
**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): December 31, 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))
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Item 2.02 Results of Operations and Financial Condition

Based on preliminary, unaudited financial data, we expect that our revenues for the year ended December 31, 2006 will be approximately \$72 million. We expect to achieve revenues for 2007 in the range of \$75 million to \$78 million. We had cash and investments of approximately \$80 million (unaudited) at December 31, 2006. We expect to release our fourth quarter and year-end 2006 financial results on Wednesday, February 21, 2007 and to discuss those results on a conference call currently scheduled for the same date.

The information in Item 2.02 of this Form 8-K shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (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, as amended (the “Securities Act”) or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Safe Harbor Statement

The information in Item 2.02 of this Form 8-K contains “forward-looking statements,” which 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 achieve its financial and operational objectives and establish new alliance, collaboration and technology license agreements, 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.

Item 3.02 Unregistered Sales of Equity Securities

On December 31, 2006, we issued 1,511,670 shares of our common stock to Genentech, Inc. in repayment of a convertible promissory note held by Genentech pursuant to a note agreement dated December 17, 2002 and amended on November 30, 2005. The shares were issued in accordance with the terms of the note and in repayment of an aggregate amount of approximately \$5,491,143 in principal and accrued interest. We issued the shares in reliance upon the exemption provided by Section 3(a)(9) of the Securities Act.

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: January 5, 2007

By: /s/ JEFFREY L. WADE

Jeffrey L. Wade
*Executive Vice President and
General Counsel*