

IDERA PHARMACEUTICALS, INC.
 Form 4
 December 24, 2008

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 *
AGRAWAL SUDHIR

 (Last) (First) (Middle)
 C/O IDERA
 PHARMACEUTICALS, INC., 167
 SIDNEY STREET

 (Street)
 CAMBRIDGE, MA 02139

 (City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
IDERA PHARMACEUTICALS, INC. [IDRA]

3. Date of Earliest Transaction
 (Month/Day/Year)
 12/22/2008

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

5. Relationship of Reporting Person(s) to Issuer

 (Check all applicable)
 Director 10% Owner
 Officer (give title below) Other (specify below)
 CEO, President & CSO

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

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 Indirect Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|--|
| | | | | (A) or (D) | Price | | |
| Common Stock | 12/22/2008 | | S ⁽¹⁾ | 1,300 D | \$ 7.4054 (2) | 140,177 | D |
| Common Stock | 12/22/2008 | | S ⁽¹⁾ | 1,500 D | \$ 8.3833 (3) | 138,677 | D |
| Common Stock | 12/23/2008 | | S ⁽¹⁾ | 1,500 D | \$ 7.5687 (4) | 137,177 | D |

| | | | | | | | | |
|--------|------------|------------------|-------|---|-----|--------|---------|---|
| Common | 12/24/2008 | S ⁽¹⁾ | 4,285 | D | \$ | 7.4814 | 132,892 | D |
| Stock | | | | | (5) | | | |

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

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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) | 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. Nu |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|-------|
|--|--|--------------------------------------|--|--------------------------------|---|--|---|--|-------|

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|----------------------|-------|
| | Director | 10% Owner | Officer | Other |
| AGRAWAL SUDHIR C/O IDERA PHARMACEUTICALS, INC. 167 SIDNEY STREET CAMBRIDGE, MA 02139 | X | | CEO, President & CSO | |

Signatures

Sudhir Agrawal 12/24/2008

**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).
- (1) The sales reported in this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on May 21, 2008, and as subsequently amended. The proceeds of such sales are to be used to exercise expiring stock options and applicable taxes associated with the exercise of the options and the sale of the shares under the plan. There will be no additional transactions entered into pursuant to the reporting person's 10b5-1 trading plan after December 24, 2008 since the 10b5-1 trading plan has been completed. The reporting

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person hereby undertakes to provide upon request by the staff of the Securities and Exchange Commission, the issuer or a shareholder of the issuer full information regarding the number of shares sold at each separate price.

- (2) Represents the sale of 1,300 shares in 13 separate transactions, ranging from \$7.18 to \$7.64 per share, resulting in a weighted average sale price per share of \$7.4054.
- (3) Represents the sale of 1,500 shares in 7 separate transactions, ranging from \$8.18 to \$8.45 per share, resulting in a weighted average sale price per share of \$8.3833.
- (4) Represents the sale of 1,500 shares in 10 separate transactions, ranging from \$7.50 to \$7.66 per share, resulting in a weighted average sale price per share of \$7.5687.
- (5) Represents the sale of 4,285 shares in 13 separate transactions, ranging from \$7.43 to \$7.56 per share, resulting in a weighted average sale price per share of \$7.4814.

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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