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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): AUGUST 1, 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

On August 1, 2006, we issued a press release to report our financial results for the quarter ended June 30, 2006. 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 August 1, 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: August 1, 2006

By: /s/ JEFFREY L. WADE

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Jeffrey L. Wade  
Executive Vice President and  
General Counsel

INDEX TO EXHIBITS

EXHIBIT NO.  
DESCRIPTION

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99.1 --  
Press  
Release of  
Lexicon  
Genetics  
Incorporated  
dated  
August 1,  
2006

LEXICON GENETICS REPORTS 2006  
SECOND QUARTER FINANCIAL RESULTS

THE WOODLANDS, TEXAS, AUGUST 1, 2006 -- Lexicon Genetics Incorporated (Nasdaq: LEXG), a biopharmaceutical company focused on discovering and developing breakthrough treatments for human disease, today reported financial results for the three and six months ended June 30, 2006.

"We continue to make progress with our drug discovery and development programs. Our application to initiate a Phase 1 clinical trial for LX6171 has received clearance from the United Kingdom Medicines and Healthcare Products Regulatory Agency (MHRA), and we expect to have that trial underway shortly," said Arthur T. Sands, M.D., Ph.D., president and chief executive officer. "LX6171 is a small molecule compound being developed to treat cognitive disorders such as Alzheimer's disease. LX6171 resulted from Lexicon's internal target discovery engine and medicinal chemistry efforts."

**REVENUES:** Lexicon's revenues for the three months ended June 30, 2006 increased 16 percent to \$16.2 million from \$13.9 million for the corresponding period in 2005. The increase was primarily attributable to revenue recognized under Lexicon's award from the Texas Enterprise Fund, its contract with the National Institutes of Health and its expanded biotherapeutics drug discovery and development alliance with Genentech, Inc. The increase was partially offset by a decline in revenues recognized under Lexicon's biotherapeutics alliance with Organon due to the timing of target discovery research activities. For the six months ended June 30, 2006, revenues increased 33 percent to \$37.1 million from \$27.8 million for the corresponding period of 2005.

**RESEARCH AND DEVELOPMENT EXPENSES:** Research and development expenses for the three months ended June 30, 2006 increased 16 percent to \$27.4 million from \$23.7 million for the corresponding period in 2005. This was primarily due to increased personnel, lab supply and external research costs, and non-cash, stock-based compensation expense of \$1.1 million resulting from Lexicon's adoption of SFAS No. 123(R) on January 1, 2006. For the six months ended June 30, 2006, research and development expenses increased 17 percent to \$54.1 million, including \$2.3 million in non-cash, stock-based compensation expense, from \$46.4 million for the corresponding period in 2005.

**GENERAL AND ADMINISTRATIVE EXPENSES:** General and administrative expenses for the three months ended June 30, 2006 increased 19 percent to \$5.7 million from \$4.8 million for the corresponding period in 2005. This increase was primarily due to non-cash, stock-based compensation expense of \$0.7 million resulting from Lexicon's adoption of SFAS No. 123(R) on January 1, 2006 and higher personnel costs. For the six months ended June 30, 2006, general and administrative expenses increased 19 percent to \$11.0 million, including \$1.4 million in non-cash, stock-based compensation expense, from \$9.2 million for the corresponding period in 2005.

**NET LOSS:** Net loss for the three months ended June 30, 2006 increased to \$16.9 million from a net loss of \$14.8 million in the corresponding period in 2005. Net loss per share for the three months ended June 30, 2006 was \$0.26, as compared to \$0.23 for the corresponding period in 2005. For the three months ended June 30, 2006, net loss included non-cash, stock-based compensation expense of \$1.8 million, or \$0.03 per share. Net loss for the six months ended June 30, 2006 decreased to \$27.7 million, or \$0.43 per share, from a net loss of \$28.1 million, or \$0.44 per share, in the corresponding period in 2005. For the six months ended June 30, 2006, net loss included non-cash, stock-based compensation expense of \$3.6 million, or \$0.06 per share.

CASH AND INVESTMENTS: As of June 30, 2006, Lexicon had \$65.3 million in cash and investments, including restricted cash and investments, as compared to \$87.0 million as of March 31, 2006 and \$99.7 million as of December 31, 2005. In June 2006, Lexicon received a financing commitment for up to \$75 million in common stock from Azimuth Opportunity Ltd. under which Lexicon may sell registered shares of its common stock at its sole discretion to Azimuth during an 18-month term. Lexicon will use net proceeds from any sale of the securities for research, drug discovery and development activities, including the preclinical and clinical development of its lead programs. Lexicon has not drawn on this equity financing commitment to date.

"Our business continues to perform well, as demonstrated by the expansion of our neuroscience alliance with Bristol-Myers Squibb Company," said Julia P. Gregory, Lexicon's executive vice president, corporate development and chief financial officer. "Our equity line commitment provides us with flexibility in managing our cash needs as we advance our lead drug programs into human clinical trials."

