

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>Polaris Venture Management Co. V, L.L.C.</u> (Last) (First) (Middle) <u>C/O POLARIS VENTURE PARTNERS, 1000 WINTER STREET, SUITE 3350</u> (Street) <u>WALTHAM MA 02541</u> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 05/06/2015	3. Issuer Name and Ticker or Trading Symbol <u>aTYR PHARMA INC [LIFE]</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
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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)
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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			
Series B Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	3,473,763	(1)	I	By Polaris Venture Partners V, L.P. ⁽³⁾⁽⁴⁾
Series B Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	67,704	(1)	I	By Polaris Venture Partners Entrepreneurs' Fund V, L.P. ⁽⁵⁾
Series B Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	23,796	(1)	I	By Polaris Venture Partners Founders' Fund V, L.P. ⁽⁶⁾
Series B Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	34,737	(1)	I	Polaris Venture Partners Special Founders' Fund V, L.P. ⁽⁷⁾
Series B-2 Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	4,168,683	(1)	I	By Polaris Venture Partners V, L.P. ⁽³⁾⁽⁴⁾
Series B-2 Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	81,248	(1)	I	By Polaris Venture Partners Entrepreneurs' Fund V, L.P. ⁽⁵⁾
Series B-2 Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	28,556	(1)	I	By Polaris Venture Partners Founders' Fund V, L.P. ⁽⁶⁾
Series B-2 Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	41,686	(1)	I	By Polaris Venture Partners Special Founders' Fund V, L.P. ⁽⁷⁾
Series C Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	4,208,756	(1)	I	By Polaris Venture Partners V, L.P. ⁽³⁾⁽⁴⁾
Series C Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	82,029	(1)	I	By Polaris Venture Partners Entrepreneurs' Fund V, L.P. ⁽⁵⁾

**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			
Series C Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	28,831	(1)	I	By Polaris Venture Partners Founders' Fund V, L.P. ⁽⁶⁾
Series C Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	42,087	(1)	I	By Polaris Venture Partners Special Founders' Fund V, L.P. ⁽⁷⁾
Series D Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	1,470,577	(1)	I	By Polaris Venture Partners V, L.P. ⁽³⁾⁽⁴⁾
Series D Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	28,661	(1)	I	By Polaris Venture Partners Entrepreneurs' Fund V, L.P. ⁽⁵⁾
Series D Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	10,074	(1)	I	By Polaris Venture Partners Founders' Fund V, L.P. ⁽⁶⁾
Series D Redeemable Convertible Preferred Stock	(1)	(1)	Common Stock	14,706	(1)	I	By Polaris Venture Partners Special Founders' Fund V, L.P. ⁽⁷⁾
Series E Redeemable Convertible Preferred Stock	(2)	(2)	Common Stock	862,318	(2)	I	By Polaris Venture Partners V, L.P. ⁽³⁾⁽⁴⁾
Series E Redeemable Convertible Preferred Stock	(2)	(2)	Common Stock	16,806	(2)	I	By Polaris Venture Partners Entrepreneurs' Fund V, L.P. ⁽⁵⁾
Series E Redeemable Convertible Preferred Stock	(2)	(2)	Common Stock	5,906	(2)	I	By Polaris Venture Partners Founders' Fund V, L.P. ⁽⁶⁾
Series E Redeemable Convertible Preferred Stock	(2)	(2)	Common Stock	8,623	(2)	I	By Polaris Venture Partners Special Founders' Fund V, L.P. ⁽⁷⁾

1. Name and Address of Reporting Person*
[Polaris Venture Management Co. V, L.L.C.](#)

 (Last) (First) (Middle)
 C/O POLARIS VENTURE PARTNERS,
 1000 WINTER STREET, SUITE 3350

 (Street)
 WALTHAM MA 02541

 (City) (State) (Zip)

1. Name and Address of Reporting Person*
[Polaris Venture Partners V, L.P.](#)

 (Last) (First) (Middle)
 1000 WINTER STREET, SUITE 3350

 (Street)
 WALTHAM MA 02451

 (City) (State) (Zip)

1. Name and Address of Reporting Person*
[Polaris Venture Partners Entrepreneurs' Fund V, L.P.](#)

(Last)	(First)	(Middle)
1000 WINTER STREET, SUITE 3350		
(Street)		
WALTHAM	MA	02451
(City)	(State)	(Zip)

1. Name and Address of Reporting Person*

[Polaris Venture Partners Founders' Fund V, L.P.](#)

(Last)	(First)	(Middle)
1000 WINTER STREET, SUITE 3350		
(Street)		
WALTHAM	MA	02451
(City)	(State)	(Zip)

1. Name and Address of Reporting Person*

[Polaris Venture Partners Special Founders' Fund V, L.P.](#)

(Last)	(First)	(Middle)
1000 WINTER STREET, SUITE 3350		
(Street)		
WALTHAM	MA	02451
(City)	(State)	(Zip)

Explanation of Responses:

