
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-8
REGISTRATION STATEMENT UNDER THE
SECURITIES ACT OF 1933

APTOSE BIOSCIENCES INC.
(Exact name of registrant as specified in its charter)

Canada
(State or Other Jurisdiction of
Incorporation or Organization)

98-1136802
(I.R.S. Employer
Identification No.)

251 Consumers Road, Suite 1105, Toronto, Ontario
M2J 4R3 Canada
(Address of Principal Executive Offices)

Aptose Biosciences Inc. 2021 Stock Incentive Plan ("Incentive Plan")
(Full title of the plan)

Aptose Biosciences U.S. Inc.
12270 High Bluff Drive, Suite 120
San Diego, California 92130
(Name, address and telephone number, including area code, of agent for service)

Copy to:

Daniel M. Miller
Dorsey & Whitney LLP
Suite 1070 – 1095 West Pender Street
Vancouver, B.C.
Canada V6E 2M6
604-630-5199

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☐

Accelerated filer ☐

Non-accelerated filer ☒

Smaller reporting company ☒

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

EXPLANATORY NOTE

REGISTRATION OF ADDITIONAL SECURITIES

This Registration Statement on Form S-8 (the “Registration Statement”) is being filed to register an additional 68,517 shares of common shares (“Shares”) of Aptose Biosciences Inc. to be issued pursuant to our 2021 Stock Incentive Plan as a result of the approval of the amendment to the 2021 Stock Incentive Plan at the Annual and Special Meeting of Shareholders held on May 23, 2023.

These additional Shares are securities of the same class as other securities for which a previous Registration Statement on Form S-8 was filed by us with the Securities and Exchange Commission (the “SEC”) on June 28, 2021 (File No. 333-257446) and for which a Post-Effective Amendment No. 1 to the aforementioned Registration Statement on Form S-8 was filed on April 1, 2022 (File No. 333-257446) (together, the “Previous Registration Statements”). In accordance with General Instruction E of Form S-8, the contents of the Previous Registration Statements, including periodic reports filed after the Previous Registration Statements to maintain current information about our company, are incorporated by reference into this Registration Statement.

PART I

INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

The documents containing the information specified in Part I of Form S-8 are not required to be filed with the Securities and Exchange Commission either as part of this registration statement or as prospectuses or prospectus supplements, pursuant to the Note to Part I of Form S-8 and Rule 424 under the Securities Act of 1933. The information required in the Section 10(a) prospectus is included in documents being maintained and delivered by Aptose Biosciences Inc. as required by Part I of Form S-8 and by Rule 428 under the Securities Act of 1933.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents that have been filed by us with the SEC are incorporated in this registration statement by reference:

- (a) Our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2022, filed with the SEC on March 24, 2023.
 - (b) Our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2023, filed with the SEC on May 8, 2023.
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- (c) Our Quarterly Report on [Form 10-Q](#) for the quarter ended June 30, 2023, filed with the SEC on August 10, 2023
- (d) Our Current Reports on Form 8-K filed with the SEC on [May 23, 2023](#), [May 26, 2023](#), [June 5, 2023](#), [June 12, 2023](#) and [September 12, 2023](#).
- (e) Our Definitive Proxy Statement on [Schedule 14A](#) filed with the SEC on April 19, 2023.
- (f) All other reports filed by our company under Section 13(a) or 15(d) of the Securities Exchange Act of 1934 since December 31, 2022.
- (g) The description of our common shares set forth under the heading “Additional Information – Common Shares” contained in our Annual Report on [Form 20-F](#) for the fiscal year end May 31, 2014, filed with the SEC on July 30, 2014, and incorporated by reference into our Registration Statement on Form 8-A, as filed with the SEC on October 21, 2014, including any amendment or report to such Registration Statement on Form 8-A filed for the purpose of amending such description.

All other reports and documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be a part of this Registration Statement from the date of the filing of such reports and documents.

Any statement contained herein, in any amendment hereto or in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any subsequently-filed amendment to this registration statement or in any document that also is incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement

Item 4. Description of Securities.

Not applicable.

Item 5. Interest of Named Experts and Counsel.

Not applicable.

Item 8. Exhibits.

<u>Exhibit</u>	<u>Description of Exhibit</u>
<u>4.1</u>	<u>Aptose Biosciences Inc. 2021 Stock Incentive Plan</u>
<u>5.1</u>	<u>Opinion of McCarthy Tétrault LLP.</u>
<u>23.1</u>	<u>Consent of KPMG LLP.</u>
<u>23.2</u>	<u>Consent of McCarthy Tétrault LLP (included in Exhibit 5.1).</u>
<u>24.1</u>	<u>Powers of Attorney (included on the signature pages to this registration statement).</u>
<u>107</u>	<u>Filing Fee Table</u>

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, Aptose Biosciences Inc. certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of San Diego, on this 21st day of September, 2023.

