERTAIN GOVERNMENT REGULATORY REQUIREMENTS, WHICH COULD INCREASE OUR OPERATING COSTS OR ADVERSELY AFFECT OUR ABILITY TO OBTAIN GOVERNMENT APPROVAL OF PRODUCTS BASED ON GENES THAT WE IDENTIFY IN A TIMELY MANNER OR AT ALL

Since we develop animals containing changes in their genetic make-up, we may become subject to a variety of laws, guidelines, regulations and treaties specifically directed at genetically modified organisms, or GMOs. The area of environmental releases of GMOs is rapidly evolving and is currently subject to intense regulatory scrutiny, particularly internationally. If we become subject to these laws we could incur substantial compliance costs. For example, the Biosafety Protocol, or the BSP, a recently adopted treaty, is expected to cover certain shipments from the United States to countries abroad that have signed the BSP. The BSP is also expected to cover the importation of living modified organisms, a category that could include our animals. If our animals are not contained as described in the BSP, our animals could be subject to the potentially extensive import requirements of countries that are signatories to the BSP.

Drugs and diagnostic products are subject to an extensive and uncertain regulatory approval process by the FDA and comparable agencies in other countries. The regulation of new products is extensive, and the required process of laboratory testing and human studies is lengthy and expensive. The burden of these regulations will fall on us to the extent we develop proprietary products on our own. If the products are the result of a collaboration effort, these burdens may fall on our collaborating partner or may be shared with us. We may not be able to obtain FDA approvals for those products in a timely manner, or at all. We may encounter significant delays or excessive costs in our efforts to secure necessary approvals or licenses. Even if we obtain FDA regulatory approvals, the FDA extensively regulates manufacturing, labeling, distributing, marketing, promotion and advertising after product approval. Moreover, several of our product development areas may involve relatively new technology and have not been the subject of extensive product testing in humans. The regulatory requirements governing these products and related clinical procedures remain uncertain and the products themselves may be subject to substantial review by foreign governmental regulatory authorities that could prevent or delay approval in those countries. Regulatory requirements ultimately imposed on our products could limit our ability to test, manufacture and, ultimately, commercialize our products.

SECURITY RISKS IN ELECTRONIC COMMERCE OR UNFAVORABLE INTERNET REGULATION MAY DETER FUTURE USE OF OUR PRODUCTS AND SERVICES

We provide access to our databases and the opportunity to acquire our knockout mice on the Internet. A fundamental requirement to conduct Internet-based electronic commerce is the secure transmission of confidential information over public networks. Advances in computer capabilities, new discoveries in the field of cryptography or other developments may result in a compromise or breach of the algorithms we use to protect content and transactions on Lexgen.com or proprietary information in our OmniBank database. Anyone who is able to circumvent our security measures could misappropriate our proprietary information, confidential customer information or cause interruptions in our operations. We may be required to incur significant costs to protect against

security breaches or to alleviate problems caused by breaches. Further, a well-publicized compromise of security could deter people from using the Internet to conduct transactions that involve transmitting confidential information.

Because of the growth in electronic commerce, Congress has held hearings on whether to regulate providers of services and transactions in the electronic commerce market, and federal or state authorities could enact laws, rules or regulations affecting our business or operations. If enacted and applied to our business, these laws, rules or regulations could render our business or operations more costly, burdensome, less efficient or impracticable.

WE USE HAZARDOUS CHEMICALS AND RADIOACTIVE AND BIOLOGICAL MATERIALS IN OUR BUSINESS; ANY DISPUTES RELATING TO IMPROPER HANDLING, STORAGE OR DISPOSAL OF THESE MATERIALS COULD BE TIME CONSUMING AND COSTLY

Our research and development processes involve the use of hazardous materials, including chemicals and radioactive and biological materials. Our operations also produce hazardous waste products. We cannot eliminate the risk of accidental contamination or discharge or any resultant injury from these materials. Federal, state and local laws and regulations govern the use, manufacture, storage, handling and disposal of these materials. We could be subject to civil damages in the event of an improper or unauthorized release of, or exposure of individuals to, these hazardous materials. In addition, claimants may sue us for injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed our total assets. Compliance with environmental laws and regulations may be expensive, and current or future environmental regulations may impair our research, development or production efforts.

