UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

SCHEDULE 14A

INFORMATION REQUIRED IN PROXY STATEMENT SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the **Securities Exchange Act of 1934**

Filed by the Registrant

Filed by a Party other than the Registrant \Box

Check the appropriate box:

- \times 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

Aptose Biosciences 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 all boxes that apply):

- X No fee required
- Fee paid previously with preliminary materials
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NOTICE AND PROXY STATEMENT

FOR THE SPECIAL MEETING OF SHAREHOLDERS TO BE HELD ON JANUARY 27, 2025

December •, 2024

Aptose Biosciences Inc. Notice of Special Meeting of Shareholders

NOTICE IS HEREBY GIVEN that the special meeting (the '**Meeting**') of shareholders of Aptose Biosciences Inc. (the "Corporation") will be held on January 27, 2025 at 7:00 a.m. (Pacific Standard time). The Meeting will be conducted in a virtual format only. There will be no physical location for shareholders and duly appointed proxyholders to attend. Shareholders and duly appointed proxyholders are invited to attend the Meeting by live webcast accessible directly online at https://meetings.lumiconnect.com/400-993-634-523, where they will be able to listen, vote, and submit questions during the Meeting.

What the Meeting is About

The following items of business will be covered at the Meeting:

- Proposal No. 1 passing a special resolution, the full text of which is set forth in the Proxy Statement, approving the adoption of an amendment to the Corporation's articles to effect a reverse stock split of the Corporation's outstanding Shares at a ratio in the range of 1-for-10 to 1-for-30 (the "Reverse Stock Split"), such amendment to become effective at an exact ratio and a date to be determined by the board of directors of the Corporation (the "Board") if the Board considers it to be in the best interests of the Corporation to implement such Reverse Stock Split, all as more particularly described in the Proxy Statement;
- Proposal No. 2 passing a resolution, the full text of which is set forth in the Proxy Statement, approving one or more adjournments of the Meeting, if necessary or appropriate, if a quorum is present, to permit further solicitation of proxies if there are not sufficient votes at the time of the Meeting to approve Proposal No. 1; and
- 3. transacting such other business as may be properly brought before the Meeting.

The shareholders may also consider other business that properly comes before the Meeting or any adjournment of the Meeting. The Proxy Statement provides additional information relating to the matters to be dealt with at the Meeting and forms part of this notice.

You have the right to vote.

You are entitled to receive notice of and vote at the Meeting, or any adjournment, if you are a holder of common shares in the capital of the Corporation ("Shares") at the close of business on December 24, 2024.

You have the right to vote your shares on items 1 through 2 listed above and any other items that may properly come before the Meeting or any adjournment.

The Notice of Meeting, Proxy Statement and the form of proxy will be mailed to you on or around January 6, 2025. Detailed instructions regarding shareholders' voting process are also available on our website at https://www.aptose.com/investors/news-events/ir-calendar.

Your vote is important.

If you are not able to attend the Meeting, please exercise your right to vote by signing and returning the enclosed form of proxy to Computershare Investor Services Inc., 100 University Avenue, 8th Floor, Toronto, Canada M5J 2Y1, so as to arrive not later than 10:00 a.m. (Toronto time) on January 23, 2024 or, if the Meeting is adjourned, 48 hours (excluding Saturdays, Sundays and holidays) before any adjournment of the Meeting.

BY ORDER OF THE BOARD OF DIRECTORS

William G. Rice, Ph.D. Chairman, President and Chief Executive Officer December ●, 2024

IMPORTANT NOTICE REGARDING THE INTERNET AVAILABILITY OF PROXY MATERIALS FOR THE SPECIAL MEETING OF SHAREHOLDERS TO BE HELD ON JANUARY 27, 2025.

Our Notice of Special Meeting of Shareholders and Proxy Statement are available on the Corporation's website at https://www.aptose.com/investors/news-events/ir-calendar.

Copies are also available upon written request to the Senior Vice President, Chief Financial Officer, Chief Business Officer and Corporate Secretary (i) at our registered office located at 66 Wellington St W Suite 5300, Toronto, Ontario, Canada, M5K 1E6; or (ii) at our executive headquarters located at Suite 120, 12770 High Bluff Drive, San Diego, California, 92130.

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GENERAL INFORMATION ABOUT THE PROXY STATEMENT

The information contained in this proxy statement (the "Proxy Statement") is furnished in connection with the solicitation of proxies by Aptose Biosciences Inc. (the "Corporation", "Aptose", "we" or "our") to be used at the special meeting (the "Meeting") of holders (the "Shareholders") of common shares (the "Shares") of the Corporation to be held on January 27, 2025 at 7:00 a.m. (Pacific Standard time) and at all adjournments thereof, for the purposes set forth in the accompanying notice of meeting (the "Notice of Meeting"). The Meeting will be held online at https://meetings.lumiconnect.com/400-993-634-523, where Shareholders will be able to listen, vote and submit questions during the Meeting. There will be no physical location for shareholders and duly appointed proxyholders to attend.

The information contained in this Proxy Statement is given as at December •, 2024 except where otherwise noted. All references to "dollar" or the use of the symbol "\$" are to United States dollars and use of the symbol "CA\$" refers to Canadian dollars, unless otherwise indicated.

QUESTIONS ABOUT THE SPECIAL MEETING AND VOTING YOUR SHARES

What are the date, time and place of the Meeting?

The Meeting will be held on January 27, 2025 at 7:00 a.m (Pacific Standard time). The Meeting will be held online at https://meetings.lumiconnect.com/400-993-634-523. There will be no physical location for Shareholders and duly registered proxyholders to attend. The online Meeting will be accessible 15 minutes before the start time.

How can I access the Meeting virtually?

To participate in the Meeting virtually, visit https://meetings.lumiconnect.com/400-993-634-523. Registered Shareholders and duly appointed and registered proxyholders will be able to listen, vote and ask questions via the virtual meeting platform. It is to be noted, however, that questions cannot be submitted prior to the Meeting. Non-registered Shareholders who have not appointed themselves as proxyholders will only be able to attend the online Meeting as "Guests" and will not be able to vote or ask questions at the Meeting. To access the Meeting virtually, registered Shareholders and duly appointed proxyholders will need an Internet connection and an Internet-connected device (such as a desktop, laptop, tablet or cell phone) running the most updated version of applicable software and plugins. The virtual meeting platform is fully supported across browsers (Microsoft Edge, Chrome, Firefox and Safari). Participants in the online Meeting must be connected to Internet at all times during the Meeting in order to vote when balloting commences. A summary of the information Shareholders will need to attend the Meeting virtually is provided below:

- 1. Registered Shareholders and duly appointed proxyholders can participate in the Meeting virtually by clicking **'I have a login**'' and entering a Username and Password before the start of the Meeting.
 - Registered Shareholders The 15-digit control number located on the form of proxy or in the email notification you received is the Username and the Password is "aptose2025".
 - Duly appointed proxyholders Following the registration of the proxyholder with Computershare Investor Services Inc. ("Computershare"), Computershare will provide the proxyholder with a Username after the voting deadline has passed. The Password to the online Meeting is "aptose2025".

- 2. Voting at the Meeting will only be available for registered Shareholders and duly appointed and registered proxyholdersNon-registered Shareholders who have not appointed themselves may attend the Meeting virtually by clicking "I am a guest" and completing the online form. This will allow them to listen to the online Meeting; however, they will not be able to vote or submit questions.
- 3. Registered Shareholders who use a 15-digit control number to login to the online Meeting and who accept the terms and conditions will be revoking any and all previously submitted proxies. However, in such a case, registered Shareholders will be provided the opportunity to vote by ballot on the matters put forth at the Meeting. If registered Shareholders do not wish to revoke all previously submitted proxies, they should not accept the terms and conditions, in which case they can only enter the online Meeting as a guest.

If you attend the Meeting virtually, it is important that you remain connected to the internet at all times during the online Meeting in order to vote when balloting commences. It is your responsibility to ensure connectivity for the duration of the Meeting. You will be able to access the online Meeting 15 minutes before the start time and should allow ample time for online check-in, which will begin at 6:45 a.m. (Pacific Standard time) on January 27, 2025.

Why is the Meeting held virtually?

By conducting our Meeting online, the Board aims to provide Shareholders a convenient opportunity to participate in the Meeting without incurring significant travel costs or being restricted by time constraints.

The format of the Meeting has been designed to ensure that Shareholders who attend the Meeting online will be afforded the same rights and opportunities to participate as they have in previous special shareholders' meetings. Directors will also attend the Meeting via the virtual platform.

Can I submit questions prior or at the Meeting?

Registered Shareholders and duly appointed and registered proxyholders can ask questions during the online Meeting via the virtual meeting platform. Registered Shareholders attending the Meeting in person will also have the opportunity to ask questions. It is to be noted, however, that questions cannot be submitted prior to the Meeting. Questions pertinent to the Meeting matters will be answered at a designated time during the Meeting, subject to time constraints. The chair of the Meeting reserves the right to edit or reject questions it deems irrelevant to meeting matters, profane or inappropriate.