APTOSE BIOSCIENCES INC.

By: /s/ William G. Rice, Ph.D.
William G. Rice, Ph.D.
President and Chief Executive Officer

POWERS OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints William G. Rice and Fletcher Payne, and each of them, his true and lawful attorneys-in-fact and agents, each acting alone, with the powers of substitution and revocation, for him and in his name, place and stead, in any and all capacities, to sign this Registration Statement on Form S-8, and any and all amendments (including post-effective amendments) thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto such attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming that all such attorneys-in-fact and agents or any of them, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities indicated below on September 21, 2023.

Name	Position
<u>s/ William G. Rice</u> William G. Rice	President, Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)
<u>s/ Fletcher Payne</u> Fletcher Payne	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
<u>/s/ Denis Burger</u> Denis Burger	Director
<u>/s/ Carol Ashe</u> Carol Ashe	Director
<u>/s/ Dr. Erich M. Platzer</u> Dr. Erich M. Platzer	Director
<u>/s/ Dr. Bernd R. Seizenger</u> Dr. Bernd R. Seizenger	Director
<u>/s/ Dr. Mark Vincent</u> Dr. Mark Vincent	Director
<u>/s/ Warren Whitehead</u> Warren Whitehead	Director

AUTHORIZED REPRESENTATIVE

Pursuant to the requirements of Section 6(a) of the Securities Act of 1933, the undersigned has signed this registration statement, solely in the capacity of the duly authorized representative of Aptose Biosciences Inc. in the United States, on September 21, 2023.

APTOSE BIOSCIENCES U.S. INC.

By: /s/ William G. Rice
William G. Rice
President

APTOSE BIOSCIENCES INC.

2021 STOCK INCENTIVE PLAN, AS AMENDED

Section 1. Purpose

The purpose of the Plan is to promote the interests of the Company and its shareholders by aiding the Company in attracting and retaining employees, officers, consultants, advisors, independent contractors and non-employee Directors capable of assuring the future success of the Company, to offer such persons incentives to put forth maximum efforts for the success of the Company's business and to compensate such persons through stock-based awards and provide them with opportunities for stock ownership in the Company, thereby aligning the interests of such persons with the Company's shareholders.

Section 2. Definitions

As used in the Plan, the following terms shall have the meanings set forth below:

- (a) "*Affiliate*" shall mean any entity that, directly or indirectly through one or more intermediaries, is controlled by the Company.
- (b) "*Award*" shall mean any Option, Stock Appreciation Right, Restricted Stock, Restricted Stock Unit or Dividend Equivalent granted under the Plan.
- (c) "*Award Agreement*" shall mean any written agreement, contract or other instrument or document evidencing an Award granted under the Plan (including a document in an electronic medium) executed in accordance with the requirements of Section 9(b).
- (d) "*Board*" shall mean the Board of Directors of the Company.
- (e) "*Code*" shall mean the Internal Revenue Code of 1986, as amended from time to time, and any regulations promulgated thereunder.
- (f) "*Committee*" means a committee or subcommittee of the Board appointed from time to time by the Board. Notwithstanding the foregoing, if, and to the extent that no Committee exists which has the authority to administer this Plan, the functions of the Committee shall be exercised by the Board and all references herein to the Committee shall be deemed to be references to the Board. The Committee shall be comprised of not less than such number of Directors as shall be required to permit Awards granted under the Plan to qualify under Rule 16b-3, and each member of the Committee shall be a "non-employee director" within the meaning of Rule 16b-3.
- (g) "*Common Share*" or "*Common Shares*" shall mean common shares of the Company (or such other securities or property as may become subject to Awards pursuant to an adjustment made under Section 4(c) of the Plan), provided that such class is listed on a securities exchange.
- (h) "*Company*" shall mean Aptose Biosciences Inc., a corporation incorporated under the laws of Canada and any successor corporation.
- (i) "*Director*" shall mean a member of the Board.
- (j) "*Dividend Equivalent*" shall mean any right granted under Section 6(b) of the Plan.
- (k) "*Eligible Person*" shall mean any employee, officer, non-employee Director, consultant, independent contractor or advisor providing services to the Company or any Affiliate, or any such person to whom an offer of employment or engagement with the Company or any Affiliate is extended. An Eligible Person must be a natural person.
- (l) "*Exchange Act*" shall mean the Securities Exchange Act of 1934, as amended.

(m) “*Fair Market Value*” shall mean the closing price of the Common Shares, as reported on the NASDAQ Stock Market or Toronto Stock Exchange, whichever exchange is designated in the Award Agreement, and any successor securities exchange thereof, or, if the applicable securities exchange is not open for trading on such date, on the most recent preceding date when such exchange is open for trading. In all other cases, Fair Market Value shall mean the amount which is determined by the Committee, in good faith, to be the fair market value of one Common Share.

