
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No. 1)*

ATyr Pharma, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value per share

(Title of Class of Securities)

002120103

(CUSIP Number)

December 31, 2017

(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)

*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 | NAMES OF REPORTING PERSON Alta Partners VIII, L.P. | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | | (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/> |
| 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 | 1,777,875 (a) |
| | 6 | SHARED VOTING POWER | -0- |
| | 7 | SOLE DISPOSITIVE POWER | 1,777,875 (a) |
| | 8 | SHARED DISPOSITIVE POWER | -0- |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,777,875 (a) | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES * | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 6.0% (b) | | |
| 12 | TYPE OF REPORTING PERSON PN | | |

- (a) Alta Partners VIII, L.P. ("AP VIII") has sole voting and dispositive control over 1,777,875 shares of common stock ("Common Stock") of ATyr Pharma, Inc. (the "Issuer"), except that Alta Partners Management VIII, LLC ("APM VIII"), the general partner of AP VIII, and Farah Champsy ("Champsy"), Daniel Janney ("Janney") and Guy Nohra ("Nohra"), managing directors of AP VIII, may be deemed to share dispositive and voting power over such stock. Additional information about AP VIII is set forth in Attachment A hereto.
- (b) The percentage set forth in row (11) is based on the 29,758,347 outstanding shares of Common Stock as of November 7, 2017 as reported in the Issuer's 10-Q for the quarter ended September 30, 2017 as filed with the Securities and Exchange Commission on November 14, 2017. The information with respect to the shares of Common Stock beneficially owned by the Reporting Person is provided as of December 31, 2017.

| | | | |
|--|---|--------------------------|---|
| 1 | NAMES OF REPORTING PERSON Alta Partners Management VIII, LLC | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | | (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/> |
| 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- |
| | 6 | SHARED VOTING POWER | 1,777,875 (c) |
| | 7 | SOLE DISPOSITIVE POWER | -0- |
| | 8 | SHARED DISPOSITIVE POWER | 1,777,875 (c) |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,777,875 (c) | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES * | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 6.0% (b) | | |
| 12 | TYPE OF REPORTING PERSON OO | | |

(c) APM VIII is the general partner of AP VIII and shares voting and dispositive power over the shares of Common Stock held by AP VIII.

| | | | |
|--|---|--------------------------|---|
| 1 | NAMES OF REPORTING PERSON Farah Champsi | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | | (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/> |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION U.S.A. | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH | 5 | SOLE VOTING POWER | -0- |
| | 6 | SHARED VOTING POWER | 1,777,875(d) |
| | 7 | SOLE DISPOSITIVE POWER | -0- |
| | 8 | SHARED DISPOSITIVE POWER | 1,777,875 (d) |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,777,875 (d) | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES * | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 6.0% (b) | | |
| 12 | TYPE OF REPORTING PERSON IN | | |

(d) Champsi is a managing director of APM VIII and may be deemed to share voting and dispositive control over the 1,777,875 shares of Common Stock held by AP VIII.

| | | | |
|--|---|--------------------------|---|
| 1 | NAMES OF REPORTING PERSON Daniel Janney | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | | (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/> |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION U.S.A. | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH | 5 | SOLE VOTING POWER | -0- |
| | 6 | SHARED VOTING POWER | 1,777,875 (e) |
| | 7 | SOLE DISPOSITIVE POWER | -0- |
| | 8 | SHARED DISPOSITIVE POWER | 1,777,875 (e) |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,777,875 (e) | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES * | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 6.0% (b) | | |
| 12 | TYPE OF REPORTING PERSON IN | | |

(e) Janney is a managing director of APM VIII and may be deemed to share voting and dispositive control over the 1,777,875 shares of Common Stock held by AP VIII.

| | | | |
|--|---|--------------------------|---|
| 1 | NAMES OF REPORTING PERSON Guy Nohra | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP | | (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/> |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION U.S.A. | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH | 5 | SOLE VOTING POWER | -0- |
| | 6 | SHARED VOTING POWER | 1,777,875 (f) |
| | 7 | SOLE DISPOSITIVE POWER | -0- |
| | 8 | SHARED DISPOSITIVE POWER | 1,777,875 (f) |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,777,875 (f) | | |
| 10 | CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES * | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 6.0% (b) | | |
| 12 | TYPE OF REPORTING PERSON IN | | |

(f) Nohra is a managing director of APM VIII and may be deemed to share voting and dispositive control over the 1,777,875 shares of Common Stock held by AP VIII.

Item 1.