The chair of the Meeting has broad authority to conduct the Meeting in an orderly manner. To ensure the Meeting is conducted in a manner that is fair to all Shareholders, the chair of the Meeting may exercise its discretion in recognizing Shareholders who wish to participate, in determining the order in which questions are answered, and the amount of time devoted to each question. However, consistent with prior special shareholders' meetings, questions submitted in accordance with the rules of conduct generally will be addressed in the order received during the allotted time for questions.

Who can vote at the Meeting?

Only Shareholders as of the close of business on the record date, being December 24, 2024, are entitled to receive notice of and vote on matters to be presented at the Meeting, or any adjournment or postponement thereof, in the manner and subject to the procedures described in this Proxy Statement and the accompanying form of proxy.

At the close of business on the record date, • Shares were issued and outstanding.

Each Shareholder is entitled to one vote per Share held on all matters to come before the Meeting. Shares of Aptose are the only securities of Aptose which will have voting rights at the Meeting.

What is the quorum for the Meeting?

The presence at the opening of the Meeting of two persons who are entitled to vote either as Shareholders or as proxyholders and holding or representing not less than 331/3% of the outstanding Shares entitled to vote at the Meeting as of the record date will constitute a quorum for the transaction of business at the Meeting. In general, Shares represented by a properly signed and returned form of proxy, or properly voted by Internet or telephone, or voted by your broker will be counted as Shares present and entitled to vote at the Meeting for purposes of determining a quorum. Shares represented by proxies marked "Abstain" and "broker non-votes" are also counted in determining whether a quorum is present.

What does it mean to vote by proxy?

Voting by proxy means that you are giving the person or people named on your form of proxy (the "proxyholder") the authority to vote your Shares for you at the Meeting or any adjournment. A form of proxy is included with this Proxy Statement.

The management representatives named on the form of proxy will vote your Shares for you, unless you appoint someone else to be your proxyholder. You have the right to appoint a person to represent you at the Meeting other than the persons named on the form of proxy. If you appoint someone else, he or she must be present at the Meeting to vote your Shares. If you want to appoint someone else, you can insert that person's name in the blank space provided in the form of proxy. That other person does not need to be a Shareholder of the Corporation.

If you are voting your Shares by proxy, our transfer agent, Computershare, must receive your completed form of proxy by 10:00 a.m. (Toronto time) on January 23, 2025 or, if the Meeting is adjourned, 48 hours (excluding Saturdays, Sundays and holidays) before any adjournment of the Meeting.

What's the difference between registered and non-registered (beneficial) Shareholders?

The voting process is different depending on whether you are a registered ornon-registered (beneficial) Shareholder:

Registered Shareholders

You are a registered Shareholder if your name appears on your Share certificate or in the registers of the Corporation maintained by Computershare. Your form of proxy tells you whether you are a registered Shareholder. We mail copies of the Notice of Meeting, this Proxy Statement and the form of proxy (collectively, the "proxy materials") directly to registered Shareholders.

Non-Registered (or Beneficial) Shareholders

You are a non-registered (or beneficial) Shareholder if your bank, trust company, securities broker or other financial institution holds your Shares for you (as your nominee). For most of you, your voting instruction form or proxy tells you whether you are a non-registered (or beneficial) Shareholder.

In accordance with Canadian securities law and SEC rules, we have distributed copies of the proxy materials to CDS Clearing and Depository Services Inc. and intermediaries (such as securities brokers or financial institutions) for onward distribution to those non-registered or beneficial Shareholders to whom we have not sent the proxy materials directly.

The intermediaries are required to forward proxy materials tonon-registered or beneficial Shareholders unless a non-registered or beneficial Shareholder has waived the right to receive them. Very often, intermediaries will use a service company such as Broadridge Investor Communication Solutions to forward the proxy materials to non-registered or beneficial Shareholders.

How do I vote?

Most non-registered or beneficial Shareholders who have not waived the right to receive proxy materials will receive a voting instruction form ("VIF"). Registered Shareholders will, and some non-registered (beneficial) Shareholders may receive a form of proxy. Shareholders should follow the additional procedures set out below, depending on what type of form they receive. Detailed instructions regarding Shareholders' voting process are also available on the Investors page of our website at https://www.aptose.com/investors/news-events/ir-calendar.

1. Voting Instruction Form. If the non-registered Shareholder does not wish to attend and vote at the Meeting (or have another person attend and vote on the non-registered Shareholder's behalf), the voting instruction form must be completed, signed and returned in accordance with the directions on the form, so that the intermediary may vote on the non-registered Shareholder's behalf.

If a non-registered Shareholder wishes to attend and vote at the Meeting (or have another person attend and vote on thenon-registered Shareholder's behalf), the non-registered Shareholder must complete, sign and return the VIF in accordance with the directions provided. If the non-registered Shareholder wishes to attend and vote at the Meeting, they must appoint themselves as proxyholder. Otherwise, the non-registered Shareholder will only be able to attend the Meeting as a "Guest", and will not be able to vote or ask questions at the Meeting. Non-registered Shareholders should visit our website athttps://www.aptose.com/investors/news-events/ir-calendar to obtain additional instructions on how to vote online during the Meeting.

Non-registered Shareholders who wish to appoint themselves as a proxy holder in order to attend the Meeting virtually or who wish to appoint a proxyholder other than a management representative to represent them at the online Meeting must submit their VIF prior to registering themselves or their proxyholder, as applicable. Registering themselves or the proxyholder, as applicable, is an additional step once a non-registered Shareholder has submitted their VIF. Failure to register themselves or another person other than a management representative as duly appointed proxyholder will result in the non-registered Shareholder or the proxyholder not receiving a Username to participate in the Meeting. To register a proxyholder (be it themselves or another person other than a management representative), non-registered Shareholders must visit https://www.computershare.com/aptose by 10:00 a.m. (Toronto time) on January 23, 2025 or, if the Meeting is adjourned, 48 hours (excluding Saturdays, Sundays and holidays) before any adjournment of the Meeting, and provide Computershare with their information or their proxyholder's contact information, as applicable, so that Computershare may provide them or the proxyholder, as applicable, with a Username via email. Without a Username, non-registered Shareholders who appointed themselves as proxyholders and proxyholders will only be able to attend the Meeting as "Guests" and will not be able to vote or ask questions at the Meeting.

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2. Form of Proxy. A registered Shareholder will receive a form of proxy to be completed, signed and returned in accordance with the directions on the form, if the registered Shareholder does not wish to attend and vote at the Meeting virtually (or have another person attend and vote on the registered Shareholder's behalf).

Registered Shareholders who wish to appoint a proxyholder other than a management representative to represent them at the online Meeting must submit their form of proxy prior to registering their proxyholder. Registering the proxyholder is an additional step once a registered Shareholder has submitted their proxy. Failure to register a duly appointed proxyholder will result in the proxyholder not receiving a Username to participate in the Meeting. To register a proxyholder, registered Shareholders must visit https://www.computershare.com/aptose by 10:00 a.m. (Toronto time) on January 23, 2025 or, if the Meeting is adjourned, 48 hours (excluding Saturdays, Sundays and holidays) before any adjournment of the Meeting, and provide Computershare with their proxyholder's contact information, so that Computershare may provide the proxyholder with a Username via email. Without a Username, proxyholders will only be able to attend the Meeting as "Guests" and will not be able to vote or ask questions at the Meeting.

Registered Shareholders may also attend and vote at the Meeting. Registered Shareholders wishing to attend the Meeting virtually should visit our website at https://www.aptose.com/investors/news-events/ir-calendar to obtain additional instructions on how to vote online during the Meeting. The 15-digit control number provided on the registered Shareholder's form of proxy will be required.

Less frequently, a non-registered Shareholder will receive, as part of the proxy materials, a form of proxy that has already been signed by the intermediary (typically by a facsimile or stamped signature), which is restricted as to the number of Shares beneficially owned by the non-registered Shareholder, but which is otherwise uncompleted. If the non-registered Shareholder does not wish to attend and vote at the Meeting (or have another person attend and vote on the non-registered Shareholder's behalf), the non-registered Shareholder must complete the form of proxy and deposit it with Computershare, 100 University Avenue, 8th Floor, Toronto, Canada, M5J 2Y1 as described above.

If a non-registered Shareholder wishes to attend and vote at the Meeting (or have another person attend and vote on thenon-registered Shareholder's behalf), the non-registered Shareholder must strike out the names of the persons named in the proxy and if they intend to participate in the Meeting virtually, insert the non-registered Shareholder's (or such other person's) name in the blank space provided. The non-registered Shareholder must then register themselves or the other person, as applicable, as proxyholder. Registering themselves or the other person, as applicable, as a additional step once a non-registered Shareholder has submitted their completed form of proxy. Failure to register themselves or the other person, as applicable, as applicable, as applicable, or receiving a Username to participate in the online Meeting. To register a proxyholder (be it themselves or another person), non-registered Shareholders must visit https://www.computershare.com/aptose by 10:00 a.m. (Toronto time) on January 23, 2025 or, if the Meeting is adjourned, 48 hours (excluding Saturdays, Sundays and holidays) before any adjournment of the Meeting, and provide Computershare with their information or their proxyholder's contact information, as applicable, so that Computershare may provide them or the proxyholders and proxyholders will only be able to attend the Meeting as "Guests" and will not be able to vote or ask questions at the Meeting.

