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| <b>OMB APPROVAL</b>                             |           |
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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**

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*<br><u>Pillar Invest Corp</u><br><br>(Last) (First) (Middle)<br><u>C/O IDERA PHARMACEUTICALS, INC.</u><br><u>167 SIDNEY STREET</u><br><br>(Street)<br><u>CAMBRIDGE MA 02139</u><br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>IDERA PHARMACEUTICALS, INC. [ IDRA ]</u> | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br><input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner<br>Officer (give title below) Other (specify below) |
|   | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>05/07/2013</u>                      |  |
| 4. If Amendment, Date of Original Filed (Month/Day/Year)  |  |  |

**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 Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|-------|---|--|---|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) | Price |   |  |   |
| Common Stock                    | 05/07/2013                           |  | P                              |   | 2,600,000   | A          | \$0   | 0 <sup>(4)</sup>  | I  | See Footnote <sup>(4)(5)</sup>                        |
| Common Stock                    | 05/07/2013                           |  | P                              |   | 2,400,000   | A          | \$0   | 0 <sup>(4)</sup>  | I  | See Footnote <sup>(4)(6)</sup>                        |

**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 Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |                                |
|--|--|--------------------------------------|--|--------------------------------|---|--|-----|--|-----------------|---|--|--|---|--|--------------------------------|
|  |  |                                      |  | Code                           | V | (A)  | (D) | Date Exercisable   | Expiration Date |   |  |  |   |  | Title                          |
| Warrants                                   | \$0.61   | 05/07/2013                           |  | A                              |   | 1,000,000  |     | 05/07/2013   | 05/07/2018      | Common Stock  | 1,000,000                                  | \$0  | 0 <sup>(1)</sup>  | I  | See Footnote <sup>(1)(4)</sup> |
| Warrants                                   | \$0.79   | 05/07/2013                           |  | A                              |   | 575,758  |     | 05/07/2013   | 06/01/2014      | Common Stock  | 575,758                                    | \$0  | 0 <sup>(1)</sup>  | I  | See Footnote <sup>(1)(4)</sup> |
| Warrants                                   | \$0.79   | 05/07/2013                           |  | A                              |   | 313,341  |     | 05/07/2013   | 06/01/2014      | Common Stock  | 313,341                                    | \$0  | 0 <sup>(2)</sup>  | I  | See Footnote <sup>(2)(4)</sup> |
| Warrants                                   | \$0.79   | 05/07/2013                           |  | A                              |   | 110,901  |     | 05/07/2013   | 06/01/2014      | Common Stock  | 110,901                                    | \$0  | 0 <sup>(3)</sup>  | I  | See Footnote <sup>(3)(4)</sup> |
| Warrants                                   | \$0.47   | 05/07/2013                           |  | P                              |   | 2,600,000  |     | 05/07/2013   | 05/07/2018      | Common Stock  | 2,600,000                                  | \$0  | 0 <sup>(4)</sup>  | I  | See Footnote <sup>(4)(5)</sup> |
| Warrants                                   | \$0.47   | 05/07/2013                           |  | P                              |   | 2,400,000  |     | 05/07/2013   | 05/07/2018      | Common Stock  | 2,400,000                                  | \$0  | 0 <sup>(6)</sup>  | I  | See Footnote <sup>(4)(6)</sup> |

|   |  |  |
|---|--|--|
| 1. Name and Address of Reporting Person*<br><u>Pillar Invest Corp</u><br><br>(Last) (First) (Middle)<br><u>C/O IDERA PHARMACEUTICALS, INC.</u><br><u>167 SIDNEY STREET</u><br><br>(Street)<br><u>CAMBRIDGE MA 02139</u><br><br>(City) (State) (Zip) |  |  |
|---|--|--|

|   |         |           |
|---|---------|-----------|
| 1. Name and Address of Reporting Person*  |         |           |
| <a href="#">Pillar Pharmaceuticals I LP</a>                                     |         |           |
| (Last)  | (First) | (Middle)  |
| PILLAR INVEST OFFSHORE SAL, STARKO CTR,<br>BLOC B, 3RD FLOOR, OMAR DAOUK STREET |         |           |
| (Street)  |         |           |
| BEIRUT  | M8      | 2020-3313 |
| (City) (State) (Zip)  |         |           |
| 1. Name and Address of Reporting Person*  |         |           |
| <a href="#">Pillar Pharmaceuticals II, L.P.</a>                                 |         |           |
| (Last)  | (First) | (Middle)  |
| PILLAR INVEST OFFSHORE SAL, STARKO CTR,<br>BLOC B, 3RD FLOOR, OMAR DAOUK STREET |         |           |
| (Street)  |         |           |
| BEIRUT  | M8      | 2020-3313 |
| (City) (State) (Zip)  |         |           |
| 1. Name and Address of Reporting Person*  |         |           |
| <a href="#">ZEIN YOUSSEF EL</a>   |         |           |
| (Last)  | (First) | (Middle)  |
| PILLAR INVEST OFFSHORE SAL, STARKO CTR,<br>BLOC B, 3RD FLOOR, OMAR DAOUK STREET |         |           |
| (Street)  |         |           |
| BEIRUT  | M8      | 2020-3313 |
| (City) (State) (Zip)  |         |           |

