

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL	
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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

1. Name and Address of Reporting Person* <b>BAKER BROS. ADVISORS LP</b>			2. Issuer Name and Ticker or Trading Symbol <b>IDERA PHARMACEUTICALS, INC. [ IDRA ]</b>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)		
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <b>03/15/2018</b>			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		
860 WASHINGTON STREET 3RD FLOOR			4. If Amendment, Date of Original Filed (Month/Day/Year)					
(Street) <b>NEW YORK NY 10014</b>								
(City) (State) (Zip)								

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	03/15/2018		M		2,250,846	A	\$0.47	4,102,796	I	See footnotes <sup>(1)(2)(5)(6)(7)</sup>
Common Stock	03/15/2018		M		17,626,445	A	\$0.47	34,193,251	I	See footnotes <sup>(1)(3)(5)(6)(7)</sup>
Common Stock	03/15/2018		M		439,036	A	\$0.47	602,867	I	See footnotes <sup>(1)(4)(5)(6)(7)</sup>

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Common Stock Warrant (right to buy)	\$0.47	03/15/2018		M		2,250,846		05/07/2013	05/07/2018	Common Stock	2,250,846	(8)	0	I	See Footnotes <sup>(1)(2)(7)</sup>
Common Stock Warrant (right to buy)	\$0.47	03/15/2018		M		17,626,445		05/07/2013	05/07/2018	Common Stock	17,626,445	(8)	0	I	See Footnotes <sup>(1)(3)(7)</sup>
Common Stock Warrant (right to buy)	\$0.47	03/15/2018		M		439,036		05/07/2013	05/07/2018	Common Stock	439,036	(8)	0	I	See Footnotes <sup>(1)(4)(7)</sup>

1. Name and Address of Reporting Person\*  
**BAKER BROS. ADVISORS LP**

(Last) (First) (Middle)

860 WASHINGTON STREET  
3RD FLOOR

(Street)  
**NEW YORK NY 10014**

(City) (State) (Zip)

1. Name and Address of Reporting Person\*  
**14159, L.P.**

(Last) (First) (Middle)

860 WASHINGTON STREET, 3RD FLOOR

(Street)  
**NEW YORK NY 10014**

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
<a href="#">667, L.P.</a>		
(Last)	(First)	(Middle)
860 WASHINGTON STREET, 3RD FLOOR		
(Street)		
NEW YORK	NY	10014
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
<a href="#">Baker Bros. Advisors (GP) LLC</a>		
(Last)	(First)	(Middle)
860 WASHINGTON STREET 3RD FLOOR		
(Street)		
NEW YORK	NY	10014
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
<a href="#">Baker Brothers Life Sciences LP</a>		
(Last)	(First)	(Middle)
860 WASHINGTON STREET 3RD FLOOR		
(Street)		
NEW YORK	NY	10014
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
<a href="#">BAKER FELIX</a>		
(Last)	(First)	(Middle)
860 WASHINGTON STREET 3RD FLOOR		
(Street)		
NEW YORK	NY	10014
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
<a href="#">BAKER JULIAN</a>		
(Last)	(First)	(Middle)
860 WASHINGTON STREET, 3RD FLOOR		
(Street)		
NEW YORK	NY	10014
(City)	(State)	(Zip)

