

ALBIREO PHARMA, INC.
 10 POST OFFICE SQ., SUITE 1000
 BOSTON, MA 02109

VOTE BY INTERNET

Before The Meeting - Go to www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m., Eastern Time, on June 11, 2020. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

During The Meeting - Go to www.virtualshareholdermeeting.com/ALBO2020

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m., Eastern Time, on June 11, 2020. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

D13973-P40184

KEEP THIS PORTION FOR YOUR RECORDS
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

ALBIREO PHARMA, INC.

The Board of Directors recommends you vote FOR the following:

1. To elect two Class I directors to serve three-year terms expiring in 2023:

For All Withhold All For All Except

To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.

Nominees:

- 01) Michael Gutch, Ph.D.
 02) Roger A. Jeffs, Ph.D.

The Board of Directors recommends you vote FOR proposals 2 and 3.

2. To ratify the appointment of Ernst & Young LLP as Albireo's independent registered public accounting firm for the fiscal year ending December 31, 2020.
 3. To approve, on an advisory basis, the compensation of Albireo's named executive officers as disclosed in the proxy statement.

For Against Abstain

NOTE: Such other business as may properly come before the meeting or any adjournment or postponement thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

 Signature [PLEASE SIGN WITHIN BOX] Date

 Signature (Joint Owners) Date

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:

The Notice and Proxy Statement and Annual Report are available at www.proxyvote.com.

D13974-P40184

**ANNUAL MEETING OF STOCKHOLDERS OF
ALBIREO PHARMA, INC.**

June 12, 2020, 9:30 a.m. ET

To be held via live audio webcast.

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

THE UNDERSIGNED APPOINTS RONALD H.W. COOPER AND SIMON N.R. HARFORD AND EACH OF THEM (THE "PROXIES"), AS PROXIES OF THE UNDERSIGNED, WITH THE FULL POWER OF SUBSTITUTION, AND AUTHORIZES EACH OF THEM TO REPRESENT AND VOTE, AS DESIGNATED ON THE REVERSE HEREOF, ALL OF THE SHARES OF COMMON STOCK OF ALBIREO PHARMA, INC., HELD OF RECORD BY THE UNDERSIGNED AT THE CLOSE OF BUSINESS ON APRIL 15, 2020 AT THE ANNUAL MEETING OF STOCKHOLDERS OF ALBIREO PHARMA, INC. TO BE HELD ON JUNE 12, 2020 HELD LIVE VIA WEBCAST AT www.virtualshareholdermeeting.com/ALBO2020 OR AT ANY ADJOURNMENT OR POSTPONEMENT THEREOF.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR EACH OF THE NOMINEES LISTED IN PROPOSAL 1, FOR PROPOSAL 2 AND FOR PROPOSAL 3. THIS PROXY, WHEN PROPERLY EXECUTED, WILL BE VOTED AS SPECIFIED ABOVE. THIS PROXY REVOKES ALL PRIOR PROXIES GIVEN BY THE UNDERSIGNED. THIS PROXY WILL BE VOTED AS DIRECTED OR IF NO SPECIFICATION IS MADE AND THIS PROXY IS RETURNED, THIS PROXY WILL BE VOTED IN FAVOR OF EACH OF THE NOMINEES LISTED IN PROPOSAL 1, FOR PROPOSAL 2 AND FOR PROPOSAL 3.

IN THEIR DISCRETION, THE PROXIES ARE AUTHORIZED TO VOTE UPON SUCH OTHER BUSINESS AS MAY PROPERLY COME BEFORE THE MEETING OR AT ANY ADJOURNMENT OR POSTPONEMENT THEREOF.

PLEASE SIGN, DATE AND MAIL THIS PROXY CARD TO THE COMPANY PROMPTLY.

Continued and to be signed on reverse side