**Explanation of Responses:**

- On May 7, 2013, upon the consummation of a public offering of the Issuer (the "Offering"), Pillar Pharmaceuticals I, L.P. ("Pillar I"), of which Pillar Invest Corporation ("Pillar GP") is the general partner, acquired, directly from the Issuer, warrants to purchase up to 1,575,758 shares of common stock (the "Pillar I Shares") of the Issuer. Pillar GP disclaims Section 16 beneficial ownership of the Pillar I Shares and this report shall not be deemed an admission that Pillar GP is the Section 16 beneficial owner of any such securities, except to the extent of its pecuniary interest therein, if any, by virtue of its ownership interest in Pillar I.
- On May 7, 2013, upon the consummation of the Offering, Pillar Pharmaceuticals II, L.P. ("Pillar II"), of which Pillar GP is the general partner, acquired, directly from the Issuer, warrants to purchase up to 313,341 shares of common stock (the "Pillar II Shares") of the Issuer. Pillar GP disclaims Section 16 beneficial ownership of the Pillar II Shares and this report shall not be deemed an admission that Pillar GP is the Section 16 beneficial owner of any such securities, except to the extent of its pecuniary interest therein, if any, by virtue of its ownership interest in Pillar II.
- On May 7, 2013, upon the consummation of the Offering, Participations Besancon ("Besancon"), a fund advised by Pillar GP, acquired, directly from the Issuer, warrants to purchase up to 110,901 shares of common stock (the "Besancon Warrants"). Pillar GP disclaims Section 16 beneficial ownership of the Besancon Warrants and this report shall not be deemed an admission that Pillar GP is the beneficial owner of any such securities, except to the extent of its pecuniary interest therein, if any, resulting from fees payable to Pillar GP in its capacity as investment advisor to Besancon.
- Youssef El Zein is a director and controlling stockholder of Pillar GP and serves as the representative of a Pillar I, Pillar II, Pillar III and Pillar GP on the Issuer's board of directors. Mr. El Zein disclaims Section 16 beneficial ownership of the Pillar I Shares, Pillar II Shares, Pillar III Shares, Besancon Warrants and Besancon Shares and this report shall not be deemed an admission that he is the beneficial owners of any such securities, except to the extent of his pecuniary interest therein, if any, by virtue of his ownership interest in Pillar GP. As of the date hereof, Mr. El Zein owns directly 586,101 shares of common stock of the Issuer.
- On May 7, 2013, upon the consummation of the Offering, Pillar Pharmaceuticals III, L.P. ("Pillar III"), of which Pillar GP is the general partner, acquired, in the Offering, 2,600,000 shares of common stock and warrants to purchase up to 2,600,000 shares of common stock (the "Pillar III Shares") of the Issuer. Pillar GP disclaims Section 16 beneficial ownership of the Pillar III Shares and this report shall not be deemed an admission that Pillar GP is the Section 16 beneficial owner of any such securities, except to the extent of its pecuniary interest therein, if any, by virtue of its ownership interest in Pillar III. As of the date hereof, Pillar III owns directly 2,600,000 shares of common stock of the Issuer.
- On May 7, 2013, upon the consummation of the Offering, Besancon acquired, in the Offering, 2,400,000 shares of common stock and warrants to purchase up to 2,400,000 shares of common stock (the "Besancon Shares"). Pillar GP also disclaims Section 16 beneficial ownership of the Besancon Shares and this report shall not be deemed an admission that Pillar GP is the beneficial owner of any such securities, except to the extent of its pecuniary interest therein, if any, resulting from fees payable to Pillar GP in its capacity as investment advisor to Besancon. As of the date hereof, Besancon owns directly 2,400,000 shares of common stock of the Issuer.

[Pillar Invest Corporation, /s/  
Youssef El Zein, Authorized Person](#) 05/17/2013  
[/s/ Youssef El Zein](#) 05/17/2013

\*\* Signature of Reporting Person 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.

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