Northstar Neuroscience, Inc.

Form 5

January 09, 2009

OMB APPROVAL FORM 5 **OMB**

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

3235-0362 Number: January 31, Expires: 2005

no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction

Check this box if

ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Estimated average burden hours per response... 1.0

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, 1(b). Form 3 Holdings Section 17(a) of the Public Utility Holding Company Act of 1935 or Section Reported 30(h) of the Investment Company Act of 1940

Form 4

Transactions Reported

| 1. Name and Address of Reporting Person * BARCLAYS PLC | | | 2. Issuer Name and Ticker or Trading Symbol | 5. Relationship of Reporting Person(s) to Issuer | | | |
|--------------------------------------------------------|----------|----------|----------------------------------------------------|--------------------------------------------------|--|--|--|
| | | | Northstar Neuroscience, Inc. [NSTR] | (Check all applicable) | | | |
| (Last) | (First) | (Middle) | 3. Statement for Issuer's Fiscal Year Ended | | | | |
| | | | (Month/Day/Year) | DirectorX 10% Owner | | | |
| | | | 12/31/2008 | Officer (give title Other (specify | | | |
| 1 CHURCHIL | L PLACE | | | below) below) | | | |
| | (Street) | | 4. If Amendment, Date Original | 6. Individual or Joint/Group Reporting | | | |
| | | | Filed(Month/Day/Year) | | | | |
| | | | · | (check applicable line) | | | |

LONDON, X0Â E14 5HP

X Form Filed by One Reporting Person Form Filed by More than One Reporting Person

| (City) | (State) | (Zip) Tab | le I - Non-Dei | rivative Se | curitie | es Acquir | ed, Disposed of | , or Beneficia | lly 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. Securiti (A) or Dis (Instr. 3, 4) | posed | of (D) | 5. Amount of Securities Beneficially Owned at end of Issuer's Fiscal Year (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
| Common Stock, \$0.001 par value | 11/03/2008 | Â | S4 | 100 | D | | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, | 11/04/2008 | Â | S4 | 200 | D | \$ 1.24 | 4,449,458 | I | Securities are held by |

| \$0.001 par value | | | | | | | | | Barclays Capital Inc., a subsidiary of Barclays PLC |
|------------------------------------------|------------|---|----|-------|---|-------------|-----------|---|-------------------------------------------------------------------------------------------------|
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 350 | D | \$ 1.25 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 2,050 | D | \$ 1.26 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 200 | D | \$ 1.269 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 500 | D | \$ 1.27 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 100 | D | \$ 1.29 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common | 11/04/2008 | Â | S4 | 300 | D | \$ 1.3 | 4,449,458 | I | Securities |

| Stock, \$0.001 par value | | | | | | | | | are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
|------------------------------------------|------------|---|----|--------|---|---------|-----------|---|-------------------------------------------------------------------------------------------------|
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 800 | D | \$ 1.31 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/04/2008 | Â | S4 | 5,159 | D | \$ 1.32 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/05/2008 | Â | S4 | 75,393 | D | \$ 1.3 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/05/2008 | Â | S4 | 10,700 | D | \$ 1.31 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/05/2008 | Â | S4 | 41,300 | D | \$ 1.32 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |

| Common Stock, \$0.001 par value | 11/06/2008 | Â | S4 | 100 | D | \$ 1.3 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
|------------------------------------------|------------|---|----|-------|---|---------|-----------|---|-------------------------------------------------------------------------------------------------|
| Common Stock, \$0.001 par value | 11/11/2008 | Â | S4 | 4,700 | D | \$ 1.25 | 4,449,458 | Ι | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/11/2008 | Â | S4 | 400 | D | \$ 1.27 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/12/2008 | Â | S4 | 400 | D | \$ 1.21 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/12/2008 | Â | S4 | 1,100 | D | \$ 1.22 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary o |
| Common Stock, \$0.001 par value | 11/12/2008 | Â | S4 | 2,800 | D | \$ 1.23 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |

| Common Stock, \$0.001 par value | 11/12/2008 | Â | S4 | 2,900 | D | \$ 1.24 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
|------------------------------------------|------------|---|----|--------|---|---------|-----------|---|-------------------------------------------------------------------------------------------------|
| Common Stock, \$0.001 par value | 11/12/2008 | Â | S4 | 13,500 | D | \$ 1.25 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/12/2008 | Â | S4 | 200 | D | \$ 1.26 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/13/2008 | Â | S4 | 1,300 | D | \$ 1.23 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/13/2008 | Â | S4 | 800 | D | \$ 1.24 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
| Common Stock, \$0.001 par value | 11/13/2008 | Â | S4 | 4,892 | D | \$ 1.25 | 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |

| Common Stock, \$0.001 par value | Â | S4 | 1,300 | D | \$ 1.25 4,449,458 | I | Securities are held by Barclays Capital Inc., a subsidiary of Barclays PLC |
|------------------------------------------|---|----|-------|---|-------------------|---|-------------------------------------------------------------------------------------------------|
| | | | | | | | subsidiary of Barclays |

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

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SEC 2270 (9-02)

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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) | | ate | 7. Tit Amou Under Secur (Instr | int of rlying | 8. Price of Derivative Security (Instr. 5) |
|-----------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------|---------------------|--------------------|--------------------------------------------|----------------------------------------|-----------------------------------------------------|
| | | | | | (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | | | | |
|---------------------------------------------------------|---------------|-----------|---------|-------|--|--|--|
| 1 8 | Director | 10% Owner | Officer | Other | | | |
| BARCLAYS PLC 1 CHURCHILL PLACE LONDON, X0 E14 5HP | Â | ÂX | Â | Â | | | |

Signatures

Eleanor Crossley 01/09/2009

**Signature of Person Date

Reporting Person

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 provided is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

Reporting Owners 6