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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): MARCH 28, 2005

LEXICON GENETICS INCORPORATED
(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))
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ITEM 1.01 ENTRY INTO A MATERIAL DEFINITIVE AGREEMENT

On March 28, 2005, we entered into an agreement with C. Thomas Caskey, M.D., a member of our board of directors, under which Dr. Caskey will serve as a consultant to us on governmental affairs. Dr. Caskey will receive payment of \$75,000 per year, payable in monthly installments, for his consulting services under the agreement. The agreement has an initial term of one year and may be extended by mutual agreement of the parties.

A copy of the consulting agreement is attached to this current report on Form 8-K as Exhibit 10.1.

ITEM 9.01 FINANCIAL STATEMENTS AND EXHIBITS

(c) Exhibits

EXHIBIT NO. -----	DESCRIPTION -----
10.1	-- Consulting Agreement with C. Thomas Caskey, M.D. dated March 28, 2005

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: April 1, 2005

By: /s/ JEFFREY L. WADE

Jeffrey L. Wade
Executive Vice President and
General Counsel

INDEX TO EXHIBITS

EXHIBIT NO.

DESCRIPTION

10.1 -- Consulting Agreement with C. Thomas Caskey, M.D. dated March 28, 2005

[LEXICON GENETICS LETTERHEAD]

March 28, 2005

VIA FEDERAL EXPRESS
Dr. C. Thomas Caskey
Five Post Oak Park
4400 Post Oak Parkway, Suite 1400
Houston, Texas 77027

Dear Tom:

We are pleased to invite you to become a consultant to Lexicon Genetics Incorporated (which, together with its subsidiaries and affiliates, is referred to as the "Company" or "Lexicon") relating to Lexicon's interactions with federal and state government representatives and agencies regarding opportunities for grants, collaborations and other contracts. The purpose of this letter agreement (this "Agreement") is to set forth our mutual understanding of the terms and conditions under which you would provide consulting services, as set forth below.

1. Consulting Services. As a consultant to Lexicon, you will provide such consulting and advisory services as may be requested by Arthur T. Sands, M.D., Ph.D., the Company's President and Chief Executive Officer, relating to Lexicon's interactions with federal and state government representatives and agencies regarding opportunities for grants, collaborations and other contracts. You will devote up to 24 days annually (approximately two days a month on average) to providing such services to the Company under this Agreement, on a schedule and at times reasonably agreed upon by you and Dr. Sands.

2. Compensation. As full consideration for your services as a consultant to the Company and your obligations under this Agreement, you will receive fees of \$75,000 per year, payable in 12 monthly installments. In addition, you will be reimbursed for your reasonable, ordinary and necessary travel expenses incurred by you at the Company's prior request in connection with your performance of your services under this Agreement.

3. Confidential Information.

(a) In the course of your service as a consultant to the Company, you may learn or be exposed, orally, visually, electronically or in writing, to inventions, discoveries, improvements, materials, data, technology, processes, formulas, know-how, trade secrets, ideas and other information which we consider proprietary or confidential ("Confidential Information"). You agree to hold any Confidential Information disclosed to you by the Company or learned by you from the Company in conjunction with your services under this Agreement in strict confidence and to take all reasonable precautions to protect such Confidential Information, not to disclose any such Confidential Information to any third party, and to use such Confidential Information only in furtherance of your services under this Agreement; provided that your nondisclosure obligation shall not apply to the extent such Confidential Information (i) is already in the public domain or hereafter enters the public domain other than through your acts or omissions in violation of this Agreement; (ii) is already known to you, as may be shown by competent written records; (iii) is hereafter received by you without restriction as to confidentiality or use from a

third party lawfully entitled so to disclose same in such manner; or (iv) is hereafter generated by you, other than in performance of your services under this Agreement, without the use of any Confidential Information, facilities or personnel of the Company. Information shall not be deemed to be within the foregoing exceptions merely because such information is embraced by more general information in the public domain or in your possession. All Confidential Information (and any copies and notes thereof) shall remain the sole property of the Company.