(n) “*Incentive Stock Option*” shall mean an option granted under Section 6(a) of the Plan that is intended to meet the requirements of Section 422 of the Code or any successor provision.

(o) “*Non-Qualified Stock Option*” shall mean an option granted under Section 6(a) of the Plan that is not intended to be an Incentive Stock Option.

(p) “*Option*” shall mean an Incentive Stock Option or a Non-Qualified Stock Option to purchase Common Shares of the Company.

(q) “*Participant*” shall mean an Eligible Person designated to be granted an Award under the Plan.

(r) “*Plan*” shall mean the Aptose Biosciences Inc. 2021 Stock Incentive Plan, as amended from time to time.

(s) “*Prior Stock Plans*” shall mean the Aptose Biosciences Inc. 2015 Stock Incentive Plan and the Aptose Biosciences Inc. Share Option Plan, as amended from time to time.

(t) “*Restricted Stock*” shall mean any Common Share granted under Section 6(c) of the Plan.

(u) “*Restricted Stock Unit*” shall mean any unit granted under Section 6(c) of the Plan evidencing the right to receive a Common Share (or a cash payment equal to the Fair Market Value of a Common Share) at some future date.

(v) “*Rule 16b-3*” shall mean Rule 16b-3 promulgated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, or any successor rule or regulation.

(w) “*Section 409A*” shall mean Section 409A of the Code, or any successor provision, and applicable Treasury Regulations and other applicable guidance thereunder.

(x) “*Securities Act*” shall mean the Securities Act of 1933, as amended.

(y) “*Specified Employee*” shall mean a specified employee as defined in Section 409A(a)(2)(B) of the Code or applicable proposed or final regulations under Section 409A, determined in accordance with procedures established by the Company and applied uniformly with respect to all plans maintained by the Company that are subject to Section 409A.

(z) “*TSX Rules*” means the rules of the Toronto Stock Exchange Company Manual relating to changes in the capital structure of listed companies in connection with security based compensation arrangements (currently Section 613), as those rules may be amended, renumbered or reclassified from time to time, or any successors.

(aa) “*Stock Appreciation Right*” shall mean any right granted under Section 6(b) of the Plan.

Section 3. Administration

(a) **Power and Authority of the Committee.** The Plan shall be administered by the Committee. Subject to the express provisions of the Plan and to applicable law, the Committee shall have full power and authority to: (i) designate Participants and grant Awards; (ii) determine the type or types of Awards to be granted to each

Participant under the Plan; (iii) determine the number of Common Shares to be covered by (or the method by which payments or other rights are to be calculated in connection with) each Award; (iv) determine the terms and conditions of any Award or Award Agreement, including any terms relating to the forfeiture of any Award and the forfeiture, recapture or disgorgement of any cash, Common Shares or other amounts payable with respect to any Award; (v) amend the terms and conditions of any Award or Award Agreement, subject to the limitations under Sections 6 and 7; (vi) accelerate the exercisability of any Award or the lapse of any restrictions relating to any Award, subject to the limitations of Sections 6 and 7; (vii) determine whether, to what extent and under what circumstances Awards may be exercised in cash, Common Shares, other securities, other Awards or other property (but excluding promissory notes), or canceled, forfeited or suspended; (viii) determine whether, to what extent and under what circumstances amounts payable with respect to an Award under the Plan shall be deferred either automatically or at the election of the holder thereof or the Committee, subject to the requirements of Section 409A; (ix) interpret and administer the Plan and any instrument or agreement, including an Award Agreement, relating to the Plan; (x) establish, amend, suspend or waive such rules and regulations and appoint such agents as it shall deem appropriate for the proper administration of the Plan; (xi) make any other determination and take any other action that the Committee deems necessary or desirable for the administration of the Plan; and (xii) adopt such modifications, rules, procedures and sub-plans as may be necessary or desirable to comply with provisions of the laws of non-U.S. or Canadian jurisdictions in which the Company or an Affiliate may operate, including, without limitation, establishing any special rules for Affiliates, Eligible Persons or Participants located in any particular country, in order to meet the objectives of the Plan and to ensure the viability of the intended benefits of Awards granted to Participants located in such non-United States jurisdictions. Any sub-plan established hereunder shall be deemed a part of the Plan, except to the extent of any inconsistency between the terms of the Plan and the terms of such sub-plan, in which event the terms of such sub-plan shall prevail. Each sub-plan shall apply only to the Eligible Persons in the jurisdiction for which the sub-plan was designed. Unless otherwise expressly provided in the Plan, all designations, determinations, interpretations and other decisions under or with respect to the Plan or any Award or Award Agreement shall be within the sole discretion of the Committee, may be made at any time and shall be final, conclusive and binding upon any Participant, any holder or beneficiary of any Award or Award Agreement, and any employee of the Company or any Affiliate.

