

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

| OMB APPROVAL | |
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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* <u>Baker Brothers Life Sciences Capital (GP), LLC</u> (Last) (First) (Middle) 667 MADISON AVENUE, 17TH FLOOR (Street) NEW YORK NY 10021 (City) (State) (Zip) | 2. Date of Event Requiring Statement (Month/Day/Year) 10/19/2009 | 3. Issuer Name and Ticker or Trading Symbol <u>AP PHARMA INC /DE/ [APPA]</u> | |
| | | 4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below) | 5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person |

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 ⁽¹⁾⁽²⁾ | 5,264,782 | I | Through Partnership ⁽³⁾ |

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: Direct (D) or Indirect (I) (Instr. 5) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|---------------------------|---|----------------------------|--|--|---|
| | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | |
| Purchase Rights (right to buy) | 05/14/2010 ⁽⁴⁾ | 05/14/2010 ⁽⁴⁾ | Common Stock | 2,052,033 | 0.968 | I | Through Partnership ⁽³⁾ |
| Warrants (right to buy) | 10/22/2009 | 01/07/2015 | Common Stock | 1,580,066 | 0.88 | I | Through Partnership ⁽³⁾ |

1. Name and Address of Reporting Person*
Baker Brothers Life Sciences Capital (GP), LLC
 (Last) (First) (Middle)
 667 MADISON AVENUE, 17TH FLOOR
 (Street)
 NEW YORK NY 10021
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
BAKER FELIX
 (Last) (First) (Middle)
 667 MADISON AVENUE, 17TH FLOOR
 (Street)
 NEW YORK NY 10021
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
BAKER JULIAN
 (Last) (First) (Middle)
 667 MADISON AVENUE, 17TH FLOOR
 (Street)

NEW YORK NY 10021

(City) (State) (Zip)

Explanation of Responses:

1. This Form 3 is filed on behalf of a group consisting of Baker Brothers Life Sciences Capital (GP), LLC, Julian C. Baker and Felix J. Baker. The Reporting Persons are filing solely for informational purposes as if they were members of a group of such shareholders. 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 (the "Exchange Act"), or Rule 13d-5 thereunder.
2. As the sole general partner of Baker Brothers Life Sciences Capital, L.P., Baker Brothers Life Sciences Capital (GP), LLC may be deemed to be the indirect beneficial owner of such securities under Rule 16a-1(a)(2) promulgated under the Exchange Act. However, pursuant to Rule 16a-1(a)(4) promulgated under the Exchange Act, Baker Brothers Life Sciences Capital (GP), LLC disclaims beneficial ownership of such securities, except to the extent of its pecuniary interest therein. As the controlling members of Baker Brothers Life Sciences Capital (GP), LLC, Julian C. Baker and Felix J. Baker may be deemed to be the indirect beneficial owners of such securities under Rule 16a-1(a)(2) promulgated under the Exchange Act. However, pursuant to Rule 16a-1(a)(4) promulgated under the Exchange Act, each of Julian C. Baker and Felix J. Baker disclaims beneficial ownership of such securities, except to the extent of his pecuniary interest therein.
3. The securities of the Issuer are owned directly by Baker Brothers Life Sciences, L.P., a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital, L.P., a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Brothers Life Sciences Capital (GP), LLC. Baker Brothers Life Sciences Capital (GP), LLC, Julian C. Baker and Felix J. Baker may have indirect beneficial ownership of these securities. See Footnotes 1 and 2.
4. The Purchase Rights are exercisable on May 14, 2010, or such earlier date as mutually agreed upon by the majority of the Purchase Rights holders.

/s/ Julian C. Baker, as
Managing Member of Baker
Brothers Life Sciences Capital 10/28/2009
(GP), LLC

/s/ Julian C. Baker 10/28/2009

/s/ Felix J. Baker 10/28/2009

** 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 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).

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.