- (a) Name of Issuer:
ATyr Pharma, Inc. ("Issuer")
-
- (b) Address of Issuer's Principal Executive Offices:
3545 Johns Hopkins Court, Suite 250
San Diego, CA 92121
-

Item 2.

- (a) Name of Person Filing:
Alta Partners VIII, L.P. ("APVIII")
Alta Partners Management VIII, LLC ("APMVIII")
Guy Nohra ("GN")
Daniel Janney ("DJ")
Farah Champsi ("FC")
-
- (b) Address of Principal Business Office:
One Embarcadero Center, Suite 3700
San Francisco, CA 94111
-
- (c) Citizenship/Place of Organization:
- Entities:
APVIII - Delaware
APMVIII - Delaware
- Individuals:
DJ - United States
GN - United States
FC - United States
- (d) Title of Class of Securities:
Common Stock, \$0.001 par value per share
-
- (e) CUSIP Number:
002120103
-

Item 3. Not applicable.

Item 4. Ownership.

The following beneficial ownership information is provided as of December 31, 2015.

| Fund Entities | Please see Attachment A | | | | | | |
|---------------|-------------------------|-------------------|---------------------|------------------------|--------------------------|----------------------|---------------------|
| | Shares Held Directly | Sole Voting Power | Shared Voting Power | Sole Dispositive Power | Shared Dispositive Power | Beneficial Ownership | Percentage of Class |
| APVIII | 1,777,875 | 0 | 1,777,875 | 0 | 1,777,875 | 1,777,875 | 6.0% |
| APMVIII | 0 | 0 | 1,777,875 | 0 | 1,777,875 | 1,777,875 | 6.0% |
| DJ | 0 | 0 | 1,777,875 | 0 | 1,777,875 | 1,777,875 | 6.0% |
| GN | 0 | 0 | 1,777,875 | 0 | 1,777,875 | 1,777,875 | 6.0% |
| FC | 0 | 0 | 1,777,875 | 0 | 1,777,875 | 1,777,875 | 6.0% |

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

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than 5 percent of the class of securities, check the following

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

Not applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

Not applicable.

Item 8. Identification and Classification of Members of the Group

No reporting person is a member of a group as defined in Section 240.13d-1(b)(1)(ii)(J) of the Act.

Item 9. Notice of Dissolution of Group

Not applicable.

Item 10. Certification

Not applicable.

EXHIBITS

A: Joint Filing Statement

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: February 6, 2018

Alta Partners VIII, L.P.
By: Alta Partners Management VIII, LLC

By: /s/ Daniel Janney
Daniel Janney, Managing Director

Alta Partners Management VIII, LLC

By: /s/ Daniel Janney
Daniel Janney, Managing Director

/s/ Daniel Janney
Daniel Janney

/s/ Guy Nohra
Guy Nohra

/s/ Farah Champsi
Farah Champsi

EXHIBIT A

AGREEMENT OF JOINT FILING

We, the undersigned, hereby express our agreement that the attached Schedule 13G is filed on behalf of us.

Date: February 6, 2018

Alta Partners VIII, L.P.

By: Alta Partners Management VIII, LLC

By: /s/ Daniel Janney
Daniel Janney, Managing Director

Alta Partners Management VIII, LLC

By: /s/ Daniel Janney
Daniel Janney, Managing Director

/s/ Daniel Janney
Daniel Janney

/s/ Guy Nohra
Guy Nohra

/s/ Farah Champsi
Farah Champsi

Attachment A

Alta Partners VIII, L.P. beneficially owns 1,777,875 shares of Common Stock and exercises sole voting and dispositive control over such shares, except to the extent set forth below.

Alta Partners Management VIII, LLC is the general partner of Alta Partners VIII, L.P. and may be deemed to share the right to direct the voting and dispositive control over the shares held by such fund. Alta Partners Management VIII, LLC disclaims beneficial ownership of all such shares, except to the extent of its pecuniary interest therein.

Mr. Daniel Janney is a managing director of Alta Partners Management VIII, LLC and may be deemed to share the right to direct the voting and dispositive control over the shares held by such fund. Mr. Janney disclaims beneficial ownership of all such shares, except to the extent of his pecuniary interest therein.

Mr. Guy Nohra is a managing director of Alta Partners Management VIII, LLC and may be deemed to share the right to direct the voting and dispositive control over the shares held by such fund. Mr. Nohra disclaims beneficial ownership of all such shares, except to the extent of his pecuniary interest therein.

Ms. Farah Champsi is a managing director of Alta Partners Management VIII, LLC and may be deemed to share the right to direct the voting and dispositive control over the shares held by such fund. Ms. Champsi disclaims beneficial ownership of all such shares, except to the extent of her pecuniary interest therein.
