

ACHIEVE LIFE SCIENCES, INC.
1040 WEST GEORGIA STREET
SUITE 1000
VANCOUVER, BC V6E 4H7

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. Vote by 11:59 P.M. Eastern Time on May 10, 2021. 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

<https://www.webcasters.com/Webcast/2636/40168>

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. Vote by 11:59 P.M. Eastern Time on May 10, 2021. 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:

D41487-P48663

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

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

ACHIEVE LIFE SCIENCES, INC.

The Board of Directors recommends you vote FOR the following:

1. Election of Directors

Nominees:

01) John Bencich	05) Martin Mattingly
02) Cindy Jacobs	06) Jay Moyes
03) Donald Joseph	07) Richard Stewart
04) Bridget Marlett	

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.

The Board of Directors recommends you vote FOR the following proposal.

For Against Abstain

2. To ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021.

☐ ☐ ☐

NOTE: In their discretion, the proxies may transact such other business as properly comes before the meeting or any adjournment thereof.

NOTE: Please sign exactly as your name or names appear(s) on this Proxy. When shares are held jointly, each holder should sign. When signing as executor, administrator, attorney-in-fact or guardian, please give full title as such. If the signer is a corporation, please sign full corporate name by duly authorized officer, giving full title as such. If signer is a partnership, please sign in partnership name by authorized person and state your title. PLEASE COMPLETE, SIGN, DATE AND RETURN THE PROXY CARD PROMPTLY USING THE ENCLOSED ENVELOPE.

Signature [PLEASE SIGN WITHIN BOX]	Date
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Signature (Joint Owners)	Date
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**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting to be Held
on May 11, 2021:**

The Notice and Proxy Statement and Form 10-K are available at www.proxyvote.com.

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**ACHIEVE LIFE SCIENCES, INC.
Annual Meeting of Stockholders
May 11, 2021
This proxy is solicited by the Board of Directors**

The undersigned hereby nominates and appoints John Bencich and Richard Stewart, and each of them individually, the attorney, agent and proxy of the undersigned, with full power of substitution, to vote all stock of ACHIEVE LIFE SCIENCES, INC. which the undersigned is entitled to represent and vote at the Annual Meeting of Stockholders to be held via webcast at <https://www.webcaster4.com/Webcast/Page/2636/40168>, on May 11, 2021 at 12:00 p.m. local time, and at any and all adjournments or postponements thereof, as fully as if the undersigned were present and voting on the matters listed on the reverse side. Alternatively, you may access the live Annual Meeting by dialing 877-407-8133 (U.S. & Canada) or 201-689-8040 (International).

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.

(Continued and to be signed on reverse side)