WE MAY BE SUED FOR PRODUCT LIABILITY

We or our collaborators may be held liable if any product we or our collaborators develop, or any product which is made with the use or incorporation of any of our technologies, causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing or sale. Although we currently have and intend to maintain product liability insurance, this insurance may become prohibitively expensive, or may not fully cover our potential liabilities. Inability to obtain sufficient insurance coverage at an acceptable cost or otherwise to protect against potential product liability claims could prevent or inhibit the commercialization of products developed by us or our collaborators. If we are sued for any injury caused by our or our collaborators' products, our liability could exceed our total assets.

PUBLIC PERCEPTION OF ETHICAL AND SOCIAL ISSUES MAY LIMIT OR DISCOURAGE THE USE OF OUR TECHNOLOGIES, WHICH COULD REDUCE OUR REVENUES

Our success will depend in part upon our ability to develop products discovered through our gene trapping and knockout mouse technologies. Governmental authorities could, for ethical, social or other purposes, limit the use of genetic processes or prohibit the practice of our gene trapping and knockout mouse technologies. Claims that genetically engineered products are unsafe for consumption or pose a danger to the environment may influence public perceptions. The subject of genetically modified organisms, like knockout mice, has received negative publicity and aroused public debate in some countries. Ethical and other concerns about our technologies, particularly the use of genes from nature for commercial purposes and the products resulting from this use, could adversely affect the market acceptance of our technologies.

RISKS RELATED TO THIS OFFERING

OUR STOCK PRICE HAS BEEN AND LIKELY WILL CONTINUE TO BE VOLATILE, AND YOUR INVESTMENT MAY SUFFER A DECLINE IN VALUE

The stock market has experienced significant price and volume fluctuations, and the market prices of technology companies, particularly biotechnology companies such as ours, have been highly volatile. In addition, broad market and industry fluctuations that are not within our control may adversely affect the trading price of our common stock. You may not be able to sell your shares at or above your purchase price.

PROVISIONS OF OUR CHARTER DOCUMENTS AND DELAWARE LAW MAY INHIBIT A TAKEOVER, WHICH COULD NEGATIVELY AFFECT OUR STOCK PRICE

Provisions in our amended and restated charter and bylaws and applicable provisions of the Delaware General Corporation Law may make it more difficult for a third party to acquire control of us without the approval of our board of directors. These provisions may make it more difficult or expensive for a third party to acquire a majority of our outstanding voting common stock or delay, prevent or deter a merger, acquisition, tender offer or proxy contest, which may negatively affect our stock price.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements. These statements relate to future events or our future financial performance. We have attempted to identify forward-looking statements by terminology including "anticipate," "believe," "can," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "should" or "will" or the negative of these terms or other comparable terminology. These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including the risks outlined under "Risk Factors," that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels or activity, performance or achievements expressed or implied by these forward-looking statements.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. We are not under any duty to update any of the forward-looking statements after the date of this prospectus to conform these statements to actual results, unless required by law.

## USE OF PROCEEDS

All of the shares offered by this prospectus are being offered and sold by the selling stockholders. We will not receive any proceeds from the sale of the shares of common stock offered by the selling stockholders.

The selling stockholders will pay any underwriting discounts and commissions, brokerage fees and other expenses, including fees and expenses of counsel, which they incur in selling shares of our common stock. We will pay all expenses for the registration of the selling stockholders' offer and sale of the shares of common stock covered by this prospectus, including registration fees and the costs and expenses of our counsel and independent public accountants.

## SELLING STOCKHOLDERS

We issued the shares of common stock covered by this prospectus:

- in connection with our acquisition of the outstanding securities of Coelacanth Corporation in a merger completed on July 12, 2001; and
- in private placements completed prior to our April 2000 initial public offering.

In connection with the Coelacanth merger, we agreed to register the resale of the shares of common stock received in the merger by Coelacanth's former stockholders and to use our commercially reasonable best efforts to keep the registration statement effective for 24 months or, if earlier, until all of the common stock received in the merger may be sold by the selling stockholders under Rule 144 under the Securities Act of 1933 in a 90-day period. The other selling stockholders requested that we register their resale of shares of common stock under a registration rights agreement in which we agreed to use commercially reasonable best efforts to include their shares in a registration in which they request to participate. All of the shares offered by the selling stockholders were issued in transactions exempt from the registration requirements of the Securities Act of 1933.