(b) Delegation. The Committee may delegate to one or more officers or Directors of the Company, subject to such terms, conditions and limitations as the Committee may establish in its sole discretion, the authority to grant Awards; provided, however, that the Committee shall not delegate such authority (i) with regard to grants of Awards to be made to officers or directors of the Company or (ii) in such a manner as would contravene applicable law or applicable exchange rules.

(c) Power and Authority of the Board. Notwithstanding anything to the contrary contained herein, the Board may, at any time and from time to time, without any further action of the Committee, exercise all the powers and duties of the Committee under the Plan, unless the exercise of such powers and duties by the Board would cause the Plan not to comply with the requirements of Rule 16b-3; and only the Committee (or another committee of the Board comprised of directors who qualify as independent directors within the meaning of the independence rules of any applicable securities exchange where the Common Shares are then listed) may grant Awards to Directors who are not also employees of the Company or an Affiliate.

(d) Indemnification. To the full extent permitted by law, (i) no member of the Board, the Committee or any person to whom the Committee delegates authority under the Plan shall be liable for any action or determination taken or made in good faith with respect to the Plan or any Award made under the Plan, and (ii) the members of the Board, the Committee and each person to whom the Committee delegates authority under the Plan shall be entitled to indemnification and reimbursement by the Company with regard to such actions and determinations in accordance with applicable law in the manner provided in the Company's by-laws and any indemnification agreements as they may be amended from time to time. The provisions of this paragraph shall be in addition to such other rights of indemnification as a member of the Board, the Committee or any other person may have by virtue of such person's position with the Company.

Section 4. Common Shares Available for Awards

(a) Common Shares Available. Subject to adjustment as provided in Section 4(c) of the Plan, the aggregate number of Common Shares that may be issued under all Awards under the Plan shall equal:

- (i) 10,371,000 Common Shares of which all of the Common Shares may be granted as Incentive Stock Options, plus
- (ii) any Common Shares subject to any outstanding award under the Prior Stock Plans that, on and after the date shareholders approve the Plan, are not purchased or are forfeited, paid in cash or reacquired by the Company (subject to the limitations in Section 4(b) below), or otherwise not delivered to the Participant due to termination or cancellation of such award.

On and after stockholder approval of this Plan, no awards shall be granted under the Prior Stock Plans, but all outstanding awards previously granted under the Prior Stock Plans shall remain outstanding and subject to the terms of the Prior Stock Plans.

When determining the Common Shares added to and subtracted from the aggregate reserve, the number of Common Shares added or subtracted shall be also determined in accordance with the Common Share counting rules described in Section 4(b) below.

(b) Counting Common Shares. Except as set forth in this Section 4(b) below, if an Award entitles the holder thereof to receive or purchase Common Shares, the number of Common Shares covered by such Award or to which such Award relates shall be counted on the date of grant of such Award against the aggregate number of Common Shares available for granting Awards under the Plan.

- (i) Common Shares Added Back to Reserve. Subject to the limitations in (ii) below, if any Common Shares covered by an Award or to which an Award relates are not purchased or are forfeited or are reacquired by the Company, or if an Award otherwise terminates or is cancelled without delivery of any Common Shares, then the number of Common Shares counted against the aggregate number of Common Shares available under the Plan with respect to such Award, to the extent of any such forfeiture, reacquisition by the Company, termination or cancellation, shall again be available for granting Awards under the Plan.
- (ii) Common Shares Not Added Back to Reserve. Notwithstanding anything to the contrary in (i) above, the following Common Shares will not again become available for issuance under the Plan: (A) any Common Shares which would have been issued upon any exercise of an Option but for the fact that the exercise price was paid by a "net exercise" or any Common Shares tendered in payment of the exercise price of an Option; (B) any Common Shares withheld by the Company or Common Shares tendered to satisfy any tax withholding obligation with respect to an Award; (C) Common Shares covered by a stock-settled Stock Appreciation Right issued under the Plan that are not issued in connection with settlement in Common Shares upon exercise; or (D) Common Shares that are repurchased by the Company using Option exercise proceeds.
- (iii) Cash-Only Awards. Awards that do not entitle the holder thereof to receive or purchase Common Shares shall not be counted against the aggregate number of Common Shares available for Awards under the Plan.
- (iv) Substitute Awards Relating to Acquired Entities. Common Shares issued under Awards granted in substitution for awards previously granted by an entity that is acquired by or merged with the Company or an Affiliate shall not be counted against the aggregate number of Common Shares available for Awards under the Plan.