#### SECOND QUARTER 2006 HIGHLIGHTS

FILED APPLICATION FOR LX6171 PHASE 1 TRIAL FOR COGNITIVE DISORDERS: Lexicon submitted a Clinical Trial Authorization (CTA) filing to the United Kingdom Medicines and Healthcare Products Regulatory Agency (MHRA) for LX6171, an internally discovered and developed small molecule compound for cognitive disorders. Lexicon has received clearance from the MHRA to initiate a Phase 1 clinical trial of LX6171 in healthy volunteers to assess the compound's safety, tolerability and pharmacokinetics. In preclinical studies, LX6171 has demonstrated improved learning and memory in healthy and aged mice and has exhibited a good safety profile in toxicology and safety studies. Lexicon is developing LX6171 for potential application in the treatment of cognitive disorders such as Alzheimer's disease, schizophrenia, vascular dementia, attention deficit disorder and Fragile X syndrome.

EXTENDED NEUROSCIENCE ALLIANCE WITH BRISTOL-MYERS SQUIBB -- Bristol-Myers Squibb Company extended the target discovery term of its neuroscience alliance with Lexicon for an additional two years. Bristol-Myers Squibb and Lexicon initiated this alliance in December 2003 to accelerate the discovery, development and commercialization of therapies that address unmet medical needs in psychiatry and neurology. Bristol-Myers Squibb will provide Lexicon \$20 million in additional research funding over the two-year extended research term which begins in January 2007. For each drug developed and commercialized by Bristol-Myers Squibb from the alliance, Lexicon will also receive clinical and regulatory milestone payments and will earn royalties on net sales.

AWARDED GRANT FROM THE UNITED STATES ARMY: Lexicon announced it was awarded a grant from the United States Army Medical Research & Materiel Command (USAMRMC) for the identification of targets that may be important in the development of drugs to prevent or treat spinal muscular atrophy (SMA), a neurodegenerative disorder and the leading genetic cause of death in early childhood. Lexicon will study approximately 750 genes in the SMA research program and will receive \$2.0 million in funding during the one-year initial term of the grant.

#### LEXICON CONFERENCE CALL:

Lexicon management will hold a conference call to discuss the company's results and provide financial guidance for the third quarter at 11:00 a.m. Eastern Time on August 1, 2006. The dial-in number for the conference call is 800-946-0782 (within the United States) or 719-457-2657 (international). The pass code for all callers is 5952224. Investors can access [www.lexicon-genetics.com](http://www.lexicon-genetics.com) to listen to a live webcast of the call. The webcast will be archived and available for review through August 4, 2006.

## 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. Additional information about Lexicon is available through its corporate website, [www.lexicon-genetics.com](http://www.lexicon-genetics.com).

## SAFE HARBOR STATEMENT

This press release contains "forward-looking statements," including statements relating to Lexicon's regulatory filings and clinical development program for LX6171 and the potential therapeutic and commercial potential of LX6171 and other potential drug candidates in Lexicon's preclinical pipeline. This press release also contains forward-looking statements relating to 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. All 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 clinical development of LX6171 and preclinical development of other potential drug candidates, advance additional candidates into preclinical and clinical development, obtain necessary regulatory approvals, achieve its operational objectives, obtain patent protection for its discoveries and establish strategic alliances, as well as additional factors relating to manufacturing, 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:

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LEXICON GENETICS INCORPORATED

SELECTED FINANCIAL DATA

CONSOLIDATED STATEMENTS OF OPERATIONS DATA THREE MONTHS ENDED SIX MONTHS ENDED (In thousands, except per share data) JUNE 30, JUNE 30, -

	2006	2005	2006	2005	2006
	-----	-----	-----	-----	-----
2005	(UNAUDITED)		Revenues: Collaborative		(UNAUDITED)
research.....			\$ 15,351	\$	
13,771	\$34,657	\$22,654	Subscription and license		
fees.....	813	127	2,462	5,169	--
	----- Total				
revenues.....			16,164		
13,898	37,119	27,823	Operating expenses: Research and development,		
	including stock-based compensation of \$1,105, (\$9), \$2,254 and (\$20),				
respectively.....	27,433	23,667	54,105	46,427	General
and administrative, including stock-based compensation of \$659, \$0,					
\$1,351 and \$0, respectively.....	5,664				
4,750	10,967	9,182	-----		
Total operating expenses.....					
33,097	28,417	65,072	55,609	-----	
	---- Loss from				
operations.....					
(16,933)	(14,519)	(27,953)	(27,786)	Interest	
income.....					900
506	1,903	997	Interest		
expense.....					
(813)	(827)	(1,620)	(1,632)	Other income,	
net.....			(56)	(2)	
(63)	313	----- Net			
loss.....					
\$ (16,902)	\$ (14,842)	\$ (27,733)	\$ (28,108)	=====	=====
	===== Net loss per common share, basic and				
diluted.....			\$ (0.26)	\$ (0.23)	\$ (0.43)
(0.44)	=====	=====	=====	=====	Shares used in
computing net loss per common share.....			64,627		
	63,636	64,597	63,581		

CONSOLIDATED BALANCE SHEET DATA AS OF JUNE 30, AS OF DECEMBER 31, (In thousands) 2006 2005 ----- (UNAUDITED) Cash and investments, including restricted cash and investments of \$430..... \$ 65,327 \$ 99,695 Property and equipment, net..... 82,174

	85,265			
Goodwill.....				
25,798	25,798	Intangible assets other than goodwill,		
net.....	40	640	Total	
assets.....				
182,671	218,714	Deferred		
revenue.....			71,138	
81,582	Current and long-term			
debt.....			36,568	36,940
	Accumulated			
deficit.....			(325,163)	
(297,430)	Total stockholders' equity			
			61,855	85,802