The selling stockholders, or their donees of 500 or fewer shares, may offer the shares of common stock covered by this prospectus from time to time. Our registration of the selling stockholders' resale of such shares does

not necessarily mean that the selling stockholders will sell any or all of their shares. We do not know when or in what amounts a selling stockholder may offer shares for sale. Because the selling stockholder may offer all or some of the shares pursuant to this offering, and because there are currently no agreements, arrangements or understandings with respect to the sale of any of the shares, we cannot estimate the number of the shares that will be held by the selling stockholder after completion of the offering.

If a selling stockholder transfers more than 500 shares of common stock by gift, pledge or other non-sale transfer after the effective date of the registration statement of which this prospectus is a part, the donee, pledgee or transferee may make no offer or sale under this prospectus unless and until a supplement to this prospectus has been filed or an amendment to the related registration statement has become effective.

The table below sets forth the beneficial ownership of all common stock of each selling stockholder as of August 31, 2001 as well as the number of such shares of common stock offered by this prospectus. For purposes of determining the number of shares beneficially owned by a person and the percentage ownership of that person in accordance with the rules of the SEC, shares of common stock underlying options held by that person that are currently exercisable or exercisable within 60 days of August 31, 2001 are considered outstanding. These shares, however, are not considered outstanding when computing the percentage ownership of each other person.

Except as indicated in the footnotes to this table and pursuant to state community property laws, to our knowledge, each selling stockholder named in the table has sole voting and investment power for the shares shown as beneficially owned by them. Percentage of ownership is based on 51,908,995 shares of common stock outstanding on August 31, 2001.

We prepared this table based on information supplied to us by the selling stockholders named in the table, and we have not sought to independently verify such information.

| | BENEFICIAL OWNERSHIP PRIOR TO OFFERING | | | |
|---|---|---|---|---|
| NAME OF SELLING STOCKHOLDER | NUMBER OF SHARES BENEFICIALLY OWNED | SHARES ISSUABLE PURSUANT TO OPTIONS EXERCISABLE WITHIN 60 DAYS OF AUGUST 31, 2001 | PERCENTAGE OWNERSHIP | SHARES OFFERED HEREBY |
| Former Coelacanth Stockholders (1) | | | | |
| Brett R. Bosley | 202 | -- | * | 202 |
| David Brook | 202 | -- | * | 202 |
| Eran Broshy | 7,577 | -- | * | 7,577 |
| California Institute of Technology | 243 | -- | * | 243 |
| Cullen Cavallaro | 128 | -- | * | 128 |
| Zheng ming Chen | 131 | -- | * | 131 |
| Jay Chiang | 1,429 | -- | * | 1,429 |
| Evangeline Priya Eddy | 439 | -- | * | 439 |
| Keith Elliston | 57 | -- | * | 57 |
| Yoany Gervacio | 27 | -- | * | 27 |
| Seth L. Harrison (2) | 35,538 | -- | * | 35,538 |
| Hartmuth Kolb (3) | 810 | 30,768 | * | 810 |
| Laxma Reddy Kolla | 157 | -- | * | 157 |
| Amit Kumar | 75 | -- | * | 75 |
| Hanghui Liu | 273 | -- | * | 273 |
| Dat Nguyen | 18 | -- | * | 18 |
| Denise Prince | 30 | -- | * | 30 |