(c) Adjustments. In the event that any dividend (other than a regular cash dividend) or other distribution (whether in the form of cash, Common Shares, other securities or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase or exchange of Common Shares or other securities of the Company, issuance of warrants or other rights to purchase Common Shares or other securities of the Company or other similar corporate transaction or event affects the Common Shares such that an adjustment is necessary in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Committee shall, in accordance with applicable law and in such manner as it may deem equitable, adjust any or all of (i) the number and type of Common Shares (or other securities or other property) that thereafter may be made the subject of Awards, and (ii) the number and type of Common Shares (or other securities or other property) subject to outstanding Awards.

(d) Individual Limitations Under the Plan. The limitation contained in this Section 4(d) shall apply only with respect to any Award or Awards granted under this Plan, and limitations on awards granted under any other shareholder-approved incentive plan maintained by the Company will be governed solely by the terms of such other plan.

- (i) Annual Limit on Awards Granted to Non-Employee Directors. Notwithstanding any provision to the contrary in the Plan, the sum of the grant date fair value of equity-based Awards (such value computed as of the date of grant in accordance with applicable financial accounting rules) and the amount of any cash-based compensation granted to a non-employee Director during any calendar year shall not exceed \$500,000. The independent members of the Board may make exceptions to this limit for a non-executive chair of the Board, provided that the non-employee Director receiving such additional compensation may not participate in the decision to award such compensation.

Section 5. Eligibility

Any Eligible Person shall be eligible to be designated as a Participant. In determining which Eligible Persons shall receive an Award and the terms of any Award, the Committee may take into account the nature of the services rendered by the respective Eligible Persons, their present and potential contributions to the success of the Company or such other factors as the Committee, in its discretion, shall deem relevant. Notwithstanding the foregoing, an Incentive Stock Option may only be granted to full-time or part-time employees (which term as used herein includes, without limitation, officers and Directors who are also employees) who are subject to taxation in the United States, and an Incentive Stock Option shall not be granted to an employee of an Affiliate unless such Affiliate is also a “subsidiary corporation” of the Company within the meaning of Section 424(f) of the Code or any successor provision.

Section 6. Awards

(a) Options. The Committee is hereby authorized to grant Options to Eligible Persons with the following terms and conditions and with such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine:

- (i) Exercise Price. The purchase price per Common Share purchasable under an Option shall be determined by the Committee and shall not be less than one hundred percent (100%) of the Fair Market Value of a Common Share on the date of grant of such Option; *provided, however*, that the Committee may, subject to applicable law, designate a purchase price below Fair Market Value on the date of grant if the Option is granted in substitution for a stock option previously granted by an entity that is acquired by or merged with the Company or an Affiliate.
- (ii) Option Term. The term of each Option shall be fixed by the Committee at the date of grant but shall not be longer than 10 years from the date of grant.
- (iii) Time and Method of Exercise. The Committee shall determine the time or times at which an Option may be exercised within the Option term (subject to the exercise provisions in Section 6), either in whole or in part, and the method of exercise, except that any exercise price tendered shall be in either cash, wire transfer of immediately available funds, Common Shares having a Fair Market Value on the exercise date equal to the applicable exercise price or a combination thereof, as determined by the Committee and as provided in an Award Agreement.
- (A) Promissory Notes. For avoidance of doubt, the Committee may not accept a promissory note as consideration.