- 3. United States non-registered (beneficial) Shareholders. If a non-registered Shareholder in the United States wishes to attend and vote at the online Meeting, they must first obtain a valid legal proxy from their broker, bank or other agent and then register in advance to attend the Meeting. The U.S. non-registered Shareholder should follow the instructions from their broker or bank included with these proxy materials, or contact their broker or bank to request a legal form of proxy. After first obtaining a valid legal proxy from their broker, bank or other agent, the U.S. non-registered Shareholder must then register to attend the online Meeting by submitting a copy of their legal proxy to Computershare. Requests for registration should be directed to:
 - Computershare 100 University Avenue 8th Floor Toronto, Ontario M5J 2Y1

OR

Email at: uslegalproxy@computershare.com

Requests for registration must be labelled as "Legal Proxy" and be received no later than by 10:00 a.m. (Toronto time) on January 23, 2025. U.S. non-registered Shareholders will receive a confirmation of their registration by email receipt of their registration materials by Computershare. U.S. non-registered Shareholders will then be able to attend the Meeting and vote and ask questions at https://meetings.lumiconnect.com/400-993-634-523. U.S. non-registered Shareholders are required to register their appointment at www.computershare.com/appointee. If U.S. non-registered Shareholders do not follow the procedures set out above, they will only be able to attend the Meeting virtually as "Guests" and will not be able to vote or ask questions at the online Meeting.

Shareholders should follow the instructions on the forms they receive, and non-registered Shareholders should contact their intermediaries promptly if they need assistance.

How do I request a copy of proxy materials?

To request a printed copy of the proxy materials, please contact your broker, if you are a non-registered Shareholder, or if you are a registered Shareholder, contact our Senior Vice President, Chief Financial Officer, Chief Business Officer and Corporate Secretary at Aptose Biosciences Inc., Suite 120, 12770 High Bluff Drive, San Diego, California, telephone: 858-926-2730.

The proxy materials are being sent or made available to both registered andnon-registered owners of Shares. The Corporation is sending proxy materials indirectly to non-objecting beneficial owners (as defined in National Instrument54-101 - *Communication with Beneficial Owners of Securities of a Reporting Issuer* ("NI 54-101")). The Corporation intends to pay for intermediaries to forward to objecting beneficial owners (as defined in NI 54-101) the proxy materials.

What am I voting on at the Meeting?

The following items of business will be covered at the Meeting:

- 1. Proposal No. 1 passing a special resolution approving the adoption of an amendment to the Corporation's articles to effect a reverse stock split of the Corporation's outstanding Shares at a ratio in the range of 1-for-10 to 1-for-30 (the "Reverse Stock Split"), such amendment to become effective at an exact ratio and a date to be determined by the board of directors of the Corporation (the "Board") when the Board considers it to be in the best interests of the Corporation to implement such Reverse Stock Split, all as more particularly described in the Proxy Statement;
- 2. Proposal No. 2 Passing a resolution, the full text of which is set forth in the Proxy Statement, approving one or more adjournments of the Meeting, if necessary or appropriate, if a quorum is present, to permit further solicitation of proxies if there are not sufficient votes at the time of the Meeting to approve Proposals No. 1; and
- 3. transacting such other business as may be properly brought before the Meeting.

As of the date of this Proxy Statement, the Board is not aware of any such other business.

How does the Board recommend that I vote?

Our Board recommends that each Shareholder vote 'FOR" each of Proposals No. 1 and No. 2.

What votes may I cast with regard to each proposal?

You can choose to vote "For", "Against" or "Abstain", for Proposals No. 1 and No. 2. The Shares represented by the form of proxy will be voted in accordance with the instructions of the Shareholder on any ballot that may be called for and, if the Shareholder specifies a choice with respect to any matter to be acted upon, the Shares will be voted accordingly.

If you return your form of proxy and do not tell us how you want to vote your Shares, your Shares will be voted in accordance with Board recommendations for each proposal by the management representatives named in the form of proxy.

The enclosed form of proxy confers discretionary authority upon the management representatives designated in the form of proxy with respect to amendments to or variations of matters identified in the Notice of Meeting and with respect to other matters that may properly come before the Meeting. At the date of this Proxy Statement, management of the Corporation knows of no such amendments, variations or other matters.

What vote is required in order to approve each proposal?

 <u>Proposal No. 1</u>: The approval of the Reverse Stock Split requires the approval of a majority of not less thantwo-thirds (2/3) of the votes cast by Shareholders present virtually or represented by proxy and entitled to vote at the Meeting, and votes cast only include those votes cast "For" or "Against" the proposal. Abstentions and broker non-votes will not be included in the total votes cast and will not affect the results.

• <u>Proposal No. 2</u>: The approval of one or more adjournments of the Meeting requires a majority of the votes cast at the Meeting, and votes cast only include those votes cast "For" or "Against" the proposal. Abstentions and broker non-votes will not be included in the total votes cast and will not affect the results.

What impact does an "Abstain" vote have?

If you select "Abstain," your vote will have no effect on the votes cast for the purposes of approving each proposal.

What is the effect if I do not cast my vote?

If, as a registered Shareholder, you do not cast your vote at the Meeting or by proxy, no votes will be cast on your behalf on any of the proposals.

If you are a U.S. beneficial Shareholder with an intermediary, you must instruct your U.S. intermediary how to vote your shares. If, as a U.S. non-registered or beneficial Shareholder, you do not instruct your intermediary on how to vote on any of the proposals at the Meeting, the intermediary does not have discretionary authority to vote your shares on Proposal No. 1 or Proposal No.2 or any unusual item, so a "broker non-vote" will be recorded with respect to such item. Broker non-votes will be treated as not entitled to vote on any such matter and will not be counted as having been voted in respect of any such matter. Shares represented by such broker "non-votes" will, however, be counted in determining whether there is a quorum for the Meeting.

How do I change my vote?

A registered Shareholder who has given a proxy may revoke that proxy and change a vote by:

- (a) completing and signing a proxy bearing a later date and depositing it with Computershare as described above;
- (b) depositing an instrument in writing executed by the Shareholder or by the Shareholder's attorney authorized in writing at our registered office located at 66 Wellington Street West Suite 5300, Toronto Ontario M5K 1E6 at any time before 10:00 a.m. (Toronto time) on January 23, 2025, or on the last business day before any adjournment of the Meeting at which the proxy is to be used;
- (c) using your 15-digit control number and voting online at the Meeting; or
- (d) in any other manner permitted by law.

A non-registered or beneficial Shareholder may revoke a voting instruction form or a waiver of the right to receive proxy materials and to vote given to an intermediary or to the Corporation, as the case may be, at any time by written notice to the intermediary or the Corporation, except that neither an intermediary nor the Corporation is required to act on a revocation of a voting instruction form or on a waiver of the right to receive materials and to vote that is not received by such intermediary or the Corporation, at least seven days prior to the Meeting.

What does it mean if I receive more than one set of proxy materials?

This means that you own Shares that are registered under different accounts. For example, you may own some Shares directly as a registered Shareholder and other Shares as a non-registered beneficial Shareholder through an intermediary, or you may own Shares through more than one such organization. In these situations, you will receive multiple sets of proxy materials. It is necessary for you to complete and return all forms of proxy and VIFs in order to vote all of the Shares you own. Please make sure you return each form of proxy or VIF in the accompanying return envelope. You may also vote by Internet, telephone, facsimile or email, as applicable, by following the instructions on your proxy materials.

Who is soliciting the proxies, how will proxies be solicited and who will pay the cost of the proxy solicitation?

Aptose is soliciting proxies to be used at the Meeting. The solicitation of proxies will be primarily by mail, but Aptose's directors, officers and regular employees may also solicit proxies personally or by telephone. Aptose will bear all costs of the solicitation, including the printing, handling and mailing of the Meeting materials. Aptose has arranged for intermediaries to forward the Meeting materials to non-registered or beneficial Shareholders of record, and Aptose may reimburse the intermediaries for their reasonable fees and disbursements in that regard.

In addition, we have engaged Morrow Sodali LLC to help us solicit proxies from Shareholders for a fee of[\$12,500] plus reimbursement for out-of-pocket expenses.

What if amendments are made to the proposals or if other matters are brought before the Meeting?

With respect to any amendments or variations in any of the proposals shown in the Proxy Statement, or any other matters which may properly come before the Meeting, the Shares will be voted by the appointed proxyholder as he or she in their sole discretion sees fit.

As of the date of this Proxy Statement, the Board is not aware of any such amendments, variations or other matters to come before the Meeting. However, if any such changes that are not currently known to the Board should properly come before the Meeting, the Shares represented by your proxyholders will be voted in accordance with the best judgment of the proxyholders.

Who will tabulate the votes?

We currently expect that Computershare will tabulate the votes, and the secretary of the Meeting will be our inspector of elections for the Meeting.

When will voting results be disclosed?

Preliminary voting results will be announced at the Meeting. Final voting results will be filed with the Canadian provincial securities regulatory authorities on SEDAR+ at www.sedarplus.com promptly following the Meeting, and will also be published in a Current Report on Form8-K filed with the SEC on EDGAR at www.sec.gov within four business days of the Meeting.

Whom do I contact if I have questions regarding the Meeting?

If you have any questions or require assistance in voting your Shares, please call Mr. Fletcher Payne, Senior Vice President, Chief Financial Officer, Chief Business Officer and Corporate Secretary, at 858-926-2730.

