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 16, 2010**

Lexicon Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**000-30111**	**76-0474169**
(State or other jurisdiction of incorporation or organization)	**(Commission File Number)**	**(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 1.01 Entry into a Material Definitive Agreement

On February 16, 2010, we entered into a revised collaboration and license agreement with N.V. Organon and its affiliates Intervet Inc. and Schering Corporation, acting through its Schering-Plough Research Institute division, which we collectively refer to as Schering-Plough. Organon, formerly a subsidiary of Akzo Nobel N.V., was acquired by Schering-Plough Corporation in November 2007, which subsequently merged with Merck & Co., Inc. in November 2009.

The revised agreement amends the terms of the alliance we entered into with Organon in May 2005 to discover, develop and commercialize novel biotherapeutic drugs. In the alliance, we created and analyzed knockout mice for 300 genes selected by the parties that encode secreted proteins or potential antibody targets, and we and Organon jointly selected targets for further research and development. We have received a total of $52.5 million in upfront payments and research funding in connection with the alliance.

Under the alliance as originally structured, we and Organon agreed to equally share costs of and responsibility for research, preclinical and clinical activities, jointly determine the manner in which collaboration products would be commercialized, and equally benefit from product revenue. If fewer than five development candidates were designated under the collaboration, our share of costs and product revenue was to be proportionally reduced, and if more than five development candidates were designated, we were to receive a milestone payment for each additional development candidate. Each party had the right to decline to participate in further research or development efforts with respect to a collaboration product, in which case that party would receive royalty payments on sales of such collaboration product rather than sharing in revenue. Organon was to have principal responsibility for manufacturing biotherapeutic drugs resulting from the collaboration for use in clinical trials and for worldwide sales.

Under the revised structure of the alliance, Schering-Plough will assume the full cost of research activities conducted by either party in the alliance, and will assume the full cost of and responsibility for preclinical, clinical and commercialization activities with respect to biotherapeutic drugs resulting from the alliance. We will be entitled to receive clinical and regulatory milestone payments of up to $39 million for each drug target for which Schering-Plough develops a biotherapeutic drug under the alliance. We will also earn royalties on sales of biotherapeutic drugs commercialized by Schering-Plough under the alliance.

In connection with the revised agreement, we and Schering-Plough have agreed to release from the alliance certain targets that had not been selected by the parties for further research and development, with each party being free to pursue such targets in the future without obligation to the other. In the event that Schering-Plough elects not to continue research and development of biotherapeutics drugs for a target remaining in the alliance, the parties may similarly agree to release the target from the alliance, with each party being free to pursue such target in the future without obligation to the other. Alternatively, Lexicon, at its option, may obtain exclusive rights, for the research and development of biotherapeutics drugs acting through such target, to the intellectual property generated in the alliance or in the development of resulting biotherapeutics drugs, subject to certain milestone and royalty obligations to Schering-Plough.

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 Pharmaceuticals, Inc.

Date: February 22, 2010

By: /s/ JEFFREY L. WADE

Jeffrey L. Wade
Executive Vice President and
General Counsel