

REGISTRATION NO. 333-

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

FORM S-3

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

LEXICON GENETICS INCORPORATED  
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE  
(STATE OR OTHER JURISDICTION OF  
INCORPORATION OR ORGANIZATION)

76-0474169  
(I.R.S. EMPLOYER  
IDENTIFICATION NUMBER)

8800 TECHNOLOGY FOREST PLACE  
THE WOODLANDS, TEXAS 77381-1160  
(281) 863-3000  
(ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF  
REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES)

ARTHUR T. SANDS, M.D., PH.D.  
PRESIDENT AND CHIEF EXECUTIVE OFFICER  
8800 TECHNOLOGY FOREST PLACE  
THE WOODLANDS, TEXAS 77381-1160  
(281) 863-3000  
(NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER,  
INCLUDING AREA CODE, OF AGENT FOR SERVICE)

COPIES TO:

DAVID P. OELMAN  
VINSON & ELKINS L.L.P.  
2300 FIRST CITY TOWER  
1001 FANNIN  
HOUSTON, TEXAS 77002-6760  
(713) 758-3708

JEFFREY L. WADE  
EXECUTIVE VICE PRESIDENT AND GENERAL COUNSEL  
LEXICON GENETICS INCORPORATED  
8800 TECHNOLOGY FOREST PLACE  
THE WOODLANDS, TEXAS 77381-1160  
(281) 863-3000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC:  
From time to time after this registration statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, check the following box. [ ]

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. [X]

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ]

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ]

If delivery of the Prospectus is expected to be made pursuant to Rule 434, please check the following box. [ ]

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE PER SHARE(1)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE
Common Stock, par value \$0.001.....	12,000,000 shares	\$3.98	\$47,760,000	\$4,394

(1) Estimated solely for the purpose of calculating the amount of the registration fee based on the average of the high and low trading prices for the common stock as reported on the Nasdaq National Market on November 20, 2002, in accordance with Rule 457(c) under the Securities Act.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

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THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. WE MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED NOVEMBER 27, 2002

12,000,000 SHARES

[LEXICON GENETICS INCORPORATED LOGO]

LEXICON GENETICS INCORPORATED

COMMON STOCK

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We may offer shares of our common stock from time to time in one or more offerings in amounts, at prices and on terms to be determined in light of market conditions at the time of sale. Each time we sell shares of our common stock, we will provide a supplement to this prospectus that contains specific information about the offering. The supplement may also add, update or change information contained in this prospectus. You should carefully read this prospectus and any supplement before you invest.

Our common stock is listed on The Nasdaq National Market under the symbol "LEXG". The last reported sale price on November 26, 2002 was \$4.15 per share.

INVESTING IN OUR COMMON STOCK INVOLVES RISKS. SEE "RISK FACTORS" 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 \_\_\_\_\_, 2002.

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We have filed a registration statement on Form S-3 to register with the Securities and Exchange Commission the offering of the shares described in this prospectus. This prospectus is part of that registration statement. As allowed by the SEC's rules, this prospectus does not contain all of the information you can find in the registration statement or the exhibits to the registration statement. Please see "Where You Can Find More Information" on page 7.

YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS PROSPECTUS. WE HAVE NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION DIFFERENT FROM THAT CONTAINED IN THIS PROSPECTUS. THIS PROSPECTUS MAY ONLY BE USED WHERE IT IS LEGAL TO SELL THESE SECURITIES. THE INFORMATION CONTAINED IN THIS PROSPECTUS AND ANY SUPPLEMENTS TO THIS PROSPECTUS IS ACCURATE ONLY AS OF THE DATES OF THEIR RESPECTIVE COVERS OR EARLIER DATES AS SPECIFIED THEREIN, REGARDLESS OF THE TIME OF DELIVERY OF THIS PROSPECTUS OR ANY SUPPLEMENT TO THIS PROSPECTUS OR OF ANY SALE OF OUR COMMON STOCK.

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

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The Lexicon name and logo, LexVision(R) and OmniBank(R) are registered trademarks and Genome5000(TM) and e-Biology(TM) are trademarks of Lexicon Genetics Incorporated.

LEXICON GENETICS INCORPORATED

Lexicon Genetics is a biopharmaceutical company focused on the discovery of breakthrough treatments for human disease. We are using gene knockout technology to systematically discover the physiological functions of genes in living mammals, or in vivo. Our gene function discoveries fuel therapeutic 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 institutes 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 and validate, in vivo, the functions and pharmaceutical utility of the genes we have knocked out and the potential targets for therapeutic intervention, or drug targets, they encode.

