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

FORM 8-K

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

DATE OF REPORT (DATE OF EARLIEST EVENT REPORTED): FEBRUARY 24, 2005

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

DELAWARE
(STATE OR OTHER JURISDICTION OF
INCORPORATION OR ORGANIZATION)

000-30111
(COMMISSION FILE NUMBER)

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

8800 TECHNOLOGY FOREST PLACE
THE WOODLANDS, TEXAS 77381
(ADDRESS OF PRINCIPAL EXECUTIVE
OFFICES AND ZIP CODE)

(281) 863-3000
(REGISTRANT'S TELEPHONE NUMBER,
INCLUDING AREA CODE)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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ITEM 2.02 RESULTS OF OPERATIONS AND FINANCIAL CONDITION

On February 24, 2005, we issued a press release to report our financial results for the quarter and year ended December 31, 2004. A copy of the press release is attached to this current report on Form 8-K as Exhibit 99.1.

The information in this Form 8-K and the Exhibit attached to this Form 8-K shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

ITEM 9.01 FINANCIAL STATEMENTS AND EXHIBITS

(c) Exhibits

EXHIBIT NO. -----	DESCRIPTION -----
99.1 --	Press Release of Lexicon Genetics Incorporated dated February 24, 2005

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

LEXICON GENETICS INCORPORATED

Date: February 24, 2005

By: /s/ Jeffrey L. Wade

Jeffrey L. Wade
Executive Vice President and
General Counsel

INDEX TO EXHIBITS

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----- 99.1	-- Press Release of Lexicon Genetics Incorporated dated February 24, 2005

LEXICON GENETICS REPORTS 2004 FOURTH QUARTER
AND FULL YEAR FINANCIAL RESULTS

LEXICON ACHIEVES 44% ANNUAL REVENUE GROWTH

THE WOODLANDS, TEXAS, FEBRUARY 24, 2005 - Lexicon Genetics Incorporated (Nasdaq: LEXG), a biopharmaceutical company focused on the discovery and development of breakthrough treatments for human disease, today reported financial results for the three months and year ended December 31, 2004.

REVENUES: Lexicon's revenues for the three months ended December 31, 2004 increased 90 percent to \$26.0 million from \$13.7 million for the corresponding period in 2003. The increase was primarily attributable to the completion of the third performance milestone under Lexicon's therapeutic protein and antibody target discovery alliance with Genentech, Inc., together with revenues recognized under Lexicon's neuroscience drug discovery alliance with Bristol-Myers Squibb Company and its hypertension drug discovery alliance with Takeda Pharmaceutical Company. For the year ended December 31, 2004, revenues increased 44 percent to \$61.7 million from \$42.8 million in 2003. Collaborative research represented 81 percent of Lexicon's revenues in 2004, as compared to 50 percent in 2003.

RESEARCH AND DEVELOPMENT EXPENSES: Research and development expenses for the three months ended December 31, 2004 increased 14 percent to \$23.1 million from \$20.3 million for the corresponding period in 2003. The increase primarily reflects higher personnel, contract research and laboratory supply costs related to the advancement of the Company's drug discovery programs. There was no material stock-based compensation expense in the three months ended December 31, 2004, as compared to \$1.2 million in the three months ended December 31, 2003. For the year ended December 31, 2004, research and development expenses increased ten percent to \$90.6 million from \$82.2 million in 2003. Research and development expenses included non-cash, stock-based compensation expense of \$0.4 million and \$5.0 million for the years ended December 31, 2004 and 2003, respectively.

GENERAL AND ADMINISTRATIVE EXPENSES: General and administrative expenses for the three months ended December 31, 2004 decreased 24 percent to \$4.3 million from \$5.7 million for the corresponding period in 2003. The decrease was primarily attributable to the absence of any stock-based compensation expense in the three months ended December 31, 2004, as compared to \$1.2 million in the three months ended December 31, 2003. For the year ended December 31, 2004, general and administrative expenses decreased 20 percent to \$18.6 million from \$23.2 million in 2003. General and administrative expenses included non-cash, stock-based compensation expense of \$0.4 million and \$5.1 million for the years ended December 31, 2004 and 2003, respectively.

