

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

SCHEDULE 13G

(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO RULES 13d-1(b), (c), AND (d) AND AMENDMENTS THERETO FILED
PURSUANT TO RULE 13d-2(b)
(Amendment No.)¹

A.P. Pharma, Inc.

(Name of Issuer)

Common Stock, par value \$0.01 per share

(Title of Class of Securities)

00202J203

(CUSIP Number)

July 1, 2011

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

¹ The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the *Notes*).

1	NAME OF REPORTING PERSON Biotechnology Value Fund, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 4,384,551 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 4,384,551 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,384,551 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 2.2%	
12	TYPE OF REPORTING PERSON PN	

(1) Includes 1,461,517 shares of Common Stock currently issuable upon the exercise a certain warrant. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

1	NAME OF REPORTING PERSON Biotechnology Value Fund II, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 2,953,500 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 2,953,500 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 2,953,500 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 1.5%	
12	TYPE OF REPORTING PERSON PN	

(1) Includes 984,500 shares of Common Stock currently issuable upon the exercise of a certain warrant. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

1	NAME OF REPORTING PERSON BVF Investments, L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 11,357,550 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 11,357,550 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 11,357,550 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.6%	
12	TYPE OF REPORTING PERSON OO	

(1) Includes 3,785,850 shares of Common Stock currently issuable upon the exercise of a certain warrant. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

1	NAME OF REPORTING PERSON Investment 10, L.L.C.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Illinois	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 1,304,400 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 1,304,400 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,304,400 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) Less than 1%	
12	TYPE OF REPORTING PERSON OO	

(1) Includes 434,800 shares of Common Stock currently issuable upon the exercise of a certain warrant. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

1	NAME OF REPORTING PERSON BVF Partners L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 20,000,001 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 20,000,001 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 20,000,001 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.7%	
12	TYPE OF REPORTING PERSON PN, IA	

(1) Includes 6,666,667 shares of Common Stock currently issuable upon the exercise of certain warrants. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

1	NAME OF REPORTING PERSON BVF Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 20,000,001 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 20,000,001 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 20,000,001 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.7%	
12	TYPE OF REPORTING PERSON CO	

(1) Includes 6,666,667 shares of Common Stock currently issuable upon the exercise of certain warrants. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

1	NAME OF REPORTING PERSON Mark N. Lampert	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x (b) o	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0 shares
	6	SHARED VOTING POWER 20,000,001 (1)
	7	SOLE DISPOSITIVE POWER 0 shares
	8	SHARED DISPOSITIVE POWER 20,000,001 (1)
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 20,000,001 (1)	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 9.7%	
12	TYPE OF REPORTING PERSON IN	

(1) Includes 6,666,667 shares of Common Stock currently issuable upon the exercise of certain warrants. See Item 4(a) for a full description of the Reporting Person's beneficial ownership.

Item 1(a). Name of Issuer:
A.P. Pharma, Inc., a Delaware corporation (the "Issuer").

Item 1(b). Address of Issuer's Principal Executive Offices:
123 Saginaw Drive
Redwood City, California 94063

Item 2(a). Name of Person Filing
Item 2(b). Address of Principal Business Office or, if None, Residence
Item 2(c). Citizenship

Biotechnology Value Fund, L.P. ("BVF")
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: Delaware

Biotechnology Value Fund II, L.P. ("BVF2")
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: Delaware

BVF Investments, L.L.C. ("BVLLC")
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: Delaware

Investment 10, L.L.C. ("ILL10")
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: Illinois

BVF Partners L.P. ("Partners")
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: Delaware

BVF Inc.
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: Delaware

Mark N. Lampert ("Mr. Lampert")
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
Citizenship: United States

Each of the foregoing is referred to as a "Reporting Person" and collectively as the "Reporting Persons."

Item 2(d). Title of Class of Securities:

Common Stock, par value \$0.01 per share (the "Common Stock")

Item 2(e). CUSIP Number:

00202J203

Item 3. If This Statement is Filed Pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

- /x/ Not applicable.
- (a) // Broker or dealer registered under Section 15 of the Exchange Act.
- (b) // Bank as defined in Section 3(a)(6) of the Exchange Act.
- (c) // Insurance company as defined in Section 3(a)(19) of the Exchange Act.
- (d) // Investment company registered under Section 8 of the Investment Company Act.
- (e) // An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E).
- (f) // An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F).
- (g) // A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G).
- (h) // A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act.
- (i) // A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act.
- (j) // Group, in accordance with Rule 13d-1(b)(1)(ii)(J).
- (k) // Group, in accordance with Rule 240.13d-1(b)(1)(ii)(K). If filing as a non-U.S. institution in accordance with Rule 240.13d-1(b)(1)(ii)(J), please specify the type of institution: _____

Item 4. Ownership

(a) Amount beneficially owned:

On July 1, 2011, the Reporting Persons acquired warrants exercisable for an aggregate of 6,666,667 shares of Common Stock. Such warrants are immediately exercisable for \$0.18 per share, subject to certain adjustments pursuant to the terms of the warrants, and expire on July 1, 2016. The warrants may not be exercised if, after such exercise, the Reporting Persons would beneficially own, as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, more than 9.99% of the number of shares of Common Stock then issued and outstanding.