| | | | | |
|---|---|---|---|---|
| Vasazi Reddy | 60 | -- | * | 60 |
| Michael Richards | 143 | -- | * | 143 |
| Janice Rothman | 188 | -- | * | 188 |
| K. Barry and Janet Dueser Sharpless (4) | 72,723 | -- | * | 72,723 |
| John A. Skolas | 2,702 | -- | * | 2,702 |
| James Wan | 37 | -- | * | 37 |
| Jeffrey Whitney | 158 | -- | * | 158 |
| Barry Wolitzky | 6,166 | -- | * | 6,166 |
| Daniel J. Bader | 2,017 | -- | * | 2,017 |
| Alfred Bader | 22,524 | -- | * | 22,524 |
| David Bader | 2,017 | -- | * | 2,017 |
| Robert A. and Ellen F. Bildersee | 10,420 | -- | * | 10,420 |
| Robert L. and Joyce Y. Blumberg | 1,615 | -- | * | 1,615 |
| Robert L. Blumberg | 402 | -- | * | 402 |
| David A. Boulton (5) | 20,463 | 18,156 | * | 20,463 |
| David Boulton as Custodian for Sarah Boulton (5) | 428 | -- | * | 428 |
| Peter B. and Cynthia H. Ellis | 15,700 | -- | * | 15,700 |
| Sally Elson | 1,011 | -- | * | 1,011 |
| George Fesus | 15,700 | -- | * | 15,700 |
| Juliet V. Gauchat | 18,928 | -- | * | 18,928 |
| Edward M. Giles | 4,046 | -- | * | 4,046 |
| Robert H. and Helen O. Grubbs | 4,289 | -- | * | 4,289 |
| Laura Harrison | 1,352 | -- | * | 1,352 |
| Alvan Harrison | 933 | -- | * | 933 |
| Jeremy Harrison | 1,866 | -- | * | 1,866 |
| Joan Harrison | 933 | -- | * | 933 |
| Kerry N. Hite | 947 | -- | * | 947 |
| Joel Hough | 947 | -- | * | 947 |
| Todd M. Hough | 947 | -- | * | 947 |
| Lawrence A. and Kathleen M. Hough (6) | 16,891 | -- | * | 16,891 |
| JB Partners | 5,244 | -- | * | 5,244 |
| Alan R. Katritzky | 1,072 | -- | * | 1,072 |
| Klitsner Family & Co. No. A | 4,035 | -- | * | 4,035 |
| Charlene Ledbetter | 690 | -- | * | 690 |
| Davis U. Merwin | 2,017 | -- | * | 2,017 |
| Joseph E. Padulo | 632 | -- | * | 632 |
| Louis Padulo | 2,781 | -- | * | 2,781 |
| Robert B. Padulo | 632 | -- | * | 632 |
| George W. Parshall | 464 | -- | * | 464 |
| Jon B. Platt | 7,986 | -- | * | 7,986 |
| Rex James Bates Revocable Trust | 2,017 | -- | * | 2,017 |
| John Semack | 2,023 | -- | * | 2,023 |
| Al Simmons | 107 | -- | * | 107 |
| Sondra Somer | 107 | -- | * | 107 |
| Nancy Somer | 85 | -- | * | 85 |
| Jon and Cathy Somer | 214 | -- | * | 214 |
| Pike H. Sullivan | 2,017 | -- | * | 2,017 |
| Richard and Caroline Swett | 2,017 | -- | * | 2,017 |
| Ivar Ugi | 214 | -- | * | 214 |
| Bert van Deun | 8,070 | -- | * | 8,070 |
| Vertical Fund Associates LP | 6,122 | -- | * | 6,122 |
| Peter Wipf | 1,072 | -- | * | 1,072 |

| | | | | |
|---|---|---|---|---|
| Chi-Huey Wong | 1,340 | -- | * | 1,340 |
| Robert Zambias | 2,144 | -- | * | 2,144 |
| Apple Tree Partners I, L.P. (2) | 710,400 | -- | 1.4% | 710,400 |
| Freya Fanning & Co. | 27,366 | -- | * | 27,366 |
| Oxford Bioscience Partners (Bermuda) II L.P. | 92,053 | -- | * | 92,053 |
| Oxford Bioscience Partners (GS-Adjunct) II L.P. | 106,865 | -- | * | 106,865 |
| Oxford Bioscience Partners II L.P. | 122,833 | -- | * | 122,833 |
| Jon B. Platt | 13,683 | -- | * | 13,683 |
| Vertical Fund Associates LP | 13,683 | -- | * | 13,683 |
| Alexandria Real Estate Equities, L.P. | 75,187 | -- | * | 75,187 |
| Bank Julius Baer & Co. LTD | 320,636 | -- | * | 320,636 |
| BB BioVentures L.P. (7) | 963,052 | -- | 1.9% | 963,052 |
| MPM Asset Management Investors 1999 LLC (7) | 11,536 | -- | * | 11,536 |
| MPM BioVentures Parallel Fund, L.P. (7) | 134,706 | -- | * | 134,706 |
| Other Selling Stockholders | | | | |
| Joan M. Jordan | 60,000 | -- | * | 60,000 |
| Pamela L. Henthorne | 60,000 | -- | * | 60,000 |
| William Michael Miller | 60,000 | -- | * | 60,000 |
| Eldon Dwayne Morris | 60,000 | -- | * | 60,000 |
| Norma Jean Odum | 60,000 | -- | * | 60,000 |
| Quentine M. Roberts | 60,000 | -- | * | 60,000 |
| Winifried A. Wobbe | 60,000 | -- | * | 60,000 |
| John M. Sullivan | 174,000 | -- | * | 174,000 |
| Michael B. Sullivan | 7,500 | -- | * | 7,500 |
| Carol T. Sullivan | 7,500 | -- | * | 7,500 |