NET LOSS: Net loss for the three months ended December 31, 2004 decreased to \$0.5 million from a net loss of \$14.9 million in the corresponding period of 2003. Net loss per share for the three months ended December 31, 2004 was \$0.01, as compared to \$0.24 for the corresponding period in 2003. For the year ended December 31, 2004, net loss decreased to \$47.2 million from a net loss of \$64.2 million in 2003. Net loss per share for the year ended December 31, 2004 was \$0.74, compared to \$1.13 for 2003. Net loss for the three months and the year ended December 31, 2003 included a one-time, non-cash charge of \$3.1 million for the cumulative effect of a change in accounting principle.

CASH AND INVESTMENTS: As of December 31, 2004, Lexicon had \$87.6 million in cash and investments, including restricted cash and investments, as compared to \$97.7 million as of September 30, 2004 and \$161.0 million as of December 31, 2003. Unrestricted cash and investments were \$87.1 million at December 31, 2004, as compared to \$97.2 million at September 30, 2004 and \$103.5 million at

December 31, 2003. Lexicon used \$20.8 million in cash in connection with the refinancing of the synthetic lease of its headquarters and research facility in The Woodlands, Texas in April 2004. This transaction eliminated all restrictions on the cash and investments that had secured Lexicon's obligations under the synthetic lease.

"Lexicon continues to be in a healthy financial position. In 2004, we grew revenues for the ninth consecutive year and narrowed our net loss by \$17 million," said Julia P. Gregory, executive vice president, corporate development and chief financial officer of Lexicon. "Our revenues from our productive drug discovery and development collaborations continue to grow at a faster rate than the increases in operating expenses that we incur as we advance our programs toward clinical development."

YEAR 2004 HIGHLIGHTS

DISCOVERY OF POTENTIAL THERAPIES FOR CANCER AND BLEEDING DISORDERS: Lexicon advanced two of its drug discovery programs into preclinical development in preparation for investigational new drug (IND) applications. The first, LX-1521, is a small molecule compound to be developed as a potential cancer treatment. The second, LX-5431, is a protein to be developed as a potential biotherapeutic for thrombocytopenia, a condition that results in bleeding disorders.

LX-1521 is a novel small molecule compound with potential for treating solid tumor cancers. LX-1521 works by blocking the cell cycle prior to cell division, resulting in cancer cell death through apoptosis. Lexicon expects to file an IND for LX-1521 by the end of the year and commence a Phase 1 clinical trial for the compound shortly thereafter. LX-5431 is a novel recombinant human protein with the potential for treating thrombocytopenia, a disorder characterized by a lack of platelets in the blood that can lead to severe bleeding. LX-5431 has been demonstrated in ex vivo bone marrow culture to stimulate production of platelet forming cells called megakaryocytes. During 2005, Lexicon expects to develop scale-up methodologies to produce LX-5431 in quantities required for preclinical and early clinical development.

HARVESTED NOVEL DISCOVERIES FROM GENOME5000(TM) PROGRAM: Lexicon's Genome5000 program for drug discovery continued to yield novel drug discovery programs. In this program, Lexicon is analyzing 5,000 genes using its proprietary gene knockout technologies and its extensive physiological and behavioral analyses to discover novel drug targets from the human genome. To date, Lexicon has completed the analysis of more than forty percent of these genes and has harvested more than 60 drug discovery programs.

ESTABLISHED COLLABORATION TO DISCOVER NEW DRUGS FOR HIGH BLOOD PRESSURE: In July 2004, Lexicon and Takeda formed a collaboration to discover new drugs for the treatment of high blood pressure. In the collaboration, Takeda will have exclusive access to drug targets from Lexicon's Genome5000 program that control blood pressure. Takeda is responsible for all activities related to the discovery, development and commercialization of drugs directed against these targets, and will bear all related costs. Lexicon received an initial payment of \$12 million from Takeda for the three-year term of the agreement. Takeda will make research milestone payments to Lexicon for each target selected for therapeutic development. In addition, Takeda will make clinical development and product launch milestone payments to Lexicon for each product commercialized from the collaboration. Lexicon will also earn royalties on worldwide sales of drugs commercialized by Takeda from the alliance.

