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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): OCTOBER 20, 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)
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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 8.01 OTHER EVENTS

Lexicon Genetics Incorporated (the "Company") has initiated a Phase 1 clinical trial for LX6171, a novel, orally administered small molecule compound for cognitive disorders. The Company has also commenced formal preclinical development for LX2931, a novel, orally-available small molecule compound with potential application in the treatment of autoimmune diseases such as multiple sclerosis and rheumatoid arthritis.

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: October 20, 2006

By: /s/ JEFFREY L. WADE

Jeffrey L. Wade
Executive Vice President and
General Counsel