**Explanation of Responses:**

- On March 15, 2018, 667, L.P. ("667"), Baker Brothers Life Sciences, L.P. ("Life Sciences") and 14159, L.P. ("14159", and together with 667 and Life Sciences the "Funds") exercised a warrant to purchase 2,250,846, 17,626,445 and 439,036 shares of the common stock of Idera Pharmaceuticals, Inc. (the "Issuer") for \$0.47 per share ("2018 Warrants").
- After giving effect to the transactions reported herein, and as a result of their ownership interest in Baker Biotech Capital (GP), LLC, Julian C. Baker and Felix J. Baker each may be deemed to have an indirect pecuniary interest in the Issuer's shares of common stock reported in column 5 of Table I directly held by 667, a limited partnership of which the sole general partner is Baker Biotech Capital, L.P., a limited partnership of which the sole general partner is Baker Biotech Capital (GP), LLC, due to Baker Biotech Capital, L.P.'s right to receive an allocation of a portion of the profits from 667.
- After giving effect to the transactions reported herein, and as a result of their ownership interest in Baker Brothers Life Sciences Capital (GP), LLC, Julian C. Baker and Felix J. Baker each may be deemed to have an indirect pecuniary interest in the Issuer's shares of common stock reported in column 5 of Table I directly held by Life Sciences, a limited partnership of which the sole general partner is Baker Brothers Life Sciences Capital, L.P., a limited partnership of which the sole general partner is Baker Brothers Life Sciences Capital (GP), LLC, due to Baker Brothers Life Sciences Capital, L.P.'s right to receive an allocation of a portion of the profits from Life Sciences.
- After giving effect to the transactions reported herein, and as a result of their ownership interest in 14159 Capital (GP), LLC, Julian C. Baker and Felix J. Baker each may be deemed to have an indirect pecuniary interest in the Issuer's shares of common stock reported in column 5 of Table I directly held by 14159, a limited partnership of which the sole general partner is 14159 Capital, L.P., a limited partnership of which the sole general partner is 14159 Capital (GP), LLC, due to 14159 Capital, L.P.'s right to receive an allocation of a portion of the profits from 14159.
- Includes beneficial ownership of 128,726 shares issued pursuant to the Stock Incentive Plan to Julian C. Baker and Kelvin M. Neu, respectively, a principal and an employee of Baker Bros. Advisors LP (the "Adviser") in lieu of director retainer fees, of which the fund may be deemed to own a portion. The shares of Common Stock are fully vested. Julian C. Baker and Dr. Neu serve on the Issuer's Board of Directors (the "Board") as representatives of the Funds. Dr. Neu also serves on the Compensation Committee of the Board for which he receives additional director retainer fees.
- Pursuant to the policies of the Adviser, Julian C. Baker and Dr. Neu do not have any right to the pecuniary interest in the Issuer's securities issued in lieu of director retainer fees and the Funds are entitled to an indirect proportionate pecuniary interest in the securities issued in lieu of director fees. The Funds each own an indirect proportionate pecuniary interest in the shares of Common Stock. Solely as a result of their ownership interest in the general partners of the general partners of the Funds, Felix J. Baker and Julian C. Baker may be deemed to have an indirect pecuniary interest in the shares of Common Stock issued in lieu of director retainer fees (i.e., no direct pecuniary interest).
- The Adviser serves as the Investment Adviser to the Funds. In connection with the services provided by the Adviser, the Adviser receives an asset-based management fee that does not confer any pecuniary interest in the securities held by the Funds. Baker Bros. Advisors (GP) LLC (the "Adviser GP") is the Adviser's sole general partner. Julian C. Baker and Felix J. Baker are principals of the Adviser GP. The Adviser has complete and

unlimited discretion and authority with respect to the investment and voting power of the securities held by the Funds. The general partners of the Funds relinquished to the Adviser all discretion and authority with respect to the investment and voting power of the securities held by the Funds. Julian C. Baker, Felix J. Baker, the Adviser GP and the Adviser disclaim beneficial ownership of the securities held directly by the Funds except to the extent of their pecuniary interest therein, and this report shall not be deemed an admission that any of Julian C. Baker, Felix J. Baker, the Adviser GP or the Adviser is a beneficial owner of such securities for purposes of Section 16 or any other purpose.

8. Pursuant to Instruction 4(c)(iii), this response has been left blank.

**Remarks:**

Remarks: Julian C. Baker and Dr. Kelvin M. Neu, respectively, a principal and an employee of Baker Bros. Advisors LP (the "Adviser") are directors of Idera Pharmaceuticals, Inc. ("the Issuer"). By virtue of their representation on the Board of Directors of the Issuer, for purposes of Section 16 of the Securities Exchange Act of 1934, as amended, the reporting persons are deemed directors by deputization of the Issuer.

By: Baker Bros. Advisors LP,  
Name: Scott L. Lessing, Title: 03/15/2018  
President /s/ Scott L. Lessing  
Baker Bros. Advisors LP, Mgmt.  
Co. and Inv. Adviser to 14159,  
L.P., pursuant to authority granted  
by 14159 Capital, L.P., GP to 03/15/2018  
14159, L.P. Name: Scott L.  
Lessing, Title: President /s/ Scott  
L. Lessing  
Baker Bros. Advisors LP, Mgmt.  
Co. and Inv. Adviser to 667, L.P.,  
pursuant to authority granted by  
Baker Biotech Capital, L.P., GP to 03/15/2018  
667, L.P. Name: Scott L. Lessing,  
Title: President /s/ Scott L.  
Lessing  
By: Baker Bros. Advisors (GP),  
L.L.C. Name: Scott L. Lessing, 03/15/2018  
Title: President /s/ Scott L.  
Lessing  
Baker Bros. Advisors LP, Mgmt.  
Co. and Inv. Adviser to BAKER  
BROTHERS LIFE SCIENCES,  
L.P., pursuant to authority granted  
by Baker Brothers Life Sciences 03/15/2018  
Capital, L.P., GP to Baker  
Brothers Life Sciences, L.P.,  
Name: Scott L. Lessing, Title:  
President /s/  
/s/ Felix J. Baker 03/15/2018  
/s/ Julian C. Baker 03/15/2018  
\*\* 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 4 (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.

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