(b) You agree not to disclose or otherwise make available to the Company any information that you possess under an obligation of confidentiality to a third party. You may disclose to the Company any information made available generally to the scientific community at large through published reports or public presentations prior to disclosure to the Company.

4. Term and Termination. You will render your advisory and consulting services to the Company for an initial period of one year from the date of this letter. The term of this Agreement may be extended by mutual written agreement between you and the Company. This Agreement may be terminated (a) at any time by either party, with or without cause, upon 30 days' advance written notice to the other party and (b) by either party for breach of this Agreement by the other party that, where curable, is not cured within 10 business days after written notice of such breach is delivered to the breaching party.

5. Independent Contractor. For purposes of this Agreement, you will be deemed an independent contractor and not an employee or agent of Lexicon. In this connection, you will not be eligible for, nor entitled to, any employee benefits that we normally extend to our employees, and we will not withhold any taxes from the compensation paid to you, all of which shall be your responsibility. The manner in which you render your services under this Agreement will be within your reasonable control and discretion. You have no express or implied authority to incur any liability, or to make any decision or to create any binding obligation, on our behalf.

6. Compliance with Laws and Procedures. To the extent you provide services under this Agreement on our premises, you agree to observe our business hours, as well as our rules, policies and security procedures concerning conduct and the health, safety and protection of persons and property. You will comply with all applicable governmental laws, ordinances, rules and regulations applicable to the performance of your services under this Agreement.

7. Governing Law. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of Texas as they apply to contracts entered into and wholly to be performed in Texas.

8. Enforcement. You agree that a breach of any of the restrictions set forth in the provisions of this Agreement would cause the Company irreparable injury and damage, and that, in the event of any breach or threatened breach, the Company, in addition to all other rights and remedies at law or in equity, shall have the right to enforce the specific performance of such restrictions and to apply for injunctive relief against their violation.

9. Survival of Terms. The provisions of Sections 3 and 7 through 15 hereof shall survive termination of this Agreement.

10. Successors and Assigns. You may not assign this Agreement without the written consent of the Company. This Agreement shall be binding on your heirs, executors, administrators and legal representatives and the Company's successors and assigns.

11. Severability. The invalidity or unenforceability of any provision of this Agreement (or portion thereof) shall not affect the validity or enforceability of any other provision of this Agreement, and if such provision (or portion thereof) is so broad as to be unenforceable, it shall be interpreted to be only as broad as is enforceable.

12. Entire Agreement. This Agreement constitutes the sole and complete agreement of the parties with respect to the matters included herein, and supersedes any previous oral or written agreement, if any, relating to the subject matters included herein.

13. Amendment and Waiver. This Agreement may not be amended or supplemented in any way, nor may the benefit of any provision hereof be waived, except by a written agreement duly executed by both you and the Company.

14. No Conflict. You represent that the performance of your obligations and duties under this Agreement does not conflict with any obligations or duties, express or implied, that you may have to third parties.

15. Construction. Each party to this Agreement has had the opportunity to review this Agreement with legal counsel. This Agreement shall not be construed or interpreted against any party on the basis that such party drafted or authored a particular provision, parts of or the entirety of this Agreement.

16. Board Service. You and the Company acknowledge and agree that the consulting relationship contemplated by this Agreement is separate and distinct from your service as a member of the Company's Board of Directors, which service shall be governed by (a) the terms and conditions of Company's Certificate of Incorporation and By-Laws, in each case as amended; (b) applicable actions taken by the Board of Directors; (c) the Delaware General Corporation Law; and (d) other applicable federal and state laws.

If the foregoing correctly sets forth our mutual understanding, please so indicate by signing this letter in the space provided below and return it to the Company at the above address, whereupon this Agreement shall constitute a binding contract between us and our legal representatives, successors, and assigns.

Very truly yours,

LEXICON GENETICS INCORPORATED

By: /s/ Arthur T. Sands

Arthur T. Sands, M.D., Ph.D.
President and Chief Executive Officer

ACCEPTED AND AGREED TO ON THE DATE SET FORTH BELOW:

By: /s/ C. Thomas Caskey

C. Thomas Caskey, M.D.

Date: March 28, 2005

