FORM 4

## **UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

| OMB APPROVAL             |           |  |  |  |  |  |  |  |
|--------------------------|-----------|--|--|--|--|--|--|--|
| OMB Number:              | 3235-0287 |  |  |  |  |  |  |  |
| Estimated average burden |           |  |  |  |  |  |  |  |
| hours per response:      | 0.5       |  |  |  |  |  |  |  |

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

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| 1. Name and Address of Reporting Person* RIGBY ALISON TAUNTON    |  |  |   |  | IDE   | 2. Issuer Name and Ticker or Trading Symbol  IDERA PHARMACEUTICALS, INC. [ IDP ] |  |                                |  |        |                           |   |                   |                                 | ck all appli<br>Directo                                | cable)<br>or  | ıg Pe                       | rson(s) to Is  | vner                    |
|--|--|--|---|--|---|--|--|--------------------------------|--|--------|---------------------------|---|-------------------|---------------------------------|--|---|-----------------------------|--|-------------------------|
| ` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '                          |  |  |   |  | 3. Date of Earliest Transaction (Month/Day/Year) 07/01/2006 |  |  |                                |  |        |                           |   |                   |                                 | Officer (give title below)                             |   | Other (s                    | specify  |                         |
| (Street) LINCOL  |  |  | )1773<br>Zip)   |  | 4. If A   | 4. If Amendment, Date of Original Filed (Month/Day/Year)                         |  |                                |  |        |                           |   |                   | 6. Inc<br>Line)<br>X            |  |   |                             |  |                         |
|  | Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned |  |   |  |   |  |  |                                |  |        |                           |   |                   |                                 |  |   |                             |  |                         |
| 1. Title of Security (Instr. 3)  2. Transaction Date (Month/Day/ |  |  |   |  | Execution Da  |  |  | 3.<br>Transactic<br>Code (Inst | n Dispose  |        | ities Acqu<br>d Of (D) (I |   |                   |                                 | ies Fo   |   | n: Direct<br>or<br>rect (I) | 7. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4)    |                         |
|  |  |  |   |  |   |  |  | Code                           | ,  | Amount | (A) or<br>(D)             |   | ice               | Reporte<br>Transac<br>(Instr. 3 | tion(s)  | (   | ,                           |  |                         |
|  |  |  | Table   |  |   |  |  |                                | uired, Dis <sub>l</sub><br>, options, o                        |        | ,                         |   | •                 | / Ow                            | ned  |   |                             |  |                         |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)              | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security            | 3. Transaction<br>Date<br>(Month/Day/Year) | 3A. Deemed<br>Execution Date,<br>if any<br>(Month/Day/Year) |  | 4.<br>Transaction<br>Code (Instr.<br>8)                     |  | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) |                                | 6. Date Exercisable and<br>Expiration Date<br>(Month/Day/Year) |        |                           | 7. Title and Amount of Securities Underlying Derivative Security (Instr. and 4) |                   | 3                               | B. Price<br>of<br>Derivative<br>Security<br>(Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction (Instr. 4) | ly                          | Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr.<br>4) | Beneficial<br>Ownership |
|  |  |  |   |  | Code  | v  | (A)  | (D)                            | Date<br>Exercisable  |        | xpiration<br>ate          | Title   | Num<br>of<br>Shar | .                               |  |   |                             |  |                         |
| Stock<br>options   | \$4.06   | 07/01/2006                                 |   |  | A   |  | 1,250 <sup>(1)</sup>   |                                | 07/01/2007   | 07     | 7/01/2016                 | Common<br>stock   | 1,2               | 50                              | \$0.00   | 1,250   |                             | D  |                         |

## Explanation of Responses:

1. The quarterly stock option grant to non-employee directors has been reduced from 10,000 shares to 1,250 shares in connection with the one-for-eight reverse split of the Company's common stock effective with the close of business on June 29, 2006.

## Remarks:

Alison Taunton-Rigby 07/01/2006

\*\* Signature of Reporting Person Date

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

- $^{\star}$  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.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.