We employ internal resources and drug discovery alliances to discover potential small molecule drugs, therapeutic antibodies and therapeutic proteins for in vivo-validated drug targets that we consider to have high pharmaceutical value. We use our own sophisticated libraries of drug-like chemical compounds and an industrialized medicinal chemistry platform to identify small molecule drug candidates for our in vivo-validated drug targets. We have established alliances with Abgenix, Inc. for the discovery and development of therapeutic antibodies based on our drug target discoveries and with Incyte Genomics, Inc. for the discovery and development of therapeutic proteins. In addition, we have established collaborations and license agreements with many other leading pharmaceutical and biotechnology companies under which we receive fees and, in many cases, are eligible to receive milestone and royalty payments, for access to some of our technologies and discoveries for use in their own drug discovery efforts.

We believe that our industrialized approach of discovering and validating drug targets in vivo, together with our capabilities in small molecule drug discovery and the integration of our own capabilities with those of our alliance partners in therapeutic antibody and therapeutic protein discovery, will significantly increase our likelihood of success in discovering breakthrough treatments for human disease. We believe our system will reduce the risk, time and expense of discovering and developing therapeutics for new drug targets. Together, we believe that these factors will provide us with substantial strategic advantages in the competition to discover and develop genomics-based pharmaceutical products.

Lexicon Genetics was incorporated in Delaware in July 1995, and commenced operations in September 1995. Our corporate headquarters are located at 8800 Technology Forest Place, The Woodlands, Texas 77381, and our telephone number is (281) 863-3000. Our corporate website is located at [www.lexicon-genetics.com](http://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 and incorporated into it by reference before purchasing our common stock. Investing in our common stock involves a high degree of risk. For a discussion of these risks, please see:

- o Our most recent Annual Report on Form 10-K, and
- o Our other SEC filings that are incorporated by reference into this prospectus.

For more information about our SEC filings, please see "Where You Can Find More Information" and "Documents Incorporated By Reference" on page 7 of this prospectus. See also "Special Note Regarding Forward-Looking Statements" below.

## 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 referred to 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

Except as otherwise described in the prospectus supplement relating to an offering, we intend to use the net proceeds from the sale(s) of shares of our common stock offered pursuant to this prospectus and any prospectus supplement for research and development and general corporate purposes, including capital expenditures and working capital needs. We may also use some or all of the net proceeds to acquire or invest in businesses, products and technologies that are complementary to our own.

The amounts that we actually expend for working capital purposes, investments or acquisitions will vary significantly depending on a number of factors, including future revenue growth, if any, the amount of cash we generate from operations and the progress of our product development efforts. Accordingly, our management will retain broad discretion in the allocation of the net proceeds from the sale(s) of the offered securities. If we elect at the time of the issuance of the securities to make different or more specific use of proceeds other than as described in this prospectus, the change in use of proceeds will be described in the applicable prospectus supplement.

## PLAN OF DISTRIBUTION

We may sell shares of our common stock under this prospectus from time to time in any one or more of the following ways:

- o to or through underwriters;
- o through brokers or dealers;
- o directly to other purchasers; or
- o through agents.

We may sell shares of our common stock under this prospectus from time to time in one or more transactions:

- o at a fixed price or prices, which may be changed;
- o at market prices prevailing at the time of sale;
- o at prices related to such prevailing market prices; or
- o at negotiated prices.

The prospectus supplement relating to the shares of common stock will set forth the terms of the offering of such shares, including the names or names of any underwriters, brokers, dealers or agents, the name or names of any managing underwriter or underwriters, the purchase price of the shares and the net proceeds to us from such sale, any delayed delivery arrangements, any underwriting discounts and commissions and other items constituting underwriters' compensation, any public offering price and any discounts or concessions allowed or reallocated or paid to dealers and any commissions paid to agents.

If we use underwriters in the sale of shares of common stock, the underwriters will acquire the shares for their own account. The underwriters may resell the shares from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may offer shares to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless we inform you otherwise in the prospectus supplement, the obligations of the underwriters to purchase the shares will be subject to certain conditions, and the underwriters will be obligated to purchase all of the offered shares if they purchase any of them. The underwriters may change from time to time any public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

In connection with the sale of shares of our common stock, underwriters, brokers, dealers or agents may receive compensation from us or purchasers of securities for whom they may act as agents, in the form of discounts, concessions or commissions. Underwriters, dealers and agents that participate in the distribution of our common stock may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of securities by them may be deemed to be underwriting discounts and commissions under the Securities Act of 1933. Any person who may be deemed to be an underwriter will be identified, and the compensation received from us will be described, in the prospectus supplement.