- (B) Net Exercises. The terms of any Option may be written to permit, (i) delivery of a written or electronic notice that the Participant has placed a market sell order with a broker acceptable to the Company with respect to Common Shares then issuable upon exercise of the Option, and that the broker has been directed to pay a sufficient portion of the net proceeds of the sale to the Company in satisfaction of the aggregate exercise price; provided that payment of such proceeds is then made to the Company upon settlement of such sale, or (ii) except in the case of Options issued to Participants subject to taxation in Canada, the Option to be exercised by delivering to the Participant a number of Common Shares having an aggregate Fair Market Value (determined as of the date of exercise) equal to the excess, if any, of the Fair Market Value of the Common Shares underlying the Option being exercised, on the date of exercise, over the exercise price of the Option for such Common Shares.
- (iv) Incentive Stock Options. Notwithstanding anything in the Plan to the contrary, the following additional provisions shall apply to the grant of stock options which are intended to qualify as Incentive Stock Options to Eligible Participants who are subject to taxation in the United States:
- (A) Each Option will be designated, in writing, as an Incentive Stock Option or Non-Qualified Stock Option at the time of grant; provided, however, that if an Option is not so designated or if an Option designated as an Incentive Stock Option fails to qualify as an Incentive Stock Option, then such Option will be a Non-Qualified Stock Option, and the Common Shares purchased upon exercise of each type of Option will be separately accounted for.
- (B) To the extent that the aggregate Fair Market Value (determined at the time of grant) of the Common Shares with respect to which Incentive Stock Options are exercisable for the first time by any Participant during any calendar year (under all plans of the Company and any Affiliates) exceeds \$100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Non-Qualified Stock Options, notwithstanding any contrary provision of the applicable Award Agreement(s).
- (C) All Incentive Stock Options must be granted within ten years from the date on which this Plan was approved by the shareholders of the Company.
- (D) Unless sooner exercised, all Incentive Stock Options shall expire and no longer be exercisable no later than ten (10) years after the date of grant; *provided, however*, that in the case of a grant of an Incentive Stock Option to a Participant who, at the time such Option is granted, owns (within the meaning of Section 422 of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or of its Affiliates, such Incentive Stock Option shall expire and no longer be exercisable no later than five (5) years from the date of grant.
- (E) The purchase price per Common Share for an Incentive Stock Option shall be not less than one hundred percent (100%) of the Fair Market Value of a Common Share on the date of grant of the Incentive Stock Option; *provided, however*, that, in the case of the grant of an Incentive Stock Option to a Participant who, at the time such Option is granted, owns (within the meaning of Section 422 of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or of its Affiliates, the purchase price per Common Share purchasable under an Incentive Stock Option shall be not less than one hundred ten percent (110%) of the Fair Market Value of a Common Share on the date of grant of the Incentive Stock Option.
- (F) Any Incentive Stock Option authorized under the Plan shall contain such other provisions as the Committee shall deem advisable, but shall in all events be consistent with and contain all provisions required in order to qualify the Option as an Incentive Stock Option.

(b) Stock Appreciation Rights. The Committee is hereby authorized to grant Stock Appreciation Rights to Eligible Persons subject to the terms of the Plan and any applicable Award Agreement. A Stock Appreciation Right granted under the Plan shall confer on the holder thereof a right to receive upon exercise thereof the excess of (i) the Fair Market Value of one Common Share on the date of exercise over (ii) the grant price of the Stock Appreciation Right as specified by the Committee, which price shall not be less than one hundred percent (100%) of the Fair Market Value of one Common Share on the date of grant of the Stock Appreciation Right; *provided, however*, that subject to applicable law, the Committee may designate a grant price below Fair Market Value on the date of grant if the Stock Appreciation Right is granted in substitution for a stock appreciation right previously granted by an entity that is acquired by or merged with the Company or an Affiliate. Subject to the terms of the Plan and any applicable Award Agreement, the grant price, term, methods of exercise, dates of exercise, methods of settlement and any other terms and conditions of any Stock Appreciation Right shall be as determined by the Committee (except that the term of each Stock Appreciation Right shall be subject to the term limitation in Section 6(a)(ii) applicable to Options). The Committee may impose such conditions or restrictions on the exercise of any Stock Appreciation Right as it may deem appropriate. (c) Restricted Stock and Restricted Stock Units. The Committee is hereby authorized to grant an Award of Restricted Stock and Restricted Stock Units to Eligible Persons with the following terms and conditions and with such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine:

- (i) Restrictions. Common Shares of Restricted Stock and Restricted Stock Units shall be subject to such restrictions as the Committee may impose (including, without limitation, any limitation on the right to vote a Common Share of Restricted Stock or the right to receive any dividend or other right or property with respect thereto), which restrictions may lapse separately or in combination at such time or times, in such installments or otherwise as the Committee may deem appropriate. For purposes of clarity and without limiting the Committee's general authority under Section 3(a), vesting of such Awards may, at the Committee's discretion, be conditioned upon the Participant's completion of a specified period of service with the Company or an Affiliate, or upon the achievement of one or more performance goals established by the Committee, or upon any combination of service-based and performance-based conditions (subject to the minimum requirements in Section 6). Notwithstanding the foregoing, rights to dividend or Dividend Equivalent payments shall be subject to the limitations described in Section 6(d).
- (ii) Issuance and Delivery of Common Shares. Any Restricted Stock granted under the Plan shall be issued at the time such Awards are granted and may be evidenced in such manner as the Committee may deem appropriate, including book-entry registration or issuance of a stock certificate or certificates, which certificate or certificates shall be held by the Company or held in nominee name by the stock transfer agent or brokerage service selected by the Company to provide such services for the Plan. Common Shares representing Restricted Stock that are no longer subject to restrictions shall be delivered (including by updating the book-entry registration) to the Participant promptly after the applicable restrictions lapse or are waived. In the case of Restricted Stock Units, no Common Share shall be issued at the time such Awards are granted. Upon the lapse or waiver of restrictions and the restricted period relating to Restricted Stock Units evidencing the right to receive Common Shares, such Common Shares shall be issued and delivered to the holder of the Restricted Stock Units.

