

IDERA PHARMACEUTICALS, INC.  
 Form 3/A  
 August 17, 2006

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF 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 *        |         |          | 2. Date of Event Requiring Statement  | 3. Issuer Name <b>and</b> Ticker or Trading Symbol |   |
| Â Baker Brothers Life Sciences Capital (GP), LLC |         |          | (Month/Day/Year)  | IDERA PHARMACEUTICALS, INC. [IDP]                  |   |
| (Last)   | (First) | (Middle) | 03/24/2006  |  |   |
| 667 MADISON AVENUE                               |         |          | 4. Relationship of Reporting Person(s) to Issuer  |  | 5. If Amendment, Date Original Filed(Month/Day/Year)  |
| (Street)   |         |          | (Check all applicable)  |  | 03/29/2006  |
| NEW YORK,Â NYÂ 10021                             |         |          | <input type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner<br><input type="checkbox"/> Officer <input type="checkbox"/> Other<br>(give title below)    (specify below) |  | 6. Individual or Joint/Group Filing(Check Applicable Line)<br><input type="checkbox"/> Form filed by One Reporting Person<br><input checked="" type="checkbox"/> Form filed by More than One Reporting Person |
| (City)   | (State) | (Zip)    |   |  |   |

**Table I - Non-Derivative Securities Beneficially Owned**

| 1. Title of Security (Instr. 4) | 2. Amount of Securities Beneficially Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
|---------------------------------|---|--|---|
| Common Stock <sup>(1)</sup>     | 4,595,732 <sup>(3)</sup>                              | I  | See Footnote <sup>(2)</sup>                           |

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

SEC 1473 (7-02)

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**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form of Derivative Security: Direct (D) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|---|--|--|---|
|  |  | Title   |  |  |   |

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|         | Date Exercisable | Expiration Date | Amount or Number of Shares        | or Indirect (I) (Instr. 5) |                  |
|---------|------------------|-----------------|-----------------------------------|----------------------------|------------------|
| Warrant | 09/26/2006       | 09/26/2011      | Common Stock<br>3,446,799 \$ 0.65 | I                          | See Footnote (3) |

## Reporting Owners

| Reporting Owner Name / Address   | Relationships |           |         |       |
|--|---------------|-----------|---------|-------|
|  | Director      | 10% Owner | Officer | Other |
| Baker Brothers Life Sciences Capital (GP), LLC<br>667 MADISON AVENUE<br>NEW YORK, NY 10021 | Â             | Â X       | Â       | Â     |
| BAKER JULIAN<br>667 MADISON AVENUE<br>NEW YORK, NY 10021                                   | Â             | Â X       | Â       | Â     |
| BAKER FELIX<br>667 MADISON AVENUE<br>NEW YORK, NY 10021                                    | Â             | Â X       | Â       | Â     |

## Signatures

/s/ Julian C. Baker, as Managing Member of Baker Brothers Life Sciences Capital (GP), LLC 08/17/2006

\_\_Signature of Reporting Person Date

/s/ Julian C. Baker 08/17/2006

\_\_Signature of Reporting Person Date

/s/ Felix J. Baker 08/17/2006

\_\_Signature of Reporting Person Date

## Explanation of Responses:

\* If the form is filed by more than one reporting person, see Instruction 5(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) In addition to Baker Brothers Life Sciences Capital (GP), LLC, this Form 3 is being filed jointly by Julian C. Baker and Felix J. Baker, each of whom has the same business address as Baker Brothers Life Sciences Capital (GP), LLC and may be deemed to have a pecuniary interest in securities owned by it. Because of certain relationships with other security holders of the Issuer, the Reporting Persons are filing solely for informational purposes as if they were a member of a group of such shareholders. (Continued in footnote 2.)

(2) However, the Reporting Persons disclaim that they and any other person or persons, in fact constitute a "group" for purposes of Section 13(d)(3) of the Securities Exchange Act of 1934, as amended, or Rule 13d-5 thereunder or that they are the beneficial owners of securities owned by any such other persons, and each of them disclaims beneficial ownership of securities reported herein except to the extent of their pecuniary interest, if any, therein.

(3) Represents securities owned directly by Baker Brothers Life Sciences, L.P., a limited partnership of which the sole general partner is Baker Brothers Life Sciences, L.P., a limited partnership of which the sole general partner is Baker Brothers Life Sciences Capital (GP), LLC. Felix J. Baker and Julian C. Baker are the controlling members of Baker Brothers Life Sciences Capital (GP), LLC.

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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