During and after an offering through underwriters, the underwriters may purchase and sell the securities in the open market. These transactions may include over-allotment and stabilizing transactions and purchases to cover syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, whereby selling concessions allowed to syndicate members or other broker-dealers for the securities sold for their account may be reclaimed by the syndicate if those securities are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the securities,

which may be higher than the price that might otherwise prevail in the open market, and, if commenced, may be discontinued at any time.

If dealers or brokers acting as dealers are used in the sale of the shares of common stock, we will sell the shares to such dealers or brokers as principals. The dealers or brokers acting as dealers may then resell such shares to the public at varying prices to be determined by such dealers or brokers at the time of resale. The names of dealers or brokers acting as dealers and the terms of the transaction will be set forth in the prospectus supplement relating to such shares. We may sell the shares of common stock directly or through agents designated by us from time to time. Any agent involved in the offer or sale of the shares will be named, and any commissions that we pay to such agent will be set forth, in the prospectus supplement relating to such shares. Unless otherwise indicated in the prospectus supplement, any such agent will be acting on a best efforts basis for the period of its appointment.

We may sell shares of common stock directly. In this case, no underwriters or agents would be involved. We may sell shares directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act of 1933 with respect to any sale of those shares.

If so indicated in the prospectus supplement, we will authorize agents, underwriters, brokers or dealers to solicit offers from certain types of institutions to purchase shares of common stock at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. Such contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth also the commission payable for solicitation of such contracts.

We may have agreements with the underwriters, dealers and agents to indemnify them against specific civil liabilities, including liabilities under the Securities Act of 1933, or to contribute with respect to payments which the underwriters, dealers or agents may be required to make as a result of those specific civil liabilities.

Underwriters and agents and their affiliates may be customers of, engage in transactions with, or perform services for us or our subsidiaries in the ordinary course of their businesses.

#### LEGAL MATTERS

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

#### EXPERTS

The financial statements, as of December 31, 2000 and 2001, and for each of the three years in the period ended December 31, 2001, 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. Arthur Andersen LLP has not consented to the inclusion of their report in this prospectus, and we have not obtained their consent to do so in reliance upon Rule 437a of the Securities Act of 1933. Because Arthur Andersen LLP has not consented to the inclusion of their report in this prospectus, you will not be able to recover against Arthur Andersen LLP under Section 11(a) of the Securities Act for any untrue statements of a material fact contained in the financial statements audited by Arthur Andersen LLP or any omissions to state a material fact required to be stated therein.

#### CHANGE IN INDEPENDENT PUBLIC ACCOUNTS

On March 26, 2002, our Board of Directors and Audit Committee dismissed Arthur Andersen LLP as our independent public accountants and engaged Ernst & Young LLP to serve as our independent public accountants for the year ending December 31, 2002. The appointment of Ernst & Young was ratified at our 2002 annual meeting of stockholders held on May 8, 2002.



Arthur Andersen LLP's reports on our consolidated financial statements for the years ended December 31, 2001 and 2000 did not contain an adverse opinion or disclaimer of opinion, nor were they qualified or modified as to uncertainty, audit scope or accounting principles.

During the years ended December 31, 2001 and 2000 and through March 26, 2002, there were no disagreements with Arthur Andersen LLP on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure which, if not resolved to Arthur Andersen LLP's satisfaction, would have caused them to make reference to the subject matter in connection with their report on our consolidated financial statements for such years; and there were no reportable events as defined in Item 304(a)(1)(v) of Regulation S-K.

We provided Arthur Andersen LLP with a copy of the foregoing disclosures. Attached as Exhibit 16.1 to our report on Form 8-K dated March 29, 2002, which is incorporated into this registration statement by reference, is a copy of Arthur Andersen LLP's letter, dated March 29, 2002, stating its agreement with such statements.

During the two-year period ended December 31, 2001 and through the date of the Board of Directors' decision, we did not consult Ernst & Young LLP with respect to the application of accounting principles to a specified transaction, either completed or proposed, or the type of audit opinion that might be rendered on our consolidated financial statements, or any other matters or reportable events as set forth in Items 304(a)(2)(i) and (ii) of Regulation S-K.

#### WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission a registration statement on Form S-3 under the Securities Act of 1933 regarding our offering and sale of shares of our common stock by this prospectus. This prospectus, which constitutes a part of that registration statement, does not contain all of the information contained in the registration statement or the 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 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 Securities and Exchange Commission 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. Information that we file later with the SEC will automatically update and supercede the information incorporated by reference 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:

- o our annual report on Form 10-K for the year ended December 31, 2001;
- o our quarterly reports on Form 10-Q for the quarterly periods ended March 31, 2002, June 30, 2002 and September 30, 2002;

- o our current report on Form 8-K dated March 29, 2002; and
- o 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 so 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  
8800 Technology Forest Place  
The Woodlands, Texas 77381-1160  
Telephone: (281) 863-3000

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The estimated expenses payable by the Registrant in connection with the issuance and distribution of the securities being registered (other than underwriting discounts and commissions) are as follows:

SEC Registration Fee.....	\$	4,394
Printing Expenses.....		50,000
Accounting Fees and Expenses.....		35,000
Legal Fees and Expenses.....		100,000
Transfer Agent and Registrar Fees.....		3,000
Miscellaneous Expenses.....		7,606
		-----
Total.....	\$	200,000
		=====

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware General Corporation Law ("DGCL") provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that he is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. Section 145 further provides that a corporation similarly may indemnify any such person serving in any such capacity who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that he is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred in connection with the defense or settlement of such action or suit if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Delaware Court of Chancery or such other court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Delaware Court of Chancery or such other court shall deem proper.

Lexicon's restated certificate of incorporation and restated bylaws provide that indemnification shall be to the fullest extent permitted by the DGCL for all current or former directors or officers. As permitted by the DGCL, the restated certificate of incorporation provides that directors of Lexicon shall have no personal liability to Lexicon or its stockholders for monetary damages for breach of fiduciary duty as a director, except (1) for any breach of the director's duty of loyalty to Lexicon or its stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or knowing violation of law, (3) under Section 174 of the DGCL or (4) for any transaction from which a director derived an improper personal benefit.

ITEM 16. EXHIBITS.

EXHIBIT NO.	DESCRIPTION
3.1	-- Restated Certificate of Incorporation (filed as Exhibit 3.1 to the Company's Registration Statement on Form S-1 (Registration No. 333-96469) and incorporated by reference herein).
3.2	-- Restated Bylaws (filed as Exhibit 3.2 to the Company's Registration Statement on Form S-1 (Registration No. 333-96469) and incorporated by reference herein).
5.1	-- Opinion of Vinson & Elkins L.L.P.
23.1	-- Consent of Vinson & Elkins L.L.P. (contained in Exhibit 5.1)
24.1	-- Power of Attorney (contained in signature page)

ITEM 17. UNDERTAKINGS.

The undersigned Registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933, as amended (the "Securities Act");

(ii) to reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

provided, however, that paragraphs (a)(i) and (a)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are incorporated by reference in this Registration Statement.

(b) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein and the offering of such securities at the time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described in Item 14, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of The Woodlands, in the State of Texas, on November 27, 2002.

LEXICON GENETICS INCORPORATED

By: /s/ ARTHUR T. SANDS  
 -----  
 Arthur T. Sands, M.D., Ph.D.  
 President and Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below appoints Arthur T. Sands and Jeffrey L. Wade, and each of them, any of whom may act without the joinder of the other, as his true and lawful attorneys-in-fact and agents with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement and any Registration Statement (including any amendment thereto) for this offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or would do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute and substitutes, may lawfully do or cause to be done by virtue hereof.

PURSUANT TO THE REQUIREMENTS OF THE SECURITIES ACT OF 1933, AS AMENDED, THIS REGISTRATION STATEMENT HAS BEEN SIGNED BELOW BY THE FOLLOWING PERSONS IN THE CAPACITIES AND ON THE DATES INDICATED BELOW.