As of the close of business on July 7, 2011, (i) BVF beneficially owned 4,384,551 shares of Common Stock, including 1,461,517 shares of Common Stock issuable upon the exercise of a certain warrant held by it, (ii) BVF2 beneficially owned 2,953,500 shares of Common Stock, including 984,500 shares of Common Stock issuable upon the exercise of a certain warrant held by it, (iii) BVLLC beneficially owned 11,357,550 shares of Common Stock, including 3,785,850 shares of Common Stock issuable upon the exercise of a certain warrant held by it, and (iv) ILL10 beneficially owned 1,304,400 shares of Common Stock, including 434,800 shares of Common Stock issuable upon the exercise of a certain warrant held by it.

Partners, as the general partner of BVF and BVF2, the manager of BVLLC and the investment adviser of ILL10, may be deemed to beneficially own the 20,000,001 shares of Common Stock, including 6,666,667 shares of Common Stock issuable upon the exercise of certain warrants, beneficially owned in the aggregate by BVF, BVF2, BVLLC and ILL10.

BVF Inc., as the general partner of Partners, may be deemed to beneficially own the 20,000,001 shares of Common Stock, including 6,666,667 shares of Common Stock issuable upon the exercise of certain warrants, beneficially owned by Partners.

Mr. Lampert, as a director and officer of BVF Inc., may be deemed to beneficially own the 20,000,001 shares of Common Stock, including 6,666,667 shares of Common Stock issuable upon the exercise of certain warrants, beneficially owned by BVF Inc.

The foregoing should not be construed in and of itself as an admission by any Reporting Person as to beneficial ownership of any shares of Common Stock owned by another Reporting Person. Each of Partners, BVF Inc. and Mr. Lampert disclaims beneficial ownership of the shares of Common Stock beneficially owned by BVF, BVF2, BVLLC and ILL10 and the filing of this statement shall not be construed as an admission that any such person or entity is the beneficial owner of any such securities.

(b) Percent of class:

Based upon 206,684,463 shares of Common Stock outstanding, which includes (i) 40,017,790 shares of Common Stock issued and outstanding as of June 30, 2011 as disclosed in that certain Securities Purchase Agreement (the "Securities Purchase Agreement") filed as Exhibit 10.1 to the Issuer's Form 8-K filed with the Securities and Exchange Commission on June 30, 2011 (the "8-K"), (ii) 160,000,006 shares of Common Stock issued pursuant to the terms of the Securities Purchase Agreement and disclosed in the 8-K, and (iii) an aggregate of 6,666,667 shares of Common Stock issuable upon the exercise of certain warrants held by the Reporting Persons.

As of the close of business on June 3, 2011, (i) BVF beneficially owned approximately 2.2% of the outstanding shares of Common Stock, (ii) BVF2 beneficially owned approximately 1.5% of the outstanding shares of Common Stock, (iii) BVLLC beneficially owned approximately 5.6% of the outstanding shares of Common Stock, (iv) ILL10 beneficially owned less than 1% of the outstanding shares of Common Stock and (v) each of Partners, BVF Inc. and Mr. Lampert may be deemed to beneficially own approximately 9.7% of the outstanding shares of Common Stock.

(c) Number of shares as to which such person has:

(i) Sole power to vote or to direct the vote

See Cover Pages Items 5-9.

- (ii) Shared power to vote or to direct the vote
See Cover Pages Items 5-9.
- (iii) Sole power to dispose or to direct the disposition of
See Cover Pages Items 5-9.
- (iv) Shared power to dispose or to direct the disposition of
See Cover Pages Items 5-9.

Item 5. Ownership of Five Percent or Less of a Class.

Not Applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Pursuant to the operating agreement of BVLLC, Partners is authorized, among other things, to invest the contributed capital of Samana Capital, L.P., the majority member of BVLLC, in the shares of Common Stock and other securities of the Issuer and to vote, exercise or convert and dispose of each security, and is entitled to receive fees based on assets under management and, subject to certain exceptions, allocations based on realized and unrealized gains on such assets.

Partners, BVF Inc. and Mr. Lampert share voting and dispositive power over the shares of Common Stock beneficially owned by BVF, BVF2, BVLLC and ILL10.

Item 7. Identification and Classification of the Subsidiary That Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

Not Applicable.

Item 8. Identification and Classification of Members of the Group.

See Exhibit 99.1.

Item 9. Notice of Dissolution of Group.

Not Applicable.

Item 10. Certifications.

By signing below each of the undersigned certifies that, to the best of its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of his knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: July 8, 2011

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

INVESTMENT 10, L.L.C.

By: BVF Partners L.P., its investment manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF INVESTMENTS, L.L.C.

By: BVF Partners L.P., its manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF INC.

By: /s/ Mark N. Lampert
Mark N. Lampert
President

/s/ Mark N. Lampert
MARK N. LAMPERT

Joint Filing Agreement

The undersigned hereby agree that the Statement on Schedule 13G dated July 8, 2011 with respect to the shares of Common Stock of A.P. Pharma, Inc., and any further amendments thereto executed by each and any of the undersigned shall be filed on behalf of each of the undersigned pursuant to and in accordance with the provisions of Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended.

Dated: July 8, 2011

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

INVESTMENT 10, L.L.C.

By: BVF Partners L.P., its investment manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF INVESTMENTS, L.L.C.

By: BVF Partners L.P., its manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert
Mark N. Lampert
President

BVF INC.

By: /s/ Mark N. Lampert
Mark N. Lampert
President

/s/ Mark N. Lampert
MARK N. LAMPERT