

Amendment No. 1 Dated April 2, 2023 to PROSPECTUS SUPPLEMENT DATED DECEMBER 2, 2022
(to Prospectus dated October 21, 2022)

\$23,012,658



**Aptose Biosciences Inc.
Common Shares**

This Amendment No. 1 to the prospectus supplement, or the amendment, amends and supplements the information in our prospectus supplement dated December 2, 2022 (File No. 333-267801). This amendment should be read in conjunction with the prospectus supplement and prospectus and is qualified in its entirety by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the prospectus supplement and prospectus. This amendment is not complete without, and may only be delivered or utilized in connection with, the prospectus supplement and prospectus and any future amendments or supplements thereto.

We filed the prospectus to register the offer and sale of shares of our common stock from time to time pursuant to the terms of an equity distribution agreement dated December 9, 2022 that we entered into with JonesTrading Institutional Services LLC, or JonesTrading, as our sales agent thereunder, pursuant to which we may offer and sell shares of our common stock having an aggregate offering price of up to \$50,000,000. As of the date of this prospectus supplement, we have sold \$87,342 in shares of our common stock through JonesTrading under the equity distribution agreement, which leaves \$49,912,658 of common stock available under the prospectus, without giving effect to any offering limit imposed by General Instruction I.B.6 of Form S-3.

On March 24, 2023, the date on which we filed our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, the prospectus became subject to the offering limits set forth in General Instruction I.B.6 of Form S-3. As of March 21, 2023, the aggregate market value of our outstanding common stock held by non-affiliates, or public float, was approximately \$69,300,000, based on 91,623,355 shares of our outstanding common stock that were held by non-affiliates on such date and a price of \$0.7564 per share, which was the price at which our common stock was last sold on The Nasdaq Capital Market on February 3, 2023 (a date within 60 days of the date hereof), calculated in accordance with General Instruction I.B.6 of Form S-3. We have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 in the 12 calendar months preceding the date of this prospectus supplement.

We are filing this amendment to amend and supplement the information in our prospectus and original prospectus supplement based on the amount of securities that we are eligible to sell under General Instruction I.B.6 of Form S-3. After giving effect to the \$23,100,000 offering limit imposed by General Instruction I.B.6 of Form S-3, we may offer and sell additional shares of our common stock having an aggregate offering price of up to \$23,012,658 from time to time through JonesTrading acting as our sales agent in accordance with the terms of the at-the-market equity offering sales agreement.

Our common stock is listed on The Nasdaq Capital Market under the symbol "APTO" and on the Toronto Stock Exchange under the symbol "APS." On March 31, 2023, the last reported sale price of our common stock on The Nasdaq Capital Market was \$0.64 per share.

Investing in our securities involves risks. You should read this prospectus supplement and the documents we incorporate herein by reference carefully before you make your investment decision. See "Risk Factors" set forth in the documents we file with the Securities and Exchange Commission that are incorporated by reference herein for more information.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus supplement. Any representation to the contrary is a criminal offense.

JonesTrading

Amendment No. 1 to the Prospectus Supplement dated April 3, 2023.