## Idera Pharmaceuticals, Inc.

IMPORTANT ANNUAL MEETING	000004	
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DESIGNATION (IF ANY)		
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# **Electronic Voting Instructions**

## Available 24 hours a day, 7 days a week!

Instead of mailing your proxy, you may choose one of the voting methods outlined below to vote your proxy.

VALIDATION DETAILS ARE LOCATED BELOW IN THE TITLE BAR.

Proxies submitted by the Internet or telephone must be received by 11:59 p.m., Eastern Time, on June 6, 2017.



#### Vote by Internet

- · Go to www.investorvote.com/IDRA
- Or scan the QR code with your smartphone
- Follow the steps outlined on the secure website

## Vote by telephone

- Call toll free 1-800-652-VOTE (8683) within the USA, US territories & Canada on a touch tone telephone
- Follow the instructions provided by the recorded message

Using a  $\underline{\text{black ink}}$  pen, mark your votes with an  $\mathbf{X}$  as shown in this example. Please do not write outside the designated areas.



# **Annual Meeting Proxy Card**

1234 5678 9012 345

▼ IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

A Proposals — The Board of Directors reco	mmends a vote <u>FOR</u> all th	ne nominees listed and <u>FOR</u> Proposals 2, 3, 4,	5 and 6.
1. Election of Directors: For Withhold		For Withhold	For Withhold
01 - Mr. Vincent Milano	02 - Dr. Kelvin Neu	03 - Mr. William Reardon	<del>*</del>
2. Approval, by non-binding vote, of executive compensation.	For Against Abstain	3. Approval, by non-binding vote, of the frequency of future executive compensation advisory votes.	1 Year 2 Years 3 Years Abstain For Against Abstain
4. Approval of an amendment of our 2013 Stock Incentive Plato increase the number of shares authorized for issuance and make other certain changes, as set forth in Appendix A attached to the Proxy Statement.	$\sqcup$ $\sqcup$ $\sqcup$	5. Approval of our 2017 Employee Stock Purchase Plan	n.
<ol><li>Ratification of the selection of Ernst &amp; Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2017.</li></ol>			
B Non-Voting Items Change of Address — Please print new address below.		Comments — Please print your comments below.	
C Authorized Signatures — This section mu	st be completed for your	vote to be counted. — Date and Sign Below	
Please sign this proxy exactly as your name appears her sign. If a corporation or partnership, this signature shou			ndicate the capacity in which they
Date (mm/dd/yyyy) — Please print date below.			keep signature within the box.
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▼ IF YOU HAVE NOT VOTED VIA THE INTERNET <u>OR</u> TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼
Proxy — IDERA PHARMACEUTICALS, INC.
PROXY SOLICITED BY THE BOARD OF DIRECTORS
Annual Meeting of Stockholders — June 7, 2017
Those signing on the reverse side, revoking all prior proxies, hereby appoint(s) Mr. Vincent J. Milano, Mr. Louis J. Arcudi, III and Mr. Mark J. Casey, or each or any of them with full power of substitution, as proxies for those signing on the reverse side to act and vote all shares of stock of Idera Pharmaceuticals, Inc. which the undersigned would be entitled to vote if personally present at the 2017 Annual Meeting of Stockholders of Idera Pharmaceuticals, Inc. (the "Meeting") and at any adjournment or postponement thereof as indicated upon all matters referred to on the reverse side and described in the Proxy Statement for the Meeting, and, in their discretion, upon any other matters which may properly come before the Meeting. Attendance of the undersigned at the Meeting or at any adjournment or postponement thereof will not be deemed to revoke this proxy unless those signing on the reverse side shall revoke this proxy in writing.
THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED IN THE MANNER DIRECTED BY THE STOCKHOLDER(S) SIGNING THE REVERSE SIDE AND IN THE DISCRETION OF THE PROXIES UPON ANY OTHER MATTERS WHICH PROPERLY COME BEFORE THE MEETING. IF NO INDICATION IS MADE, THE PROXIES SHALL VOTE "FOR" THE DIRECTOR NOMINEES AND "FOR" PROPOSALS NUMBERED 2, 3, 4, 5 AND 6.

YOUR VOTE IS IMPORTANT. PLEASE VOTE TODAY.

PLEASE VOTE, DATE AND SIGN ON OTHER SIDE AND RETURN PROMPTLY IN ENCLOSED ENVELOPE.