

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>  (Last) (First) (Middle) 860 WASHINGTON STREET 3RD FLOOR  (Street) NEW YORK NY 10014  (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) 06/20/2018	
4. If Amendment, Date of Original Filed (Month/Day/Year)		

**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					

**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
Non-Qualified Stock Option (right to buy)	\$1.53	06/20/2018		A		100,000		(1)	06/20/2028	Common Stock	100,000	\$0	100,000	I	See Footnotes (1)(2)(3)

1. Name and Address of Reporting Person* <u>BAKER BROS. ADVISORS LP</u>  (Last) (First) (Middle) 860 WASHINGTON STREET 3RD FLOOR  (Street) NEW YORK NY 10014  (City) (State) (Zip)
1. Name and Address of Reporting Person* <u>14159, L.P.</u>  (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.

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(Last) (First) (Middle)

860 WASHINGTON STREET, 3RD FLOOR

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(Street)

NEW YORK NY 10014

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(City) (State) (Zip)

1. Name and Address of Reporting Person \*

Baker Bros. Advisors (GP) LLC

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(Last) (First) (Middle)

860 WASHINGTON STREET  
3RD FLOOR

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(Street)

NEW YORK NY 10014

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(City) (State) (Zip)

1. Name and Address of Reporting Person \*

Baker Brothers Life Sciences LP

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(Last) (First) (Middle)

860 WASHINGTON STREET  
3RD FLOOR

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(Street)

NEW YORK NY 10014

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(City) (State) (Zip)

1. Name and Address of Reporting Person \*

BAKER FELIX

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(Last) (First) (Middle)

860 WASHINGTON STREET  
3RD FLOOR

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(Street)

NEW YORK NY 10014

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(City) (State) (Zip)

1. Name and Address of Reporting Person \*

BAKER JULIAN

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(Last) (First) (Middle)

860 WASHINGTON STREET, 3RD FLOOR

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(Street)

NEW YORK NY 10014

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(City) (State) (Zip)

**Explanation of Responses:**

1. 50,000 non-qualified stock options ("Stock Options") convertible solely into common shares of Idera Pharmaceuticals, Inc. (the "Issuer") were granted to Julian C. Baker, a principal of Baker Bros. Advisors LP (the "Adviser") and 50,000 Stock Options were granted to Dr. Kelvin M. Neu, a full-time employee of the Adviser. The Stock Options were granted pursuant to the Issuer's 2013 Stock Incentive Plan, as amended, have a strike price of \$1.53 and vest in full on the first anniversary of the date of grant, subject to continued service as a director.

2. Julian C. Baker and Dr. Kelvin M. Neu serve on the Issuer's Board of Directors (the "Board") as representatives of 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"). Pursuant to the policies of the Adviser, Julian C. Baker and Dr. Kelvin M. Neu do not have any right to any of the Issuer's securities issued as part of their service on the Board and the Funds are entitled to receive all the pecuniary interest in the securities issued. The Funds each own an indirect proportionate pecuniary interest in the Stock Options. Solely as a result of Felix J. Baker's and Julian C. Baker's 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 stock options (i.e. no direct pecuniary interest).

3. 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.

**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 deputization of the Issuer.

By: Baker Bros. Advisors LP,  
Name: Scott L. Lessing, Title: 06/21/2018  
President /s/ Scott L. Lessing

Baker Bros. Advisors LP,  
Mgmt. Co. and Inv. Adviser to  
14159, L.P., pursuant to  
authority granted by 14159 06/21/2018  
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 06/21/2018  
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, 06/21/2018  
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 06/21/2018  
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 06/21/2018  
/s/ Julian C. Baker 06/21/2018

\*\* 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.**