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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**SCHEDULE 14A**  
Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934  
(Amendment No.    )

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Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

**AILERON THERAPEUTICS, INC.**  
(Name of Registrant as Specified in Its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

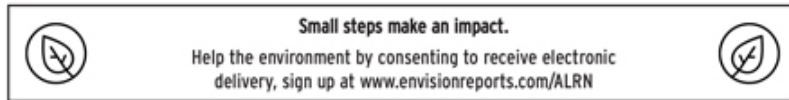
Payment of Filing Fee (Check the appropriate box):

- No fee required.
  - Fee paid previously with preliminary materials.
  - Fee computed on table in exhibit required by Item 2(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.
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The 2023 Annual Meeting of Stockholders of Aileron Therapeutics, Inc. will be held on February 28, 2024 at 8:30 A.M. Eastern Standard Time, virtually via the internet at [www.meetnow.global/MTD5ADS](http://www.meetnow.global/MTD5ADS)

To access the virtual meeting, you must have the information that is printed in the shaded bar located on the reverse side of this form.



▼ IF VOTING BY MAIL, SIGN, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼

**Proxy - Aileron Therapeutics, Inc.**



**Notice of 2023 Annual Meeting of Stockholders**  
**Proxy Solicited by Board of Directors for Annual Meeting – February 28, 2024**

Manuel C. Alves-Aivdao, M.D., Ph.D., Susan L. Drexler, Brian Windsor, Ph.D., and Charles Garner, or any of them, each with the power of substitution, are hereby authorized to represent and vote the shares of the undersigned, with all the powers which the undersigned would possess if personally present online, at the Annual Meeting of Stockholders of Aileron Therapeutics, Inc. to be held on February 28, 2024 or at any postponement or adjournment thereof.

This Proxy, when properly executed, will be voted as directed. If no direction is given, the Proxies will have authority to vote FOR Proposal 1 "Approval of the Issuance of Our Common Stock Upon Conversion of Our Outstanding Series X Preferred Stock", FOR Proposal 2 "Election of Three Class III Directors", FOR Proposal 3 "Amendment to 2021 Stock Incentive Plan", FOR Proposal 4 "Amendment to Our Restated Certificate of Incorporation", FOR Proposal 5 "Approval of Named Executive Officer Compensation", FOR 1 YEAR on Proposal 6 "Frequency of Votes to Approve Named Executive Officer Compensation" and FOR Proposal 7 "Ratification of Registered Public Accounting Firm for FY 2023". In their discretion, the Proxies are authorized to vote upon such other business as may properly come before the Annual Meeting.

Virtual attendance of the undersigned at the Annual Meeting or at any adjournment thereof will not be deemed to revoke this Proxy unless the undersigned revokes this Proxy in writing or attends the Annual Meeting online and votes during the meeting. Unless voting by the internet or telephone, please complete, sign and date this proxy card and return it in the enclosed postage-prepaid envelope.

(Items to be voted appear on reverse side)

**C Non-Voting Items**

Change of Address – Please print new address below.

Comments – Please print your comments below.





Using a black ink pen, mark your votes with an X as shown in this example. Please do not write outside the designated areas.



## 2023 Annual Meeting Proxy Card

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### A Proposals – The Board of Directors recommends a vote FOR all the nominees listed, FOR Proposals 1, 3-5 and 7, and for 1 YEAR on Proposal 6

- |  |   |                              |                          |                          |   |
|--|---|------------------------------|--------------------------|--------------------------|---|
|  | For   | Against                      | Abstain                  |                          | + |
| 1. To Approve the Issuance, in Accordance with Nasdaq Listing Rule 5635(a), of Our Common Stock, Upon Conversion of Our Outstanding Series X Non-Voting Convertible Preferred Stock.               | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> |                          |   |
| 2. Election of Three Class III Directors:  |   |                              |                          |                          |   |
| 01 - Manuel C. Alves-Aivado, M.D., Ph.D.   | 02 - Reinhard Ambros, Ph.D.   | 03 - Josef H. von Rickenbach |                          |                          |   |
| <input type="checkbox"/> Mark here to vote FOR all nominees  | <input type="checkbox"/> Mark here to WITHHOLD vote from all nominees |                              |                          |                          |   |
| <input type="checkbox"/> For All EXCEPT - To withhold a vote for one or more nominees, mark the box to the left and the corresponding numbered box(es) to the right.                               | 01  | 02                           | 03                       |                          |   |
|  | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> |                          |   |
| 3. To Approve an Amendment to the Aileron Therapeutics, Inc. 2021 Stock Incentive Plan to Increase the Number of Shares of Our Common Stock Available for Issuance Thereunder by 3,000,000 Shares. | For   | Against                      | Abstain                  |                          |   |
|  | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> |                          |   |
| 5. To Approve, on a Non-Binding, Advisory Basis, Our Named Executive Officer Compensation.   | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> |                          |   |
| 7. Ratification of the Appointment of Marcum LLP as Our Independent Registered Public Accounting Firm for the Fiscal Year ended December 31, 2023.   | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> |                          |   |
| 4. To Approve an Amendment to Our Restated Certificate of Incorporation, as Amended, to Increase the Number of Authorized Shares of Our Common Stock from 45,000,000 to 100,000,000.               | For   | Against                      | Abstain                  |                          |   |
|  | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> |                          |   |
| 6. To Approve, on a Non-Binding, Advisory Basis, the Frequency of Future Advisory Votes to Approve Our Named Executive Officer Compensation.   | 1 Year  | 2 Years                      | 3 Years                  | Abstain                  |   |
|  | <input type="checkbox"/>  | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> |   |

### B Authorized Signatures – This section must be completed for your vote to count. Please date and sign below.

Please sign exactly as name(s) appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, corporate officer, trustee, guardian, or custodian, please give full title. Date (mm/dd/yyyy) – Please print date below.

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Signature 1 – Please keep signature within the box.

\_\_\_\_\_

Signature 2 – Please keep signature within the box.

\_\_\_\_\_



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## Proxy - Aileron Therapeutics, Inc.

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