Who may adjourn the Meeting?

The Meeting may be adjourned to any other time and any other place by the Shareholders who attend the Meeting or who are represented at the Meeting and entitled to vote even when such Shareholders do not constitute a quorum.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Proxy Statement contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Exchange Act, and are subject to the safe harbor created by those sections. This Proxy Statement also contains "forward-looking information" within the meaning of applicable Canadian securities laws. We refer to such forward-looking statements and forward-looking information collectively as "forward-looking statements". We have identified some of these forward-looking statements with words like "believe," "may," "could," "would," "might," "possible," "potential," "will," "should," "expect," "intend," "plan," "predict," anticipate," "estimate," "contemplate" and "continue", the negative of these words, other words and terms of similar meaning and the use of future dates. Forward-looking statements involve risks and uncertainties. These uncertainties include factors that affect all businesses as well as matters specific to us.

Forward-looking statements by their nature address matters that are, to different degrees, uncertain. Uncertainties and risks may cause our actual results to be materially different than those expressed in or implied by our forward-looking statements. For us, particular uncertainties and risks include those described in our filings with the Securities and Exchange Commission (the "SEC"), including our most recent Annual Report on Form 10-K for the year ended December 31, 2023. A copy of this document can be found by accessing the SEC's EDGAR filing database at *www.sec.gov* and on SEDAR+ at www.sedarplus.com; however we will promptly provide a copy of this document to any Shareholder of the Corporation free of charge upon request. All forward-looking statements in this Proxy Statement speak only as of the date of this Proxy Statement and are based on our current beliefs and expectations. We undertake no obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise, except as otherwise required by law.

VOTING SECURITIES AND PRINCIPAL HOLDERS OF VOTING SECURITIES

As of the record date December 24, 2024, • Shares are issued and outstanding. Each holder of Shares of record at the close of business on December 24, 2024 will be entitled to one vote for each Share held on all matters proposed to come before the Meeting, except to the extent that the Shareholder has transferred any Shares after the record date and the transferee of such Shares establishes ownership of them and makes a written demand, not later than 10 days prior to the Meeting, to be included in the list of Shareholders entitled to vote at the Meeting, in which case the transferee will be entitled to vote such Shares.

SHARE OWNERSHIP OF CERTAIN BENEFICIAL OWNERS, MANAGEMENT AND DIRECTORS

The table below sets forth information known to us regarding the beneficial ownership of our Shares as of December •, 2024 for:

- each person the Corporation believes beneficially holds more than 5% of our outstanding Shares based solely on our review of SEC filings;
- each of our directors and nominees for directors;

- each of the named executive officers named in the Summary Compensation Table (we collectively refer to these persons as our "Named Executive Officers"); and
- all of our directors and executive officers as a group.

The number of Shares beneficially owned by a person includes shares subject to options held by that person that are currently exercisable or that become exercisable within 60 days of December \bullet , 2024. Percentage calculations assume, for each person and group, that all Shares that may be acquired by such person or group pursuant to options currently exercisable or that become exercisable within 60 days of December \bullet , 2024 are outstanding for the purpose of computing the percentage of Shares owned by such person or group. However, such unissued Shares described above are not deemed to be outstanding for calculating the percentage of Shares owned by any other person.

Except as otherwise indicated, the persons in the table below have sole voting and investment power with respect to all Shares shown as beneficially owned by them, subject to community property laws where applicable and subject to the information contained in the notes to the table.

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| | Amount and Nature of | |
|---|--------------------------|------------|
| | Beneficial | Percent of |
| Name of Beneficial Owner | Ownership ⁽¹⁾ | Class |
| Named Executive Officers and Directors | | |
| Carol G. Ashe | • | * |
| Dr. Rafael Bejar | • | * |
| Dr. Denis Burger | • | * |
| Fletcher Payne | • | * |
| Dr. Erich Platzer | • | * |
| Dr. William G. Rice | • | • |
| Dr. Bernd R. Seizinger | • | * |
| Mark D. Vincent | • | * |
| Warren Whitehead | • | * |
| All Executive Officers and Directors as a Group (9 persons) | • | • |
| Beneficial Owners of More Than 5% | | |
| Hanmi Pharmaceuticals Co., Ltd. ⁽²⁾ | • | • |

* Does not exceed one percent of Shares outstanding

(1) Includes for the persons listed below the following Shares subject to options held by such persons that are currently exercisable or become exercisable within 60 days of the date hereof:

Ms. Carol G. Ashe: •; Dr. Rafael Bejar: •; Dr. Denis Burger: •; Mr. Fletcher Payne: •; Dr. Erich Platzer: •; Dr. William G. Rice: •; Dr. Bernd R. Seizinger: •; Dr. Mark Vincent: •; and Mr. Warren Whitehead: •.

(2) Based on information contained in a schedule 13D/A filed with the SEC on •by Hanmi. Hanmi also owns common share purchase warrants which, when exercised, will increase the number of Shares beneficially owned by Hanmi.

PROPOSAL NO. 1-APPROVAL OF REVERSE STOCK SPLIT

The Shares are listed under the symbol "APTO" on the Nasdaq. For the Shares to continue trading on the Nasdaq, the Corporation must comply with various listing standards, including that the Shares maintain a minimum bid price of 1.00 per Share, as set forth in Nasdaq Listing Rule 5550(a)(2) (the "Minimum Bid Price Requirement"). The closing price of the Shares on the Nasdaq on December •, 2024 was \$• per Share and, over the prior 52 weeks, the closing price of the Shares has ranged from \$• to \$• per Share.

As previously disclosed, on July 16, 2024, the Corporation received a deficiency letter (the "Deficiency Letter") from the Nasdaq Listing Qualification Department (the "Staff") of Nasdaq notifying the Corporation that, for the last 30 consecutive business days, the closing bid price of the Shares on Nasdaq did not meet the Minimum Bid Price Requirement. The Deficiency Letter has no effect on the listing of the Shares at this time, and the Shares continue to trade on the Nasdaq. The Corporation has 180-day grace period, or until January 13, 2025, to regain compliance with the Minimum Bid Price Requirement. Such compliance may be achieved through the Reverse Stock Split or, if at any time prior to January 13, 2025, the closing bid price of the Shares is at least \$1.00 for a minimum of ten (10) consecutive Business Days. If the Company does not regain compliance with the Minimum Bid Price Requirement by January 13, 2025, the Company may, at Nasdaq's discretion, be afforded a second 180 calendar day period to regain compliance, but if Nasdaq does not grant such extension, the Company's common shares could be delisted from Nasdaq. To qualify for the extension, the Company will be required to meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for Nasdaq, with the exception of the bid price requirement.

The Board is of the opinion that it may be in the best interests of the Corporation and the Shareholders to proceed with the Reverse Stock Split in order to both: (i) maintain the Nasdaq listing; and (ii) enhance the marketability of the Shares given that an increase in the price per Share could increase the interest of institutional and other investors with policies that prohibit them from purchasing stock below a minimum price.

In evaluating whether or not to recommend that Shareholders authorize the Reverse Stock Split, in addition to the considerations described above, the Board took into account various negative factors associated with the Reverse Stock Split. These factors include: the negative perception of reverse stock splits held by some investors, analysts and other stock market participants; the fact that the share price of some companies that have effected reverse stock splits has subsequently declined, with a corresponding decline in market capitalization; the adverse effect on liquidity that might be caused by a reduced number of shares outstanding; and the costs associated with implementing the Reverse Stock Split.

Conversely, the Board believes that the current low market price of the Shares impairs its acceptability to important segments of the investor community and investing public. Many investors look upon low-priced shares as unduly speculative in nature and, as a matter of policy, avoid investment in such shares. The Board believes that the low market price of the Shares has reduced the effective marketability of the Shares because of the reluctance of many brokerage firms to recommend low-priced shares to their clients. Further, a variety of brokerage house policies and practices tend to discourage individual brokers within those firms from dealing in low-priced shares. Some of those policies and practices pertain to the payment of brokers' commissions and to time-consuming procedures that function to make the handling of low-priced shares unattractive to brokers from an economic standpoint.

Additionally, the structure of trading commissions also tends to have an adverse impact upon holders oflow-priced shares because the brokerage commission on a sale of low-priced shares generally represents a higher percentage of the sales price than the commission on a relatively higher-priced issue.

Although approval of the Reverse Stock Split is being sought at the Meeting, the Reverse Stock Split, if approved, will not become effective until: (i) the Board determines it to be in the Corporation's and Shareholders' best interests, if applicable; and (ii) articles of amendment are filed to implement the Reverse Stock Split. It is expected, however, that the Reverse Stock Split will be effected promptly following the Meeting.

Effects of the Reverse Stock Split

If the Reverse Stock Split is approved by Shareholders and subsequently implemented, its principal effect will be to proportionately decrease the number of issued and outstanding shares by a factor equal to the consolidation ratio. At the close of business on December •, 2024, the closing price of the Shares on the TSX was C\$• per share, the closing price of the Shares on the Nasdaq was \$• per share, and there were • Shares issued and outstanding. Based on such number of issued and outstanding Shares, and without taking into account any change to the number of issued and outstanding Shares between December •, 2024 and the effective date of the Reverse Stock Split, immediately following the completion of the Reverse Stock Split, there will be approximately • Shares issued and outstanding if the Board elects to use the minimum ratio of 10-to-1 and approximately • Shares issued and outstanding if the Board elects to use the maximum ratio of 30-to-1 (in each case disregarding any resulting fractional Shares).