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* Represents beneficial ownership of less than 1 percent.

(1) The number of shares reflected in the table as being beneficially owned by each former Coelacanth stockholder includes shares, representing 10% of the shares reflected in the first column of this table as beneficially owned by such selling stockholder, that are held by an escrow agent and may be used to satisfy claims, if any, which we may have for breaches of representations, warranties or covenants made by Coelacanth in the merger agreement. The number of shares reflected in the first column of this table as beneficially owned by each former Coelacanth stockholder assumes that such stockholder validly tenders to us all certificates representing former shares of capital stock of Coelacanth and other required documents in accordance with the merger agreement.

(2) Mr. Harrison was a director of Coelacanth before the merger. Mr. Harrison is managing partner of Apple Tree Partners.

(3) Dr. Kolb was Vice President of Chemistry and Chief Operating Officer of Coelacanth before the merger, and presently serves as our Vice President of Chemistry.

(4) Dr. Sharpless was a director of Coelacanth before the merger.

(5) Mr. Boulton was Vice President of Technology Operations of Coelacanth before the merger, and presently serves as our Vice President of Technology Operations.

(6) Mr. Hough was a director of Coelacanth before the merger.

(7) Michael Steinmetz, Ph.D., a director of Coelacanth before the merger, is chairman of the board of MPM Asset Management, the general partner of BB BioVentures L.P., MPM Asset Management Investors 1999 LLC and MPM BioVentures Parallel Fund, L.P.

## PLAN OF DISTRIBUTION

The shares covered by this prospectus may be offered and sold from time to time by the selling stockholders. The term "selling stockholder" includes donees selling 500 or fewer shares received from a selling stockholder as a gift after the effective date of the registration statement of which this prospectus is a part. The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions. The selling stockholders have advised us that they may offer and sell the shares of common stock offered by this prospectus in one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- an over-the-counter distribution in accordance with the rules of the Nasdaq National Market;
- through the Nasdaq National Market or any other securities exchange or association that quotes the common stock;
- in privately negotiated transactions; and
- in options transactions.

In addition, the selling stockholders have advised us that they may sell shares of common stock in compliance with Rule 144, if available, or pursuant to other available exemptions from the registration requirements under the Securities Act, rather than pursuant to this prospectus.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the shares or otherwise, the selling stockholders have advised us that they may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the common stock in the course of hedging the positions they assume with a selling stockholder. The selling stockholders have advised us that they may also sell the common stock short and redeliver the shares to close out such short positions. The selling stockholders have advised us that they may also enter into option or other transactions with broker-dealers or other financial institutions which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The selling stockholders have advised us that they may also pledge shares to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution may effect sales of the pledged shares pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In effecting sales, broker-dealers or agents engaged by a selling stockholder may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the selling stockholder in amounts to be negotiated immediately prior to the sale.

In offering the shares covered by this prospectus, a selling stockholder and any broker-dealers who execute sales for such selling stockholder may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. Any profits realized by a selling stockholder and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the shares must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

The selling stockholders have advised us that they may sell their shares at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at negotiated prices or at fixed prices and that the transactions listed above may include cross or block transactions.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934 may apply to their sales of common stock and to the activities of the selling stockholders and their affiliates. In addition, we will make copies of this prospectus available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act of 1933. The selling stockholders have advised us that they may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of shares is made, if required, a prospectus supplement will be distributed that will set forth the number of shares being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallowed or paid to any dealer, and the proposed selling price to the public.

