

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).

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

1. Name and Address of Reporting Person* <u>BAKER BROS. ADVISORS LP</u> <hr/> (Last) (First) (Middle) 860 WASHINGTON STREET 3RD FLOOR <hr/> (Street) NEW YORK NY 10014 <hr/> (City) (State) (Zip)			2. Issuer Name and Ticker or Trading Symbol <u>IDERA PHARMACEUTICALS, INC. [IDRA]</u>			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)		
			3. Date of Earliest Transaction (Month/Day/Year) 04/02/2018					
			4. If Amendment, Date of Original Filed (Month/Day/Year)					
			6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person					

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	04/02/2018		A		13,349	A	\$1.62	4,116,145	I	See footnotes ⁽¹⁾⁽²⁾⁽³⁾⁽⁶⁾⁽⁷⁾
Common Stock	04/02/2018		A		13,349	A	\$1.62	34,206,600	I	See footnotes ⁽¹⁾⁽²⁾⁽⁴⁾⁽⁶⁾⁽⁷⁾
Common Stock	04/02/2018		A		13,349	A	\$1.62	616,216	I	See footnotes ⁽¹⁾⁽²⁾⁽⁵⁾⁽⁶⁾⁽⁷⁾

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					

1. Name and Address of Reporting Person* <u>BAKER BROS. ADVISORS LP</u> <hr/> (Last) (First) (Middle) 860 WASHINGTON STREET 3RD FLOOR <hr/> (Street) NEW YORK NY 10014 <hr/> (City) (State) (Zip)		
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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 *

667, 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 *

Baker Bros. Advisors (GP) LLC

(Last) (First) (Middle)
860 WASHINGTON STREET
3RD FLOOR

(Street)
NEW YORK NY 10014

(City) (State) (Zip)

1. Name and Address of Reporting Person *

Baker Brothers Life Sciences LP

(Last) (First) (Middle)
860 WASHINGTON STREET
3RD FLOOR

(Street)
NEW YORK NY 10014

(City) (State) (Zip)

1. Name and Address of Reporting Person *

BAKER FELIX

(Last) (First) (Middle)
860 WASHINGTON STREET
3RD FLOOR

(Street)
NEW YORK NY 10014

(City) (State) (Zip)

1. Name and Address of Reporting Person*

BAKER JULIAN

(Last) (First) (Middle)

860 WASHINGTON STREET, 3RD FLOOR

(Street)

NEW YORK NY 10014

(City) (State) (Zip)

Explanation of Responses:

1. 5,401 shares of common stock (the "Common Stock") issued to Julian C. Baker and 7,948 shares of Common Stock issued to Dr. Kelvin M. Neu, respectively, a principal and a full-time employee of Baker Bros. Advisors LP (the "Adviser") pursuant to the Issuer's 2013 Stock Incentive Plan (the "Stock Incentive Plan") in lieu of director retainer fees of \$8,750 and \$12,875, respectively. 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 (as defined below). Dr. Neu also serves on the Compensation Committee of the Board for which he receives additional director retainer fees.

2. 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 (as defined below) are entitled to an indirect proportionate pecuniary interest in the securities issued in lieu of director fees. 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") each owns 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).

3. As a result of Felix J. Baker's and Julian C. Baker's ownership interest in Baker Biotech Capital (GP), LLC, Felix J. Baker and Julian C. Baker may be deemed to have an indirect pecuniary interest in 4,116,145 shares of common stock of the Issuer beneficially owned 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. Includes beneficial ownership of 142,075 shares issued pursuant to the Stock Incentive Plan in lieu of director retainer fees of which the fund may be deemed to own a portion.

4. As a result of Felix J. Baker's and Julian C. Baker's ownership interest in Baker Brothers Life Sciences Capital (GP), LLC, Felix J. Baker and Julian C. Baker may be deemed to have an indirect pecuniary interest 34,206,600 shares of common stock of the Issuer beneficially owned 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. Includes beneficial ownership of 142,075 shares issued pursuant to the Stock Incentive Plan in lieu of director retainer fees, of which the fund may be deemed to own a portion.

5. As a result of Felix J. Baker's and Julian C. Baker's ownership interest in 14159 Capital (GP), LLC, Felix J. Baker and Julian C. Baker may be deemed to have an indirect pecuniary interest in 616,216 shares of common stock of the Issuer beneficially owned 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 142,075 shares issued pursuant to the Stock Incentive Plan in lieu of director retainer fees, of which the fund may be deemed to own a portion.

6. 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.

7. The disclosure of the grant of Common Stock reported on this form is the sum of two grants totaling 13,349 shares. The 13,349 shares are reported for each of the Funds as each has an indirect pecuniary interest.

Remarks:

Remarks: Julian C. Baker and Dr. Kelvin M. Neu, respectively, a principal and a full-time 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 deputation of the Issuer.

By: Baker Bros. Advisors LP,
Name: Scott L. Lessing, Title: 04/04/2018

President /s/ Scott L. Lessing

Baker Bros. Advisors LP,
Mgmt. Co. and Inv. Adviser to
14159, L.P., pursuant to
authority granted by 14159 04/04/2018
Capital, L.P., GP to 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 04/04/2018
Biotech Capital, L.P., GP to
667, L.P. Name: Scott L.

Lessing, Title: President /s/
Scott L. Lessing

By: Baker Bros. Advisors (GP)
LLC, Name: Scott L. Lessing, 04/04/2018
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 04/04/2018
Brothers Life Sciences
Capital, L.P., GP to Baker
Brothers Life Sciences, L.P.,
Name: Scott L. Lessing, Title:
President /s/

/s/ Felix J. Baker 04/04/2018

/s/ Julian C. Baker 04/04/2018

** 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.

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.