FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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* HARTLEY C KEITH (Last) (First) (Middle) 14 WYNNWOOD ROAD (Street) GREENWICH CT 06830-3409 | | | | | | Issuer Name and Ticker or Trading Symbol IDERA PHARMACEUTICALS, INC. [IDRA] 3. Date of Earliest Transaction (Month/Day/Year) 06/14/2011 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | | 5. Relationship of Reporting Person(s) to Issuer Check all applicable) X Director 10% Owner Officer (give title Other (specify below) below) 5. Individual or Joint/Group Filing (Check Applicable Line) X Form filed by One Reporting Person Form filed by More than One Reporting | | | | |
|---|--|--|---|-------|---|---|--------|--|--|----|-----------------|---|--------------------------------|-------|---|---|---|--|--|
| (City) | y) (State) (Zip) | | | | | | | | | | | | | | Perso | • | | | onting |
| Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned | | | | | | | | | | | | | | | | | | | |
| 1. Title of Security (Instr. 3) Date (Month/Day | | | | | | Execution Date, | | | Transaction Dispo Code (Instr. and 5 | | | urities Acquired (A sed Of (D) (Instr. 3, | | | Securit Benefic Owned | ties For cially (D) | | m: Direct or irect (I) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
| | | | | | | | | | Code | v | Amoun | ount (A) or (D) | | Price | | | | .tr. 4) | (Instr. 4) |
| | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) | | | | | | | | | | | | | | | | | | |
| | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deeme Execution if any (Month/Da | Date, | 4. Transaction Code (Instr. 8) | | n of I | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | | | 8. Price of Derivative Security (Instr. 5) | 9. Number o derivative Securities Beneficially Owned Following Reported Transaction((Instr. 4) | у | Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
| | | | | | Code | v | (A) | | Date Exercisable | | piration ite | Title | Amo or Num of Shar | ber | | | | | |
| Stock Option | \$2.18 | 06/14/2011 | | | Α | | 20,000 | | (1) | 06 | /14/2021 | Common Stock | 20,0 | 000 | \$0.00 | 20,000 | | D | |

Explanation of Responses:

1. The option vests in twelve equal quarterly installments over three years, beginning on September 14, 2011.

Remarks:

/s/ Keith C. Hartley

** Signature of Reporting Person

06/14/2011 Date

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

 * 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.

OMB APPROVAL