We have agreed to indemnify the selling stockholder against certain liabilities, including certain liabilities under the Securities Act.

We have agreed with the selling stockholders that received shares of our common stock in the Coelacanth merger to keep the registration statement of which this prospectus constitutes a part effective until the earliest to occur of:

- such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement;
- the expiration of twenty-four months from the date the registration statement is declared effective; or
- such time as all shares covered by this prospectus may be sold by the selling stockholders in accordance with the requirements of Rule 144 in a 90-day period.

Each of the selling stockholders that received common stock in the Coelacanth merger has entered into a stockholder agreement under which such selling stockholder has agreed not to sell or otherwise transfer shares of common stock received in the merger until: (i) the earlier of the effectiveness of the registration statement of which this prospectus is a part or October 10, 2001 with respect to 50% of such shares; (ii) January 8, 2002 with respect to an additional 20% of such shares; (iii) April 8, 2002 with respect an additional 20% of such shares; and (iv) July 12, 2002 for the final 10% of such shares. All shares offered by this prospectus by a selling stockholder that received common stock in the Coelacanth merger will be sold subject to the terms and conditions of the stockholder agreement.

All shares offered by this prospectus by any other stockholder will be sold subject to the terms and conditions of the registration rights agreement described in the section entitled "Selling Stockholders."

## LEGAL MATTERS

The validity of the common stock offered by this prospectus has been passed upon for us by Vinson & Elkins L.L.P., Houston, Texas.

## EXPERTS

The financial statements, as of December 31, 1999 and 2000, and for each of the three years in the period ended December 31, 2000, incorporated by reference in this prospectus have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their report with respect thereto, and are included herein in reliance upon the authority of said firm as experts in giving said report.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933 regarding the offer and sale of shares of common stock by the selling stockholders. This prospectus, which constitutes a part of the registration statement, does not contain all of the information contained in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information about us and our common stock, please review the registration statement and the exhibits filed as a part of it. Statements made in this prospectus that describe documents may not necessarily be complete. We recommend that you review the documents that we have filed with the registration statement to obtain a more complete understanding of these documents. A copy of the registration statement, including the exhibits filed as a part of it, may be inspected without charge at the SEC's Public Reference Room, 450 Fifth Street, N.W., Washington, D.C. 20549, and copies of all or any part of the registration statement may be obtained from the SEC upon the payment of fees prescribed by it. You may obtain information on the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains a Web site at http://www.sec.gov that contains reports, proxy and information statements and other information regarding companies that file electronically with it.

We are subject to the information and reporting requirements of the Securities Exchange Act of 1934 and will file periodic reports, proxy statements and other information with the SEC. You may inspect any of these documents as described in the preceding paragraph. These reports, proxy statements and other information may also be inspected at the offices of Nasdaq Operations, 1735 K Street, N.W., Washington, D.C. 20006.

## DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus information that we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information incorporated by reference is considered to be part of this prospectus, except for information superseded by information in this prospectus. We incorporate by reference the documents listed below that we have previously filed with the SEC and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, prior to the termination of the offering of the securities covered by this prospectus:

- our annual report on Form 10-K for the year ended December 31, 2000;
- our quarterly reports on Form 10-Q for the quarters ended March 31 and June 30, 2001;
- our current report on Form 8-K dated June 13, 2001; and
- the description of our common stock contained in our registration statement on Form 8-A filed with the Commission on March 27, 2000 pursuant to Section 12 of the Securities Exchange Act of 1934, including any amendments and reports filed for the purpose of updating such description.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. Any statement that is modified or superseded will not constitute a part of this prospectus, except as modified or superseded.

Upon your written or oral request, we will provide you at no cost a copy of any or all of the documents incorporated by reference in this prospectus, other than the exhibits to those documents, unless the exhibits are specifically incorporated by reference into this prospectus. You may request a copy of these documents by contacting:

Investor Relations
Lexicon Genetics Incorporated
4000 Research Forest Drive
The Woodlands, Texas 77381
Telephone: (281) 364-0100