(d) Dividend Equivalents. The Committee is hereby authorized to grant Dividend Equivalents to Eligible Persons under which the Participant shall be entitled to receive payments (net of any applicable withholding tax and on terms and subject to conditions established and determined by and in the discretion of the Committee) equivalent to and in lieu of the amount of cash dividends paid by the Company to holders of Common Shares with respect to a number of Common Shares determined by the Committee. Subject to the terms of the Plan and any applicable Award Agreement, such Dividend Equivalents may have such terms and conditions as the Committee shall determine. Notwithstanding the foregoing, (i) the Committee may not grant Dividend Equivalents to Eligible Persons in connection with grants of Options and Stock Appreciation Rights and (ii) dividend and Dividend Equivalent amounts with respect to any Common Share underlying Restricted Stock or Restricted Stock Unit Award may be accrued but not paid to a Participant until all conditions or restrictions relating to such Common Share have been satisfied, waived or lapsed.

(e) General.

- (i) Consideration for Awards. Awards may be granted for no cash consideration or for any cash or other consideration as may be determined by the Committee or required by applicable law.
- (ii) Awards May Be Granted Separately or Together. Awards may, in the discretion of the Committee, be granted either alone or in addition to, in tandem with or in substitution for any other Award or any award granted under any other plan of the Company or any Affiliate. Awards granted in addition to or in tandem with other Awards or in addition to or in tandem with awards granted under any other plan of the Company or any Affiliate may be granted either at the same time as or at a different time from the grant of such other Awards or awards.
- (iii) Limits on Transfer of Awards. No Award (other than fully vested and unrestricted Common Shares issued pursuant to any Award) and no right under any such Award shall be transferable by a Participant other than by will or by the laws of descent and distribution, and no Award (other than fully vested and unrestricted Common Shares issued pursuant to any Award) or right under any such Award may be pledged, alienated, attached or otherwise encumbered, and any purported pledge, alienation, attachment or encumbrance thereof shall be void and unenforceable against the Company or any Affiliate. Notwithstanding the foregoing, subject to applicable laws, the Committee may permit the transfer of an Award to family members if such transfer is for no value and in accordance with the rules of Form S-8. Subject to applicable law, the Committee may also establish procedures as it deems appropriate for a Participant to designate a person or persons, as beneficiary or beneficiaries, to exercise the rights of the Participant and receive any property distributable with respect to any Award in the event of the Participant's death.
- (iv) Restrictions: Securities Exchange Listing. All Common Shares or other securities delivered under the Plan pursuant to any Award shall be subject to such restrictions as the Committee may deem advisable under the Plan, applicable federal, provincial or state securities laws and regulatory requirements, and the Committee may cause appropriate entries to be made with respect to, or legends to be placed on the certificates for, such Common Shares or other securities to reflect such restrictions. The Company shall not be required to deliver any Common Shares or other securities covered by an Award unless and until the requirements of any federal, provincial or state securities or other laws, rules or regulations (including the rules of any securities exchange) as may be determined by the Company to be applicable are satisfied.
- (v) Section 409A Provisions. Notwithstanding anything in the Plan or any Award Agreement to the contrary, to the extent that any amount or benefit that constitutes "deferred compensation" to a Participant under Section 409A and applicable guidance thereunder is otherwise payable or distributable to a Participant under the Plan or any Award Agreement solely by reason of the occurrence of a change in control or due to the Participant's disability or "separation from service" (as such term is defined under Section 409A), such amount or benefit will not be payable or distributable to the Participant by reason of such circumstance unless the Committee determines in good faith that (i) the circumstances giving rise to such change in control event, disability or separation from service meet the definition of a change in control event, disability, or separation from service, as the case may be, in Section 409A(a)(2)(A) of the Code and applicable proposed or final regulations, or (ii) the payment or distribution of such amount or benefit would be exempt from the application of Section 409A by reason of the short-term deferral exemption or otherwise. Any payment or distribution that otherwise would be made to a Participant who is a Specified Employee (as determined by the Committee in good faith) on account of separation from service may not be made before the date which is six months after the date of the Specified Employee's separation from service (or if earlier, upon the Specified Employee's death) unless the payment or distribution is exempt from the application of Section 409A by reason of the short-term deferral exemption or otherwise.

