

Mills Barry
Form 4
August 31, 2006

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
Mills Barry

2. Issuer Name and Ticker or Trading Symbol
LEXICON GENETICS INC/TX
[LEXG]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction
(Month/Day/Year)

Director 10% Owner
 Officer (give title below) Other (specify below)

8800 TECHNOLOGY FOREST PLACE

08/18/2006

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)

Form filed by One Reporting Person
 Form filed by More than One Reporting Person

THE WOODLANDS, TX 773811160

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price
Common Stock	08/18/2006		P		268	A	\$ 3.85
Common Stock	08/18/2006		P		1,000	A	\$ 3.86
Common Stock	08/18/2006		P		100	A	\$ 3.89
Common Stock	08/18/2006		P		4	A	\$ 3.9
	08/18/2006		P		500	A	

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Common Stock						\$ 3.91		
Common Stock	08/18/2006	P	1,400	A	\$ 3.93	3,272	D	
Common Stock	08/18/2006	P	1,112	A	\$ 3.94	4,384	D	
Common Stock	08/18/2006	P	14,000	A	\$ 3.95	18,384	D	
Common Stock	08/18/2006	P	3,636	A	\$ 3.96	22,020	D	
Common Stock	08/18/2006	P	200	A	\$ 3.97	22,220	D	
Common Stock	08/18/2006	P	1,880	A	\$ 3.98	24,100	D	
Common Stock	08/18/2006	P	900	A	\$ 3.99	25,000	D	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of Derivative Securities Beneficially Owned Following Transaction (Instr. 6)
				Code	V (A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares

Reporting Owners

Reporting Owner Name / Address

Relationships

Director 10% Owner Officer Other

Mills Barry
8800 TECHNOLOGY FOREST PLACE X
THE WOODLANDS, TX 773811160

Signatures

By: /s/ Barry
Mills 08/31/2006

 Signature of
Reporting Person

Date

Explanation of Responses:

* If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.

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