The Corporation does not anticipate that the Reverse Stock Split will have any economic effect on Shareholders or holders of securities convertible into or exercisable to acquire Shares, except to the extent the Reverse Stock Split will result in fractional shares. See "*Fractional Shares*" below.

Post-reverse stock split, the Shares will continue to be listed on the Nasdaq and the TSX under the symbol "APTO" and "APS", respectively. Pre-reverse stock split voting rights and other rights of the holders of Shares will not be affected by the Reverse Stock Split, other than as a result of the creation and disposition of fractional Shares. For example, a holder of 2% of the voting power attached to the outstanding Shares immediately prior to the implementation of the Reverse Stock Split will generally continue to hold 2% of the voting power attached to the Shares immediately after the implementation of the Reverse Stock Split. The number of registered Shareholders will not be affected by the Reverse Stock Split.

Effect on Stock Options

As of December \bullet , 2024, there were an aggregate of \bullet Options issued and outstanding under all of our equity compensation plans, to acquire an equal number of Shares. Each of our equity compensation plans authorizes the Board to make appropriate adjustments to any outstanding Options in the event of any change in the Shares through a reverse stock split. The Board has determined that upon the implementation of the Reverse Stock Split, each then outstanding Option will be adjusted as follows:

- the number of unissued Shares that may be purchased through the exercise of an Option will be reduced on the same proportionate basis as the reduction in the issued and outstanding Shares based on the Reverse Stock Split at a ratio within the range of 10-to-1 and 30-to-1; and
- the price for which one Share may be purchased pursuant to the exercise of an Option will be increased in inverse proportion to the reduction in the number of Shares based on the Reverse Stock Split within the range of 10-to-1 and 30-to-1.

Effect on Non-Registered Shareholders

Non-registered Shareholders holding their Shares through a bank, broker or other nominee should note that such banks, brokers or other nominees may have different procedures for processing the Reverse Stock Split than those that will be put in place by the Corporation for the registered Shareholders. If you hold your Shares with such a bank, broker or other nominee and if you have any questions in this regard, you are encouraged to contact your nominee.

Fractional Shares

No fractional Shares will be issued pursuant to the Reverse Stock Split and Shareholders will not receive any compensation in lieu thereof. Any such fractional Shares will be rounded down to the nearest whole share.

Effect on Share Certificates

If the Reverse Stock Split is approved by shareholders and subsequently implemented, those registered shareholders who will hold at least one new Share after the Reverse Stock Split will be required to exchange their share certificates representing old Shares for new share certificates representing new Shares or, alternatively, a DRS Advice/Statement representing the number of new Shares they hold following the Reverse Stock Split. The DRS is an electronic registration system which allows shareholders to hold Shares in their name in book-based form, as evidenced by a DRS Advice/Statement, rather than a physical share certificate.

If the Reverse Stock Split is implemented, the Corporation (or its transfer agent) will mail to each registered shareholder a letter of transmittal. Each registered shareholder must complete and sign a letter of transmittal after the Reverse Stock Split takes effect. The letter of transmittal will contain instructions on how to surrender to the transfer agent the certificate(s) representing the registered shareholder's old Shares. The transfer agent will send to each registered shareholder who follows the instructions provided in the letter of transmittal a new share certificate representing the number of new Shares to which the registered shareholder is entitled rounded up or down to the nearest whole number or, alternatively, a DRS Advice/Statement representing the number of new Shares the registered shareholder is estivated shareholder is estivated shareholder is estivated in the letter, banks, financial institutions, etc.) and who have questions regarding how the Reverse Stock Split. Will be processed should contact their intermediaries with respect to the Reverse Stock Split. See "*Effect on Non-Registered Shareholders*" above.

Until surrendered to the transfer agent, each share certificate representing old Shares will be deemed for all purposes to represent the number of new Shares to which the registered shareholder is entitled as a result of the Reverse Stock Split. Until registered shareholders have returned their properly completed and duly executed letter of transmittal and surrendered their old share certificate(s) for exchange, registered shareholders will not be entitled to receive any distributions, if any, that may be declared and payable to holders of record following the Reverse Stock Split.

Any registered shareholder whose old certificate(s) have been lost, destroyed or stolen will be entitled to a replacement share certificate only after complying with the requirements that the Corporation and the transfer agent customarily apply in connection with lost, stolen or destroyed certificates. The method chosen for delivery of share certificates and letters of transmittal to the Corporation's transfer agent is the responsibility of the registered shareholder and neither the transfer agent nor the Corporation will have any liability in respect of share certificates and/or letters of transmittal which are not actually received by the transfer agent.

REGISTERED SHAREHOLDERS SHOULD NEITHER DESTROY NOR SUBMIT ANY SHARE CERTIFICATE UNTIL HAVING RECEIVED A LETTER OF TRANSMITTAL.

Accounting Consequences

If the Reverse Stock Split is implemented, net income or loss per Share, and other per Share amounts, will be increased because there will be fewer Shares issued and outstanding. In future financial statements, net income or loss per Share and other per Share amounts for periods ending before the Reverse Stock Split took effect would be recast to give retroactive effect to the Reverse Stock Split.

Interests of Directors and Executive Officers

Our directors and executive officers do not have substantial interests, directly or indirectly, in the matters set forth in this proposal except to the extent of their ownership of Shares and securities exercisable or convertible into Shares.

Certain U.S. Federal Income Tax Consequences of the Reverse Stock Split

The following discussion is a general summary of certain material U.S. federal income tax consequences of the proposed Reverse Stock Split, if approved and effected, that may be relevant to U.S. Holders (as defined below) of Shares that hold such Shares as a capital asset within the meaning of Section 1221 of the Internal Revenue Code. This summary is included for general information purposes only. It does not discuss any state, local or non-U.S. income, U.S. federal estate or gift, U.S. federal alternative minimum, U.S. federal net investment income or any tax consequences other than certain U.S. federal income tax consequences. This summary does not discuss tax reporting requirements. This summary is based upon the provisions of the Internal Revenue Code, Treasury regulations promulgated thereunder, administrative rulings and judicial decisions as of the date hereof, all of which may change, possibly with retroactive effect, resulting in U.S. federal income tax consequences that may differ from those discussed below. No assurances can be given that any changes in these laws or authorities will not affect the accuracy of the discussions set forth in this summary. This summary also does not discuss the potential effects, whether adverse or beneficial, of any proposed legislation that, if enacted, could be applied on a retroactive or prospective basis. The Corporation will not request any rulings from the Internal Revenue Service (the "IRS") or legal opinion from legal counsel regarding the tax consequences described below. The IRS or a U.S. court might reach a contrary conclusion with respect to the issues addressed herein if the matter were contested.

This discussion does not address all aspects of U.S. federal income taxation that may be relevant to such U.S. Holders in light of their particular circumstances or to U.S. Holders that may be subject to special tax rules, including, without limitation: (a) tax-exempt organizations, qualified retirement plans, individual retirement accounts, or other tax-deferred accounts; (b) financial institutions, underwriters, insurance companies, real estate investment trusts, or regulated investment companies; (c) broker-dealers, dealers, or traders in securities or currencies that elect to apply a mark-to-market accounting method; (d) U.S. Holders that have a "functional currency" other than the U.S. dollar; (e) U.S. Holders that own Shares as part of a straddle, hedging transaction, conversion transaction, constructive sale, or other integrated transaction; (f) U.S. Holders that acquired Shares in connection with the exercise of employee stock options or otherwise as compensation for services; (g) U.S. Holders that hold Shares other than as a capital asset within the meaning of Section 1221 of the Internal Revenue Code (generally, property held for investment purposes); (h) U.S. Holders subject to the alternative minimum tax; (i) U.S. Holders subject to special tax accounting rules with respect to the Shares; (j) partnerships or other "pass-through" entities (and partners or other owners thereof); (k) S corporations (and shareholders thereof); (l) U.S. Holders that otherwise hold Shares in connection with a trade or busines, permanent establishment, or fixed base outside the United States; (n) U.S. Holders that own, or have owned, or will own, directly, indirectly, or by attribution, 10% or more, by voting power or value, of the outstanding Shares. In addition, this summary does not address the tax consequences arising under the laws of any non-U.S. or U.S. state or local jurisdiction or U.S. federal tax consequences other than federal income taxation.

If a partnership (including any entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds Shares, the tax treatment of a holder that is a partner in the partnership generally will depend upon the status of the partner and the activities of the partnership. This summary does not address the tax consequences to any such entity or arrangement or partner. Partners (or other owners) of entities or arrangements that are classified as partnerships for U.S. federal income tax purposes should consult their own tax advisors regarding the U.S. federal income tax consequences arising from and relating to the Reverse Stock Split.

For purposes of the discussion below, a "U.S. Holder" is a beneficial owner (other than a partnership) of Shares that for U.S. federal income tax purposes is: (i) a citizen or individual resident of the United States; (ii) a corporation or an entity classified as a corporation for U.S. federal income tax purposes created or organized in or under the laws of the United States, any state thereof or the District of Columbia; (iii) an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or (iv) a trust, the administration of which is subject to the primary supervision of a U.S. court and as to which one or more "U.S. persons" (within the meaning of the Internal Revenue Code) have the authority to control all substantial decisions of the trust, or that has a valid election in effect to be treated as a U.S. person.