SIGNATURE -----	TITLE -----	DATE ----
/s/ ARTHUR T. SANDS ----- Arthur T. Sands, M.D., Ph.D.	President, Chief Executive Officer and Director (principal executive officer)	November 27, 2002
/s/ JULIA P. GREGORY ----- Julia P. Gregory	Executive Vice President and Chief Financial Officer (principal financial and accounting officer)	November 27, 2002
/s/ C. THOMAS CASKEY ----- C. Thomas Caskey, M.D.	Chairman of the Board of Directors	November 27, 2002
/s/ SAM L. BARKER ----- Sam L. Barker, Ph.D.	Director	November 27, 2002
/s/ PATRICIA M. CLOHERTY ----- Patricia M. Cloherty	Director	November 27, 2002
/s/ ROBERT J. LEFKOWITZ ----- Robert J. Lefkowitz, M.D.	Director	November 27, 2002
/s/ WILLIAM A. MCMINN ----- William A. McMinn	Director	November 27, 2002

EXHIBIT INDEX

EXHIBIT NO.	DESCRIPTION
3.1	-- Restated Certificate of Incorporation (filed as Exhibit 3.1 to the Company's Registration Statement on Form S-1 (Registration No. 333-96469) and incorporated by reference herein).
3.2	-- Restated Bylaws (filed as Exhibit 3.2 to the Company's Registration Statement on Form S-1 (Registration No. 333-96469) and incorporated by reference herein).
5.1	-- Opinion of Vinson & Elkins L.L.P.
23.1	-- Consent of Vinson & Elkins L.L.P. (contained in Exhibit 5.1)
24.1	-- Power of Attorney (contained in signature page)

[Letterhead of Vinson & Elkins L.L.P.]

November 27, 2002

Lexicon Genetics Incorporated  
4000 Research Forest Drive  
The Woodlands, Texas 77381

Re: Registration Statement on Form S-3 of Lexicon Genetics Incorporated

Ladies and Gentlemen:

We have acted as counsel to Lexicon Genetics Incorporated (the "Company"), a Delaware corporation, with respect to certain legal matters in connection with the Company's Registration Statement on Form S-3 (the "Registration Statement") relating to the registration by the Company under the Securities Act of 1933, as amended (the "Securities Act"), of the offer and sale by the Company from time to time, pursuant to Rule 415 under the Securities Act, of up to 12,000,000 shares (the "Shares") of the Company's common stock, par value \$0.001 per share. The Company has advised us that the Shares will be offered in amounts, at prices and on terms to be determined in light of market conditions at the time of sale and to be set forth in supplements to the prospectus (each, a "Prospectus Supplement") contained in the Registration Statement to which this opinion is an exhibit.

We have examined originals or copies, certified or otherwise identified to our satisfaction, of the Restated Certificate of Incorporation and Restated Bylaws of the Company, each as amended to the date hereof, the Registration Statement, together with the exhibits thereto, and such other certificates, documents and instruments as we considered appropriate for purposes of the opinions hereafter expressed. As to matters of fact relevant to the opinions expressed herein, and as to factual matters arising in connection with our examination of corporate documents, certificates and other documents and instruments, we have relied upon certificates and other communications of corporate officers of the Company without further investigation as to the facts set forth therein. In addition, we have reviewed such questions of law as we considered appropriate.

In connection with this opinion, we have assumed that (i) the Registration Statement, and any amendments thereto (including any post-effective amendments), will have become effective, (ii) a Prospectus Supplement will have been prepared and filed with the Securities and Exchange Commission describing the Shares offered thereby, (iii) all Shares will be issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement and the



applicable Prospectus Supplement, (iv) at the time of any offering or sale of any Shares by the Company, the Company will have such number of Shares, as set forth in the applicable Prospectus Supplement, authorized and available for issuance, (v) a definitive purchase, underwriting or similar agreement with respect to any Shares offered will have been duly authorized and validly executed and delivered by the Company and the other parties thereto and (vi) each document submitted to us for review is accurate and complete, each such document that is an original is authentic, each such document that is a copy conforms to an authentic original and all signatures on each such document are genuine.

Based on the foregoing and subject to the qualifications and limitations set forth below, we are of the opinion that (1) when the Board of Directors of the Company or, to the extent permitted by Section 141(c) of the General Corporation Law of the State of Delaware, a duly constituted and acting committee thereof (such Board of Directors or committee being referred to herein as the "Board"), has taken all necessary corporate action to approve the issuance and the terms of the offering and sale of the Shares and related matters, and (2) certificates representing the Shares have been duly executed, countersigned, registered and delivered in accordance with the applicable definitive purchase, underwriting or similar agreement approved by the Board upon payment of the consideration therefor (not less than the par value of the Shares) provided for therein, all of the Shares will be duly authorized, validly issued, fully paid and non-assessable.

The foregoing opinion is limited in all respects to the laws of the State of Delaware and the federal laws of the United States of America.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the prospectus forming a part of the Registration Statement. By giving such consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Securities and Exchange Commission issued thereunder.

very truly yours,

VINSON & ELKINS L.L.P.