- The aggregate number of shares of the Issuer's Preferred Stock held by the Reporting Person converts into Common Stock immediately prior to the closing of the Issuer's initial public offering and has no expiration date. These shares convert into Common Stock on a 1-for-7.95413 basis.
- The aggregate number of shares of the Issuer's Preferred Stock held by the Reporting Person converts into Common Stock immediately prior to the closing of the Issuer's initial public offering and has no expiration date. These shares convert into Common Stock on a 1-for-9.6814 basis.
- These shares are owned directly by Polaris Venture Partners V, L.P. ("Polaris V"), whose sole general partner is Polaris Venture Management Co. V, LLC ("Polaris Management"). Each of Jonathan A. Flint ("Flint") and Terrance G. McGuire ("McGuire") are the managing members of Polaris Management. Amir Nashat ("Nashat"), who is a member of the Issuer's Board of Directors, is a member of Polaris Management. Each of Flint, McGuire and Nashat, in their respective capacities with regard to Polaris Management, may be deemed to have shared voting and dispositive power over the shares held by each of Polaris V, Polaris Venture Partners Entrepreneurs' Fund V, L.P. ("Polaris Entrepreneurs' V"), Polaris Venture Partners Founders' Fund V, L.P. ("Polaris Founders' V") and Polaris Venture Partners Special Founders' Fund V, L.P. ("Polaris Special Founders' V", and together with Polaris V, Polaris Entrepreneurs' V and Polaris Founders' V, the "Polaris V Funds").
- (Continued from Footnote 3) Each of Flint, McGuire, Nashat and Polaris Management disclaims beneficial ownership of these securities and this report shall not be deemed to be an admission that any one of them is the beneficial owner of such securities for purposes of Section 16 or any other purpose, except to the extent of their pecuniary interest therein.
- These shares are owned directly by Polaris Entrepreneurs' V, whose sole general partner is Polaris Management. Each of Flint and McGuire are the managing members of Polaris Management. Nashat, who is a member of the Issuer's Board of Directors, is a member of Polaris Management. Each of Flint, McGuire and Nashat, in their respective capacities with regard to Polaris Management, may be deemed to have shared voting and dispositive power over the shares held by each of the Polaris V Funds. Each of Flint, McGuire, Nashat and Polaris Management disclaims beneficial ownership of these securities and this report shall not be deemed to be an admission that any one of them is the beneficial owner of such securities for purposes of Section 16 or any other purpose, except to the extent of their pecuniary interest therein.
- These shares are owned directly by Polaris Founders' V, whose sole general partner is Polaris Management. Each of Flint and McGuire are the managing members of Polaris Management. Nashat, who is a member of the Issuer's Board of Directors, is a member of Polaris Management. Each of Flint, McGuire and Nashat, in their respective capacities with regard to Polaris Management, may be deemed to have shared voting and dispositive power over the shares held by each of the Polaris V Funds. Each of Flint, McGuire, Nashat and Polaris Management disclaims beneficial ownership of these securities and this report shall not be deemed to be an admission that any one of them is the beneficial owner of such securities for purposes of Section 16 or any other purpose, except to the extent of their pecuniary interest therein.
- These shares are owned directly by Polaris Special Founders' V, whose sole general partner is Polaris Management. Each of Flint and McGuire are the managing members of Polaris Management. Nashat, who is a member of the Issuer's Board of Directors, is a member of Polaris Management. Each of Flint, McGuire and Nashat, in their respective capacities with regard to Polaris Management, may be deemed to have shared voting and dispositive power over the shares held by each of the Polaris V Funds. Each of Flint, McGuire, Nashat and Polaris Management disclaims beneficial ownership of these securities and this report shall not be deemed to be an admission that any one of them is the beneficial owner of such securities for purposes of Section 16 or any other purpose, except to the extent of their pecuniary interest therein.

Remarks:

Exhibit 24.1 Power of Attorney John Gannon has signed this Form 3 as the Attorney-In-Fact for each of the Reporting Persons. Note that copies of the applicable Power of Attorney is already on file with the appropriate agencies.

[/s/ John Gannon, Attorney-in-Fact for Polaris Venture Management Co. V, L.L.C.](#) [05/06/2015](#)

[/s/ John Gannon, Attorney-in-Fact for Polaris Venture Management Co. V, L.L.C., the general partner of Polaris Venture Partners V, L.P.](#) [05/06/2015](#)

[/s/ John Gannon, Attorney-in-Fact for Polaris Venture Management Co. V, L.L.C., the general partner of Polaris Venture Partners Entrepreneurs' Fund V, L.P.](#) [05/06/2015](#)

[/s/ John Gannon, Attorney-in-Fact for Polaris Venture Management Co. V, L.L.C., the](#) [05/06/2015](#)

[general partner of Polaris
Venture Partners Founders'
Fund V, L.P.](#)

[/s/ John Gannon, Attorney-in-
Fact for Polaris Venture
Management Co. V, L.L.C., the
general partner of Polaris
Venture Partners Special
Founders' Fund V, L.P.](#)

[05/06/2015](#)

** 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.