A "Non-U.S. Holder" is a beneficial owner of Shares that is not a U.S. Holder or is a partnership. This summary does not address the U.S. federal income tax consequences to Non-U.S. Holders arising from and relating to the Reverse Stock Split. Accordingly, aNon-U.S. Holder should consult its own tax advisors regarding the U.S. federal, U.S. federal alternative minimum, U.S. federal net investment income, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences (including the potential application of and operation of any income tax treaties) relating to the Reverse Stock Split.

EACH SHAREHOLDER SHOULD CONSULT ITS OWN TAX ADVISORS WITH RESPECT TO THE PARTICULAR TAX CONSEQUENCES OF THE REVERSE STOCK SPLIT TO SUCH SHAREHOLDER.

The Reverse Stock Split

The Reverse Stock Split is intended to constitute a "recapitalization" within the meaning of Section 368(a)(1)(E) of the Internal Revenue Code and/or a tax-deferred exchange pursuant to Section 1036 of the Internal Revenue Code for U.S. federal income tax purposes. Assuming such treatment is correct, and subject to the discussion below regarding fractional shares, a U.S. Holder generally should not recognize a gain or loss pursuant to the Reverse Stock Split. Subject to the discussion below regarding fractional shares, a U.S. Holder's aggregate tax basis in the Shares received pursuant to the Reverse Stock Split should equal the aggregate tax basis of the Shares surrendered, and such U.S. Holder's holding period in the Shares received should include the holding period in the Shares surrendered. Treasury Regulations promulgated under the Internal Revenue Code provide detailed rules for allocating the tax basis and holding period of the Shares surrendered to the Shares received pursuant to the Reverse Stock Split. U.S. Holder's of Shares acquired on different dates and at different prices should consult their own tax advisors regarding the allocation of the tax basis and holding period of such Shares.

A Shareholder will not receive a fractional Share in the Reverse Stock Split and will instead receive a whole number of Shares that is rounded down to the nearest whole number. Any U.S. Holder who would have otherwise received a fractional Share pursuant to the Reverse Stock Split should consult its own tax advisor regarding whether to allocate its aggregate tax basis in its Shares immediately prior to the Reverse Stock Split entirely to its Shares immediately after the Reverse Stock Split or, alternatively, whether it should allocate a portion of such basis to the fractional share which it would have received had its Shares not been rounded down to the nearest whole number pursuant to the Reverse Stock Split and recognize a loss on such fractional share equal to the basis so allocated.

The above summary of U.S. federal income tax consequences is for general information only and is not intended to constitute a complete analysis of all U.S. income tax consequences which could be relevant to U.S. Holders relating to the Reverse Stock Split. U.S. Holders should consult their own tax advisors as to the particular tax consequences to them of the Reverse Stock Split, including the applicability and effect of federal, state, local, non-U.S. and other tax laws and possible changes in tax law.

Certain Canadian Federal Income Tax Consequences of the Reverse Stock Split

Subject to the same qualifications and defined terms as under the section entitled "Canadian Income Tax Considerations" under Proposal No. 1, the following summary describes the principal Canadian federal income tax considerations under the *Income Tax Act* (Canada) and the regulations thereunder, as amended (the "Tax Act") generally applicable to a beneficial holder of Shares whose Shares are consolidated pursuant to the Reverse Stock Split and who, for purposes of the Tax Act and at all relevant times, holds their Shares as capital property, deals at arm's length and is not affiliated with the Corporation, and is, or is deemed to be, a resident of Canada for purposes of the Tax Act (a "Holder"). Generally, the Shares will be considered to be capital property of a Holder provided the Holder does not hold the Shares in the course of carrying on a business of trading or dealing in securities or has not acquired them or been deemed to have acquired them in one or more transactions considered to be an adventure or concern in the nature of trade. Holders that might not otherwise be considered to hold their Shares as capital property may, in certain circumstances, be entitled to have their Shares and all other "Canadian securities" (as defined in the Tax Act) owned in the year of the election and in all subsequent taxation years be deemed to be capital property by making the irrevocable election permitted by subsection 39(4) of the Tax Act. Holders should consult their own tax advisors regarding the availability and advisability of making this election in their particular circumstances.

This summary does not apply to a Holder: (i) that is a "financial institution" as defined in the Tax Act for purposes of themark-to-market rules; (ii) that is a "specified financial institution" as defined in the Tax Act; (iii) that has elected to report its results in a currency other than Canadian dollars under section 261 of the Tax Act; (iv) an interest in which is a "tax shelter investment" for purposes of the Tax Act; (v) that is a corporation that is, or becomes as part of a transaction or event or a series of transactions or events that includes the acquisition of the Shares, controlled by a non-resident person, or a group of non-resident persons that do not deal with each other at arm's length (for purposes of the Tax Act) for the purpose of the foreign affiliate dumping rules in section 212.3 of the Tax Act; or (vi) that has entered into or will enter into, in respect of the Shares, a "synthetic disposition arrangement" or a "derivative forward agreement" for the purposes of the Tax Act. Such Holders should consult their own tax advisors.

This summary is based on the provisions of the Tax Act in force as of the date hereof and counsel's understanding of the existing case law and the current administrative policies and assessing practices and policies of the Canada Revenue Agency (the "CRA") published in writing prior to the date hereof. This summary takes into account all specific proposals to amend the Tax Act publicly announced by or on behalf of the Minister prior to the date hereof (the "Proposed Amendments") and assumes that all Proposed Amendments will be enacted in the form proposed. However, no assurances can be given that the Proposed Amendments will be enacted as proposed, or at all. This summary does not otherwise take into account or anticipate any changes in law or administrative policy or assessing practice whether by legislative, administrative or judicial action or decision, nor does it take into account other federal tax considerations or any tax legislation or considerations of any province, territory or foreign jurisdiction, which may differ materially from those discussed herein.

THIS SUMMARY IS OF A GENERAL NATURE ONLY AND IS NOT INTENDED TO BE, AND SHOULD NOT BE CONSTRUED TO BE, LEGAL OR TAX ADVICE TO ANY PARTICULAR HOLDER. HOLDERS SHOULD CONSULT THEIR OWN TAX ADVISORS AS TO THE TAX CONSEQUENCES IN THEIR PARTICULAR CIRCUMSTANCES.

The Reverse Stock Split will not result in a disposition of the Shares for purposes of the Tax Act and, consequently, a Holder will not realize a capital gain or a capital loss as a result of the Reverse Stock Split other than in respect of fractional shares discussed below. Immediately after the Reverse Stock Split, but before the round down of the fractional shares, the aggregate adjusted cost base of the Shares held by a Holder immediately after the Reverse Stock Split will be equal to the aggregate adjusted cost base of the Shares held by such Holder immediately prior to the Reverse Stock Split.

A Holder whose fractional share will be rounded down to the nearest whole share without consideration and as described above will be considered to have disposed of such fractional share at the time of such disposition and will realize a capital loss equal to (subject to certain dispositions of the Tax Act that could reduce the amount of such loss) the adjusted cost base of such fractional share to the Holder. Subject to Proposed Amendments released on September 23, 2024 by way of a "Notice of Ways and Means Motion to introduce a bill entitled An Act to amend the Income Tax Act and the Income Tax Regulations and Explanatory Notes" (the "NWMM") regarding the treatment of capital gains and capital losses (discussed below), generally, one-half of any capital loss realized by a Holder may be deducted against taxable capital gains, in accordance with the detailed provisions of the Tax Act.

The NWMM, would, subject to certain transitional rules, generally have the effect of increasing the capital gains inclusion rate (*.e.*, the portion of any capital gain that is a taxable capital gain) in respect of capital gains realized on or after June 25, 2024 from one-half to two-thirds. The one-half inclusion rate for capital gains would continue to apply to individuals (other than most types of trusts) up to a maximum of \$250,000 of net capital gains realized in any taxation year. Under the NWMM, two-thirds of capital losses (including capital losses realized prior to June 25, 2024) will in effect be deductible against capital gains included in income at the two-thirds inclusion rate such that a capital gains have been subjected to an effective inclusion rate of one-half rather than the basic inclusion rate of two-thirds). Holders to whom these rules may be relevant should consult their own tax advisors regarding the possible implications of the proposed change in the capital gains inclusion rate in their particular circumstances.

Certain Risks Associated with the Reverse Stock Split

The Board believes that the Reverse Stock Split will increase the price level of our Shares. There are a number of risks associated with the Reverse Stock Split, including as follow:

• The Board cannot predict the effect of the Reverse Stock Split upon the market price for our Shares, and the history of similar reverse stock splits for companies in like circumstances has varied. The Corporation had experienced a decline in its market price in its last reverse stock splits and may likely experience a similar decline in market price in relation to this Reverse Stock Split as well.

