

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

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FORM 8-K  
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CURRENT REPORT  
PURSUANT TO SECTION 13 OR 15(D) OF THE  
SECURITIES EXCHANGE ACT OF 1934

DATE OF REPORT (DATE OF EARLIEST EVENT REPORTED): JUNE 21, 2006

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))

ITEM 5.02 DEPARTURE OF DIRECTORS OR PRINCIPAL OFFICERS; ELECTION OF DIRECTORS; APPOINTMENT OF PRINCIPAL OFFICERS

(d) Effective June 21, 2006, our board of directors elected Barry Mills, J.D., Ph.D. to serve as a member of our board of directors.

The election of Dr. Mills as a director was not made pursuant to any arrangement or understanding between Dr. Mills and any other person. Dr. Mills will not initially serve on any committees of the board of directors and we have no current expectation as to which committees, if any, Dr. Mills may ultimately be appointed. There are no current or proposed transactions or series of transactions in which Dr. Mills has, or will have, a direct or indirect material interest which would require disclosure under Item 404(a) of Regulation S-K.

A copy of our press release announcing Dr. Mills' election to our board of directors is attached to this current report on Form 8-K as Exhibit 99.1.

ITEM 9.01 FINANCIAL STATEMENTS AND EXHIBITS

(d) Exhibits

EXHIBIT NO. - - - - -	DESCRIPTION - - - - -
99.1 --	Press Release of Lexicon Genetics Incorporated dated June 21, 2006

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: June 22, 2006

By: /s/ JEFFREY L. WADE

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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 June 21, 2006

LEXICON GENETICS ELECTS BARRY MILLS  
TO BOARD OF DIRECTORS

THE WOODLANDS, TEXAS, JUNE 21, 2006 - Lexicon Genetics Incorporated (Nasdaq: LEXG) announced today that Barry Mills, J.D., Ph.D. has been elected to its Board of Directors.

Dr. Mills has been the president of Bowdoin College in Brunswick, Maine since 2001. He previously spent more than 20 years as an attorney with Debevoise & Plimpton LLP in New York, where he focused on corporate law, real estate and corporate finance and served as the firm's deputy presiding partner. He currently serves on the board of directors of Maine Bank & Trust Co., a Maine bank subsidiary of Chittenden Bank, and Galileo Fund Management Limited, as well as several philanthropic boards. Dr. Mills earned an A.B. in biochemistry and government from Bowdoin College, a Ph.D. in biology from Syracuse University and a J.D. from the Columbia University School of Law.

"With the election of Dr. Mills to Lexicon's board of directors, we add considerable independent governance, financial and legal expertise," said Arthur T. Sands, M.D., Ph.D., president and chief executive officer of Lexicon. "Lexicon will benefit from Dr. Mills' experience and insight as we continue our advancement to drug development and commercialization."

## ABOUT LEXICON GENETICS

Lexicon Genetics is a biopharmaceutical company focused on discovering and developing 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 addressing these targets. For targets that the company believes have high pharmaceutical value, it engages in programs for the discovery and development of small molecule, antibody and protein drugs. Lexicon has advanced knockout-validated targets into drug discovery programs in six therapeutic areas: diabetes and obesity, cardiovascular disease, psychiatric and neurological disorders, cancer, immune system disorders and ophthalmic disease. Lexicon is working both independently and through collaborations and strategic alliances to accelerate the development and commercialization of its discoveries.

## 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, 2005, 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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CONTACT FOR LEXICON GENETICS:  
Bobbie Faulkner  
Manager, Investor Relations  
281/863-3503  
bfaulkner@lexgen.com