

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

aTyr Pharma, Inc.
(Name of Issuer)

Common Stock, \$0.001 par value
(Title of Class of Securities)

002120103
(CUSIP Number)

December 31, 2015
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 disclosures provided in a prior cover page. The information required on 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 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act.

1)	Name of Reporting Person I.R.S. Identification No. of Above Person (Entities Only) (Voluntary)	Domain Partners VIII, L.P.
2)	Check the Appropriate Box if a Member of a Group	(a) <input checked="" type="checkbox"/> (b) <input 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	1,807,820 shares of Common Stock *
	6) Shared Voting Power	-0-
	7) Sole Dispositive Power	1,807,820 shares of Common Stock *
	8) Shared Dispositive Power	-0-
9)	Aggregate Amount Beneficially Owned by Each Reporting Person	1,807,820 shares of Common Stock *
10)	Check if the Aggregate Amount in Row (9) Excludes Certain Shares <input type="checkbox"/>	
11)	Percent of Class Represented by Amount in Row (9)	7.6% **
12)	Type of Reporting Person	PN

* As of December 31, 2015

** Based on 23,670,079 shares of Common Stock outstanding as of December 31, 2015, as provided to the Reporting Persons by the Issuer.

1)	Name of Reporting Person I.R.S. Identification No. of Above Person (Entities Only) (Voluntary)	DP VIII Associates, L.P.
2)	Check the Appropriate Box if a Member of a Group	(a) <input checked="" type="checkbox"/> (b) <input 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	13,414 shares of Common Stock *
	6) Shared Voting Power	-0-
	7) Sole Dispositive Power	13,414 shares of Common Stock *
	8) Shared Dispositive Power	-0-
9)	Aggregate Amount Beneficially Owned by Each Reporting Person	13,414 shares of Common Stock *
10)	Check if the Aggregate Amount in Row (9) Excludes Certain Shares <input type="checkbox"/>	
11)	Percent of Class Represented by Amount in Row (9)	0.1% **
12)	Type of Reporting Person	PN

* As of December 31, 2015

** Based on 23,670,079 shares of Common Stock outstanding as of December 31, 2015, as provided to the Reporting Persons by the Issuer.

1)	Name of Reporting Person I.R.S. Identification No. of Above Person (Entities Only) (Voluntary)	Domain Associates, LLC
2)	Check the Appropriate Box if a Member of a Group	(a) <input checked="" type="checkbox"/> (b) <input 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 6,286 shares of Common Stock *
	6)	Shared Voting Power -0-
	7)	Sole Dispositive Power 6,286 shares of Common Stock *
	8)	Shared Dispositive Power -0-
9)	Aggregate Amount Beneficially Owned by Each Reporting Person	6,286 shares of Common Stock *
10)	Check 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 0.1% **
12)	Type of Reporting Person	PN

* As of December 31, 2015

** Based on 23,670,079 shares of Common Stock outstanding as of December 31, 2015, as provided to the Reporting Persons by the Issuer.

Schedule 13G

Item 1(a) Name of Issuer:

aTyr Pharma, Inc.

Item 1(b) Address of Issuer's Principal Executive Offices:

3545 John Hopkins Court, Suite 250
San Diego, CA 92121

Item 2(a) Name of Person Filing:

This statement is being filed by Domain Partners VIII, L.P., a Delaware limited partnership ("Domain VIII"), DP VIII Associates, L.P., a Delaware limited partnership ("DP VIII A") and Domain Associates, LLC ("DA") (together, the "Reporting Persons").

Item 2(b) Address of Principal Business Office:

One Palmer Square
Princeton, NJ 08542

Item 2(c) Place of Organization:

Domain VIII: Delaware
DP VIII A: Delaware
DA: Delaware

Item 2(d) Title of Class of Securities:

Common Stock, \$0.001 par value

Item 2(e) CUSIP Number: 002120103

Item 3 Statements Filed Pursuant to Rules 13d-1(b) or 13d-2(b):

Not applicable.

Item 4 Ownership.

(a) through (c):

The information set forth in Items 5 through 9 and 11 of the cover pages to this Schedule 13G is incorporated herein by reference.

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:

Not applicable.

Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Company:

Not applicable.

Item 8 Identification and Classification of Members of the Group:

See Exhibit 2.

Item 9 Notice of Dissolution of Group:

Not applicable.

Item 10 Certification:

Not applicable.

Signature

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

Dated: January 15, 2016

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII, LLC, General
Partner

By: /s/ Kathleen K. Schoemaker
Managing Member

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII, LLC, General
Partner

By: /s/ Kathleen K. Schoemaker
Managing Member

DOMAIN ASSOCIATES, LLC

By: /s/ Kathleen K. Schoemaker
Managing Member

JOINT FILING AGREEMENT

The undersigned hereby agree that the statement on Schedule 13G to which this Agreement is annexed as Exhibit 1, and any amendments thereto, is and will be filed on behalf of each of them in accordance with the provisions of Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended.

Dated: January 15, 2016

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII, LLC, General
Partner

By: /s/ Kathleen K. Schoemaker
Managing Member

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII, LLC, General
Partner

By: /s/ Kathleen K. Schoemaker
Managing Member

DOMAIN ASSOCIATES, LLC

By: /s/ Kathleen K. Schoemaker
Managing Member

Identification and Classification of Members of the Group

Domain Partners VIII, L.P, DP VIII Associates, L.P. and Domain Associates, LLC are filing this statement on Schedule 13G as a group.

Domain Partners VIII, L.P. is a Delaware limited partnership. Its sole general partner is One Palmer Square Associates VIII, L.L.C., a Delaware limited liability company.

DP VIII Associates, L.P. is a Delaware limited partnership. Its sole general partner is One Palmer Square Associates VIII, L.L.C., a Delaware limited liability company.

Domain Associates, LLC is a Delaware limited liability company.