- The market price per Share after the Reverse Stock Split may not rise in proportion to the reduction in the number of Shares outstanding
 resulting from the Reverse Stock Split. If the market price of our Shares declines after the Reverse Stock Split, the percentage decline as an
 absolute number and as a percentage of the Corporation's overall market capitalization may be greater than would occur in the absence of the
 Reverse Stock Split. Accordingly, the total market capitalization of our Shares after the Reverse Stock Split may be lower than the total
 market capitalization before the Reverse Stock Split. Moreover, in the future, the market price of Shares following the Reverse Stock Split
 may not exceed or remain higher than the market price prior to the Reverse Stock Split.
- The market price of our Shares will also be affected by the Corporation's performance and other factors, the effect of which the Board cannot
 predict.
- Although the Board believes that a higher market price may help generate the interest of new investors, the Reverse Stock Split may not
 result in a per-Share price that will successfully attract certain types of investors and such resulting Share price may not satisfy the investing
 guidelines of institutional investors or investment funds. Further, other factors, such as our financial results, market conditions and the market
 perception of our business, may adversely affect the interest of new investors in the shares of our Shares. As a result, the trading liquidity of
 the Shares may not improve as a result of the Reverse Stock Split and there can be no assurance that the Reverse Stock Split, if completed,
 will result in the intended benefits described above.
- If the Reverse Stock Split is effected and the market price of the Shares then declines, the percentage decline may be greater than would
 occur in the absence of the Reverse Stock Split. Additionally, the liquidity of the Shares could be adversely affected by the reduced number
 of Shares that would be outstanding after the implementation of the Reverse Stock Split.
- The Reverse Stock Split may result in some stockholders owning "odd lots" of less than 100 Shares. Odd lot shares may be more difficult to sell, and brokerage commissions and other costs of transactions in odd lots are generally somewhat higher than the costs of transactions in "round lots" of even multiples of 100 Shares.

Approval

At the Meeting, Shareholders will be asked to consider a special resolution (the "Reverse Stock Split Resolution") authorizing the Board to amend the articles of the Corporation to effect a consolidation (reverse stock split) of all of the issued and outstanding Shares on the basis of not more than 1 post-consolidation Share for every 10 pre-consolidation Shares and not less than 1 post-consolidation Share for every 30 pre-consolidation Shares.

Although the Board expects that the Reverse Stock Split will be effected promptly following the Meeting, the Board may, in its discretion, determine not to effect the Reverse Stock Split if it determines, subsequent to obtaining Shareholder approval, that such action is not in the best interests of the Corporation. By voting in favour of the Reverse Stock Split, you are expressly authorizing the Board to determine not to proceed with, and abandon, the Reverse Stock Split if it should so decide. The Reverse Stock Split will become effective at a date to be determined by the Board when the Board considers it to be in the best interests of the Corporation to implement such Reverse Stock Split, which is expected to be promptly following the Meeting, but in any event not later than one year after the date on which the Consolidation Resolution is approved.

The Board believes that a range of Reverse Stock Split ratios will provide it with the flexibility to implement the Reverse Stock Split in a manner designed to optimize the anticipated benefits of the Reverse Stock Split to the Corporation and Shareholders. In determining which precise Reverse Stock Split ratio within the range of ratios to implement, if any, following the receipt of Shareholder approval, the Board may consider, among other things, factors such as:

- the historical trading prices and trading volume of the Shares;
- the then prevailing trading price and trading volume of the Shares and the anticipated impact of the Reverse Stock Split on the trading of the Shares;
- threshold prices of brokerage houses or institutional investors that could impact their ability to invest or recommend investments in the Shares;
- · minimum listing requirements of the Nasdaq; and
- prevailing general market and economic conditions and outlook for the trading of the Shares.

To be effective, the CBCA requires that the Reverse Stock Split Resolution be approved by a special resolution of the Shareholders, being a majority of not less than two-thirds (2/3) of the votes cast by Shareholders present in person or by proxy at the Meeting. In addition to the approval of the Shareholders, the Reverse Stock Split requires the approval of the TSX. The TSX has conditionally approved the proposed Reverse Stock Split.

Shareholders are not entitled any statutory dissert rights with respect to the proposed Reverse Stock Split.

At the Meeting, Shareholders will be asked to consider, and if deemed advisable, to pass the following Reverse Stock Split Resolution:

BE IT RESOLVED AS A SPECIAL RESOLUTION OF THE SHAREHOLDERS THAT:

- pursuant to the *Canada Business Corporations Act* (the "CBCA"), the articles of Aptose Biosciences Inc. (the "Corporation") be amended to
 consolidate all of the issued and outstanding common shares (the "Shares"), on the basis of not more than one post-consolidation Share for
 every 10 pre-consolidation Shares and not less than one post-consolidation Share for every 30 pre-consolidation Shares, effective as at the
 discretion of the board of directors of the Corporation (the "Board");
- 2. the Board be and is hereby authorized to revoke, without further approval of the shareholders, this special resolution at any time prior to the completion thereof, notwithstanding the approval by the shareholders of same, if determined, in the Board's sole discretion to be in the best interest of the Corporation; and

3. any director or officer of the Corporation is hereby authorized to execute or cause to be executed and to deliver or cause to be delivered, all such certificates, instruments, agreements, notices and other documents and to do or cause to be done all such other acts and things as such director or officer may determine to be necessary or desirable in order to give effect to the foregoing and facilitate the implementation of the foregoing resolutions, including but not limited to, the filing of articles of amendment under the CBCA, such determination to be conclusively evidenced by the execution and delivery of such documents and other instruments or the doing of any such act or thing.

Unless you have specified in the enclosed form of proxy that the votes attaching to the Shares represented by the proxy are to be voted against the Reverse Stock Split Resolution on any ballot that may be called for, the management representatives designated in the enclosed form of proxy intend to vote the Shares in respect of which they are appointed proxy FOR the Reverse Stock Split Resolution.

Board Recommendation

The Board believes the passing of the Reverse Stock Split Resolution is in the best interest of the Corporation and unanimously recommends a vote FOR the passing of the Reverse Stock Split Resolution.

PROPOSAL NO. 2—APPROVAL TO ADJOURN THE MEETING, IF NECESSARY, TO SOLICIT ADDITIONAL PROXIES

At the Meeting, Shareholders will be asked to authorize the Corporation to adjourn the Meeting to another time and place, if necessary or advisable, to solicit additional proxies in the event there are not sufficient votes to approve the Amendment Resolution and the Reverse Stock Split Resolution described in this Proxy Statement at the Meeting (the "Adjournment Proposal"). If the Shareholders do not approve these proposals, the presiding officer of the Meeting could adjourn the Meeting without a vote on Proposal No. 1 to solicit additional proxies and/or to seek to convince Shareholders to change their votes in favor of such proposal.

If it is necessary or advisable to adjourn the Meeting, no notice of any adjournment of less than 30 days is required to be given if the time and place of the adjourned Meeting, and the means of remote communication, if any, by which Shareholders and proxyholders may be deemed to be present and to vote at such adjourned Meeting, are announced at the Meeting at which adjournment is taken, unless after the adjournment a new record date is fixed for the adjourned Meeting. At the adjourned Meeting, Aptose may transact any business which might have been transacted at the original Meeting.

Approval

In order to be passed, the Adjournment Proposal must be passed by a majority of the votes cast by Shareholders present virtually or by proxy at the Meeting.

Unless you have specified in the enclosed form of proxy that the votes attaching to the Shares represented by the proxy are to be voted against the Adjournment Proposal on any ballot that may be called for, the management representatives designated in the enclosed form of proxy intend to vote the Shares in respect of which they are appointed proxy FOR the Adjournment Proposal.

Board Recommendation

The Board unanimously recommends a vote FOR the Adjournment Proposal.

INTEREST OF CERTAIN PERSONS IN MATTERS TO BE ACTED UPON

None of the directors or executive officers of the Corporation, none of the persons who have been directors or executive officers of the Corporation at any time since January 1, 2024, none of the proposed nominees for election as a director of the Corporation and none of the associates or affiliates of any of the foregoing has any material interest, direct or indirect, by way of beneficial ownership of securities or otherwise, in any matter scheduled to be acted upon at the Meeting other than the election of directors.

INTEREST OF RELATED PERSONS IN TRANSACTIONS

For the last two completed fiscal years, no director, proposed director, executive officer, or immediate family member of a director, proposed director or executive officer nor, to the knowledge of our directors or executive officers, after having made reasonable inquiry, any person or company who beneficially owns, directly or indirectly, Shares carrying more than 5% of the voting rights attached to all Shares outstanding at the date hereof, or any immediate family member thereof, had any material interest, direct or indirect, in any transaction or proposed transaction of the Corporation which involves an amount exceeding the lesser of \$120,000 or one percent of the average of the Corporation's total assets at year-end for the last two completed fiscal years.

DELINQUENT SECTION 16(A) REPORTS

Section 16(a) of the Exchange Act requires our directors and executive officers and all persons who beneficially own more than 10 percent of our outstanding Shares to file with the SEC initial reports of changes in ownership of our Shares. To our knowledge, based on a review of the copies of such reports and amendments to such reports furnished to us with respect to the year ended December 31, 2023, and based on written representations by our directors and executive officers, all required Section 16(a) reports under the Exchange Act for our directors, executive officers, and beneficial owners of greater than 10 percent of our Shares were filed on a timely basis during the year ended December 31, 2023.