ACHIEVED TWO PERFORMANCE MILESTONES IN GENENTECH ALLIANCE: Lexicon announced the achievement of the second and third performance milestones under its alliance with Genentech. In this alliance, Lexicon is discovering the functions of potential therapeutic proteins and antibody targets identified through Genentech's internal drug discovery research. The milestone payments are related to Lexicon's

production of gene knockouts in mouse embryonic stem cell lines for all of the proteins selected for inclusion in the alliance and the identification of the physiological functions of one half of the proteins in the alliance. Lexicon is in the process of discovering the therapeutic potential for the remaining proteins. The amounts of the milestone payments were not disclosed.

AWARDED BIODEFENSE GRANT FROM THE UNITED STATES ARMY: Lexicon was awarded a grant from the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) for the discovery of novel drug targets that could provide resistance to ricin poisoning. Lexicon will use its proprietary gene knockout technology to study genes that, when blocked, may confer resistance to the toxic effects of ricin exposure. Identification of the proteins, or host factors, involved in toxin action may enable the development of drugs designed to block these factors, with the goal of rendering an organism temporarily resistant to ricin. Lexicon will receive \$1.9 million in funding for the one-year initial term of the grant.

GRANTED INTERNAL RESEARCH LICENSES TO PATENTED GENE TARGETING TECHNOLOGY: Lexicon granted one new sublicense under patents covering its gene targeting technologies and renewed another, further demonstrating the importance of in vivo target validation in drug discovery. Lexicon granted a non-exclusive, internal research-use sublicense under the patents to Johnson & Johnson Pharmaceutical Research & Development, L.L.C. (J&JPRD), a Johnson & Johnson Company, and renewed a sublicense for Roche Palo Alto, L.L.C. Both licenses provide rights under patents covering the technologies frequently referred to as "isogenic DNA" and "positive-negative selection" to generate and use knockout mice in internal drug discovery.

"In 2004, Lexicon moved two novel programs into preclinical development, representing the beginning of the advancement of our more than 60 drug discovery programs toward human clinical trials. We expect to identify several additional clinical candidates in 2005," said Arthur T. Sands, M.D., Ph.D., president and chief executive officer of Lexicon. "With the achievement of two performance milestones under our Genentech collaboration and the formation of our Takeda alliance, we also demonstrated strong progress in drug discovery and development through our collaborations."

LEXICON CONFERENCE CALL:

Dr. Arthur T. Sands, president and chief executive officer, and Julia P. Gregory, executive vice president, corporate development and chief financial officer, will host a conference call at 11:00 a.m. EST on Thursday, February 24, 2005 to review Lexicon's operating highlights and financial results for the year ended December 31, 2004 and to discuss the company's guidance for 2005.

The dial-in number for the conference call is 800-500-0177 (within the United States) or 719-457-2679 (international). The pass code for all callers is 3403652. Investors can access www.lexicon-genetics.com to listen to a live webcast of the call. The webcast will be archived and available for review through March 1, 2005.

ABOUT LEXICON GENETICS

Lexicon Genetics is a biopharmaceutical company focused on the discovery and development of breakthrough treatments for human disease. Lexicon is systematically discovering the physiological and behavioral functions of genes to identify potential points of therapeutic intervention, or drug targets. Lexicon makes these discoveries using its proprietary gene knockout technology to model the physiological effects that could be expected from prospective drugs directed against novel targets. The Company has advanced knockout-validated targets into drug discovery programs in six therapeutic areas: diabetes and obesity, cardiovascular disease, cancer, immune system disorders, ophthalmic disease, and

psychiatric and neurological disorders. Lexicon is working both independently and through strategic collaborations and alliances to accelerate the development and commercialization of its discoveries. Additional information about Lexicon is available through its corporate website, www.lexicon-genetics.com.

