## Idera Pharmaceuticals, Inc.

IMPORTANT ANNUAL MEETING INFORMATION       Important annual meeting information         ENDORSEMENT_LINE       SACKPACK         Important annual meeting information       Important annual meeting information         MR A SAMPLE       DESIGNATION (IF ANY)         ADD 1       ADD 2         ADD 3       ADD 4         ADD 5       ADD 6	C123456         000000000000000000000000000000000000
	Image: Second system       Vote by Internet         • Go to www.investorvote.com/IDRA+ANNUA         • Or scan the QR code with your smartphone         • Follow the steps outlined on the secure webs
Using a <u>black ink</u> pen, mark your votes with an <b>X</b> as shown in this example. Please do not write outside the designated areas.	<ul> <li>Vote by telephone</li> <li>Call toll free 1-800-652-VOTE (8683) within the USA, US territories &amp; Canada on a touch tone telephone</li> <li>Follow the instructions provided by the recorded message</li> </ul>
Annual Meeting Proxy Card	1234 5678 9012 345
▼ IF YOU HAVE NOT VOTED VIA THE INTERNET <u>OR</u> TELEPHONE, FOLD ALONG THE PERFOR	ATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE
<ul> <li>Proposals — The Board of Directors recommends a vote FOR all the restance of Directors:</li> <li>For Withhold</li> <li>01 - Mr. Julian Baker</li> <li>02 - Mr. James Geraghty</li> <li>For Against Abstain</li> <li>Approval of an amendment to our Restated Certificate of Incorporation, as amended, to effect a reverse stock split of our issued and outstanding common stock by a whole number ratio of not less than 1-for-4 and not more than 1-for-8, such ratio and the implementation and timing of such reverse stock split to be determined in the discretion of our board of directors at any time prior to our 2019 annual meeting of stockholders, and, in connection therewith, to decrease the number of authorized shares of our common stock on a basis proportional to the reverse stock split ratio.</li> <li>Approval, by non-binding vote, of executive compensation.</li> </ul>	For       Withhold       For       Withhold       For       Withhold         Image: State of the s
B Non-Voting Items	independent registered public accounting firm for the fiscal <b>L L y</b> ear ending December 31, 2018.
Change of Address — Please print new address below.	n personally. Trustees and other fiduciaries should indicate the capacity in which th who should state his or her title.

---

▼ IF YOU HAVE NOT VOTED VIA THE INTERNET OR 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 20, 2018

Those signing on the reverse side, revoking all prior proxies, hereby appoint(s) Mr. Vincent J. Milano and Mr. Louis J. Arcudi, III, 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 2018 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, AND 5.

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

YOUR VOTE IS IMPORTANT. PLEASE VOTE TODAY.