HOUSEHOLDING OF ANNUAL PROXY MATERIALS

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that only one copy of our Proxy Materials or proxy materials may have been sent to multiple Shareholders in each household unless otherwise instructed by such Shareholders. We will deliver promptly a separate copy of these documents to any Shareholder upon written or oral request to our Senior Vice President, Chief Financial Officer, Chief Business Officer and Corporate Secretary at Aptose Biosciences Inc., Suite 120, 12770 High Bluff Drive, San Diego, California, telephone: 858-926-2730. Any Shareholder who wants to receive separate copies of our Notice of Internet Availability of Proxy Materials, proxy materials or annual report to Shareholders in the future, or any Shareholders who is receiving multiple copies and would like to receive only one copy per household, should contact the Shareholder's bank, broker, or other nominee record holder, or the Shareholder may contact us at the above address and phone number.

INDEBTEDNESS

As of the date hereof, there is no indebtedness owing to the Corporation by any employees, officers or directors of the Corporation. The Corporation did not provide financial assistance to any employees, officers or directors for the purchase of securities during the year ended December 31, 2023 or from January 1, 2024 to the date hereof.

DIRECTORS AND OFFICERS' LIABILITY

We purchase and maintain liability insurance for the benefit of directors and officers to cover any liability incurred by such person in such capacities. The policy provides for coverage in the amount of \$30,000,000. The annual premium payable by the Corporation for directors' and officers' liability insurance for the year ended December 31, 2023 was approximately \$864,000.

MANAGEMENT CONTRACTS

The management functions of the Corporation are not, in any way, performed in a substantial degree by a person or persons other than the directors or the executive officers of the Corporation.

ADDITIONAL INFORMATION

Additional information relating to us, including our most current Annual Report onForm 10-K (together with documents incorporated therein by reference), our consolidated financial statements for the year ended December 31, 2023, the report of the independent registered public accounting firm thereon, and management's discussion and analysis of our financial condition and results of operations for the year ended December 31, 2023 can be found by accessing the SEC's EDGAR filing database at *www.sec.gov* and on SEDAR+ at www.sedarplus.com Copies of those documents are available upon written request to the Senior Vice President, Chief Financial Officer, Chief Business Officer and Corporate Secretary at Aptose Biosciences Inc., Suite 120, 12770 High Bluff Drive, San Diego, California, free of charge to our securityholders. Our financial information is provided in our consolidated financial statements for the year ended December 31, 2023 and management's discussion and analysis of our financial condition and results of operations for the year ended December 31, 2023.

DIRECTORS' APPROVAL

The contents and sending of this Proxy Statement have been approved by our directors.

(signed) William G. Rice, Ph.D. Chairman, President and Chief Executive Officer December •, 2024

APTOSE

LORQ 000001 SAM SAMPLE 123 SAMPLES STREET SAMPLETOWN SS X9X X9X CANADA Computershare

8th Floor, 100 University Avenue Toronto, Ontario M5J 2Y1 www.computershare.com

Security Class COMMON

Holder Account Number C9999999999 IND

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Form of Proxy - Special Meeting of Shareholders to be held on January 27, 2025

This Form of Proxy is solicited by and on behalf of Management. Notes to proxy

- Every holder has the right to appoint some other person or company of their choice, who need not be a holder, to attend and act on their behalf at the meeting or any
 adjournment or postponement thereof. If you wish to appoint a person or company other than the Management Nominees whose names are printed herein, please insert the
 name of your chosen proxyholder in the space provided (see reverse).
- If the securities are registered in the name of more than one owner (for example, joint ownership, trustees, executors, etc.), then all those registered should sign this proxy. If you are voting on behalf of a corporation or another individual you may be required to provide documentation evidencing your power to sign this proxy with signing capacity stated.
- 3. This proxy should be signed in the exact manner as the name(s) appear(s) on the proxy.
- 4. If a date is not inserted in the space provided on the reverse of this proxy, it will be deemed to bear the date on which it was mailed to the holder by Management.
- 5. The securities represented by this proxy will be voted as directed by the holder, however, if such a direction is not made in respect of any matter, and the proxy appoints the Management Nominees listed on the reverse, this proxy will be voted as recommended by Management.
- 6. The securities represented by this proxy will be voted in favour, or withheld from voting, or voted against each of the matters described herein, as applicable, in accordance with the instructions of the holder, on any ballot that may be called for. If you have specified a choice with respect to any matter to be acted on, the securities will be voted accordingly.
- This proxy confers discretionary authority in respect of amendments or variations to matters identified in the Notice of Meeting and Management Information Circular or other matters that may
 properly come before the meeting or any adjournment or postponement thereof, unless prohibited by law.
- 8. This proxy should be read in conjunction with the accompanying documentation provided by Management.

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Proxies submitted must be received by 7:00 a.m., Pacific Standard Time, on January 23, 2025.

VOTE USING THE TELEPHONE OR INTERNET 24 HOURS A DAY 7 DAYS A WEEK!



If you vote by telephone or the Internet, DO NOT mail back this proxy.

Voting by mail may be the only method for securities held in the name of a corporation or securities being voted on behalf of another individual. Voting by mail or by Internet are the only methods by which a holder may appoint a person as proxyholder other than the Management Nominees named on the reverse of this proxy. Instead of mailing this proxy, you may choose one of the two voting methods outlined above to vote this proxy.

To vote by telephone or the Internet, you will need to provide your CONTROL NUMBER listed below.

CONTROL NUMBER 23456 78901 23456

LORQ_PRX_370521-000001-000001-5

Table of Contents

| IND COS | Appointment of Proxyholder We being holder(s) of securities of Aptose Biosciences Inc. (the "Corporation") hereby appoint: William G. Rice, or faling this person, Denis Burger (the "Management Nominees") | + | SAM SAMPLE | | C999 | 99999999 | | | | | + |
|--|--|------------------|---|----------------------------|-------------------------|--|-------------------------------------|---------------------------------------|---------------------------|--------------|---------|
| We being holder(s) of securities of Aptose Blosciences Inc. (the Corporation's hereby appoint: William G. Rice, or failing this person, Denis Urger (the Management Nominees) Print the name of the person you are appointing if this person is someone optimiting if this person is someone optimiting the Management Nominees'. In the Management Nominees' Note: If completing the appointment box above YOU MUST go to hit the Management Nominees is bird herein. Note: If completing the appointment box above YOU MUST go to hit information ONLY to provide the appointment box above YOU MUST go to hit information ONLY to provide the appointment with an invite code to gain entry to the online meeting. Is mylour proxyholder with full power of substitution and to attend, act and to vote for and on behalf of the holder in accordance with the following direction (or f no directions have been need, act and to vote for and on behalf of the holder in accordance with the hold on aumary 27, 2025 at 700 an m, actic Standard Time, by live webcast accessible directly online at https://meetings.lumiconnect.com/400-993-634-523 (the "Meeting") and at any adjournment or postponement thereod. OTING RECOMMENDATIONS ARE INDICATED BY [IIGHLIGHTED TEXT] OVER THE BOXES. Image of 1 for 10 to 1 for 30 (the "Reverse Stock Split"), such amendment to become effective at an exact ratio and a date to a terration in the range of 1 for 10 to 1 for 30 (the "Reverse Stock Split"), such amendment to become effective at an exact ratio and a date to a in prevent directors of the Corporation (the 'Board') if the Board considers it to be in the best interests of the Corporation is in prevent directors of the Corporation (the 'Board') if the Board considers it to be in the best interests of the Corporation (the 'Board') if the Board considers it to be in the | We being holder(s) of securities of Aptose Biosciences Inc. (the Corporation') hereby appoint: William G. Roce, or failing this person. Denis OR Print the name of the person you are appointing if this person is someone when the Management Nominees') Note: If completing the appointment box above YOU MUST go to herein, as the provide the appointment box above YOU MUST go to herein, as the provide the appointment box above YOU MUST go to herein, as the provide the appointment box above YOU MUST go to herein, as the provide the appointment box above YOU MUST go to herein, as the provide the appointment box above YOU MUST go to herein, as the provide the appointment box above YOU must go to herein, as the provide the appointment box above YOU must go to an must and/c Standard Time, by live webcast accessible directly online at https://meetings.lumconnect.com/400-993-634-523 (the "Meeting") and at any adjournment or postponement thereof. OTING RECOMMENDATIONS ARE INDICATED BY HIGHLIGHTED TEXT OVER THE BOXES. Image of 1 for 10 to 1 for 30 (the "Reverse Stock Split"), such amendment to become effective at an exact ratio and a date to a date of the rate of the corporation or be and a date to e determined by the board of directors of the Corporation (the "Board") if the Board considers it to be in the best interests of the Corporation is implement such Reverse Stock Split", such amendment to become effective at an exact ratio and a date to is implement such Reverse Stock Split, all as more particularly described in the Proxy Statement. Image: Against Abstain Multiple Adjournments Image: Against Abstain Image: Against Abstain | | | | IND | C05 | | | | | |
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| Signature of Proxyholder | | Signature(s) | | Date |
|--|--|--|------|----------|
| IWe authorize you to act in accorr revoke any proxy previously given indicated above, and the proxy voted as recommended by Man | dance with my/our instructions set out above with respect to the Meeting. If no voting in appoints the Management Nominees, this agement. | . We hereby structions are Proxy will be | | DD/MM/YY |
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