SAFE HARBOR STATEMENT

This press release contains "forward-looking statements," including statements about Lexicon's growth and future operating results, discovery and development of products, strategic alliances and intellectual property, as well as other matters that are not historical facts or information. These forward-looking statements are based on management's current assumptions and expectations and involve risks, uncertainties and other important factors, specifically including those relating to Lexicon's ability to successfully conduct preclinical development of its drug candidates and advance such candidates into clinical development, achieve its operational objectives, obtain patent protection for its discoveries and establish strategic alliances, as well as those relating to manufacturing, the regulatory process, intellectual property rights, and the therapeutic or commercial value of its drug candidates, that may cause Lexicon's actual results to be materially different from any future results expressed or implied by such forward-looking statements. Information identifying such important factors is contained under "Factors Affecting Forward-Looking Statements" and "Business - Risk Factors" in Lexicon's annual report on Form 10-K for the year ended December 31, 2003, as filed with the Securities and Exchange Commission. Lexicon undertakes no obligation to update or revise any such forward-looking statements, whether as a result of new information, future events or otherwise.

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LEXICON GENETICS INCORPORATED

SELECTED FINANCIAL DATA

CONSOLIDATED STATEMENTS OF OPERATIONS DATA (In thousands, except per share data)	THREE MONTHS ENDED DECEMBER 31,		YEAR ENDED DECEMBER 31,	
	2004	2003	2004	2003
	(UNAUDITED)		(UNAUDITED)	
Revenues:				
Subscription and license fees	\$ 4,272	\$ 6,109	\$ 12,004	\$ 21,550
Collaborative research	21,739	7,577	49,736	21,242
Other	--	14	--	46
Total revenues	26,011	13,700	61,740	42,838
Operating expenses:				
Research and development, including stock-based compensation of \$11, \$1,247, \$426 and \$5,048, respectively	23,120	20,346	90,586	82,198
General and administrative, including stock-based compensation of \$0, \$1,240, \$412 and \$5,067, respectively	4,349	5,695	18,608	23,233
Total operating expenses	27,469	26,041	109,194	105,431
Loss from operations	(1,458)	(12,341)	(47,454)	(62,593)
Interest income	440	404	1,638	1,555
Interest expense	(831)	(85)	(2,660)	(325)
Other income	1,308	222	1,304	241
Net loss before cumulative effect of a change in accounting principle	(541)	(11,800)	(47,172)	(61,122)
Cumulative effect of a change in accounting principle	--	(3,076)	--	(3,076)
Net loss	\$ (541)	\$ (14,876)	\$ (47,172)	\$ (64,198)
Net loss per common share, basic and diluted:				
Net loss before cumulative effect of a change in accounting principle	\$ (0.01)	\$ (0.19)	\$ (0.74)	\$ (1.08)
Cumulative effect of a change in accounting principle	--	(0.05)	--	(0.05)
Net loss per common share, basic and diluted	\$ (0.01)	\$ (0.24)	\$ (0.74)	\$ (1.13)
Shares used in computing net loss per common share	63,449	62,794	63,327	56,820

CONSOLIDATED BALANCE SHEET DATA
(In thousands)

	AS OF DECEMBER 31,	AS OF DECEMBER 31,
	2004	2003
	(UNAUDITED)	
Cash and investments, including restricted cash and investments of \$430 and \$57,514, respectively	\$ 87,558	\$ 161,001
Property and equipment, net	84,573	83,676
Goodwill	25,798	25,798
Intangible assets other than goodwill, net	1,840	3,040
Total assets	211,980	284,199
Deferred revenue	37,592	47,692
Current and long-term debt	37,631	56,344
Accumulated deficit	(261,115)	(213,943)
Total stockholders' equity	121,594	166,216