- (vi) Prohibition on Option and Stock Appreciation Right Repricing. Except as provided in Section 4(c) hereof, the Committee may not, without prior approval of the Company's shareholders, seek to effect any re-pricing of any previously granted, "underwater" Option or Stock Appreciation Right by: (i) amending or modifying the terms of the Option or Stock Appreciation Right to lower the exercise price; (ii) canceling the underwater Option or Stock Appreciation Right and granting either (A) replacement Options or Stock Appreciation Rights having a lower exercise price; or (B) Restricted Stock, Restricted Stock Units or Other Stock-Based Award in exchange; or (iii) cancelling or repurchasing the underwater Option or Stock Appreciation Right for cash or other securities. An Option or Stock Appreciation Right will be deemed to be "underwater" at any time when the Fair Market Value of the Common Shares covered by such Option or Stock Appreciation Right is less than the exercise price.
- (vii) Limits on Acceleration or Waiver of Restrictions Upon Change in Control. No Award Agreement shall contain a definition of change in control that has the effect of accelerating the exercisability of any Award or the lapse of restrictions relating to any Award upon only the announcement or shareholder approval of (rather than consummation of) any reorganization, merger or consolidation of, or sale or other disposition of all or substantially all of the assets of, the Company.

Section 7. Amendment and Termination; Corrections

(a) Amendments to the Plan and Awards. The Board may from time to time amend, suspend or terminate this Plan or any Award Agreement, and the Committee may amend the terms of any previously granted Award, provided that no amendment to the terms of any previously granted Award may, (except as expressly provided in the Plan) materially and adversely alter or impair the terms or conditions of the Award previously granted to a Participant under this Plan without the written consent of the Participant or holder thereof. Any amendment to this Plan, an Award Agreement or to the terms of any Award previously granted, is subject to compliance with all applicable laws, rules, regulations and policies of any applicable governmental entity or securities exchange, including receipt of any required approval from the governmental entity or stock exchange. For greater certainty and without limiting the foregoing, the Board may amend, suspend, terminate or discontinue the Plan or any Award Agreement, and the Committee may amend or alter any previously granted Award, as applicable, without obtaining the approval of shareholders of the Company in order to:

- (i) correct any defect, supply any omission or reconcile any inconsistency in the Plan or in any Award or Award Agreement in the manner and to the extent it shall deem desirable to implement or maintain the effectiveness of the Plan;
- (ii) amend the eligibility for, and limitations or conditions imposed upon, participation in the Plan;
- (iii) make changes that are necessary or desirable to comply with applicable laws, rules, regulations and policies of any applicable governmental entity or stock exchange (including amendments to Awards necessary or desirable to maximize any available tax deduction or to avoid any adverse tax results, and no action taken to comply with such laws, rules, regulations and policies shall be deemed to impair or otherwise adversely alter or impair the rights of any holder of an Award or beneficiary thereof);
- (iv) amend any terms relating to the administration of the Plan, including the terms of any administrative guidelines or other rules related to the Plan; or
- (v) make any other amendment, whether fundamental or otherwise, not requiring shareholders' approval under TSX Rules, the rules or regulations of the Securities and Exchange Commission or any other securities exchange that are applicable to the Company.

For greater certainty, prior approval of the shareholders of the Company shall be required for any amendment to the Plan or an Award that would:

- (I) require shareholder approval under TSX Rules, the rules or regulations of the Securities and Exchange Commission or any other securities exchange that are applicable to the Company;
- II) increase the number of shares authorized under the Plan as specified in Section 4(a) of the Plan;
- (III) permit repricing of Options or Stock Appreciation Rights, which is currently prohibited by Section 6 of the Plan;
- (IV) permit the award of Options or Stock Appreciation Rights at a price less than one-hundred percent (100%) of the Fair Market Value of a Common Share on the date of grant of such Option or Stock Appreciation Right, contrary to the provisions of Section 6(a)(i) and Section 6(b) of the Plan;
- (V) increase the maximum term permitted for Options and Stock Appreciation Rights as specified in Section 6(a) and Section 6(b); or
- (VI) increase the number of shares or dollar value subject to the annual limitations contained in Section 4(d) of the Plan.

(b) Corporate Transactions. In the event of any reorganization, merger, consolidation, split-up, spin-off, combination, plan of arrangement, take-over bid or tender offer, repurchase or exchange of Common Shares or other securities of the Company or any other similar corporate transaction or event involving the Company, the Committee or the Board may, in its sole discretion, provide for any of the following at the election of the applicable Participant but subject to the approval of the Board or the Committee, as the case may be, to be effective upon the consummation of the event (or effective immediately prior to the consummation of the event, provided that the consummation of the event subsequently occurs), and no action taken under this Section 7(b) shall be deemed to impair or otherwise adversely alter or impair the rights of any holder of an Award or beneficiary thereof:

- (i) either (A) termination of any Award, whether or not vested, in exchange for an amount of cash and/or other property, if any, equal to the amount that would have been attained upon the exercise of the vested portion of the Award or realization of the Participant's vested rights (and, for the avoidance of doubt, if, as of the date of the occurrence of the transaction or event described in this Section 7(b)(i)(A), the Committee or the Board determines in good faith that no amount would have been attained upon the exercise of the Award or realization of the Participant's rights, then the Award may be terminated by the Company without any payment) or (B) the replacement of the Award with other rights or property selected by the Committee or the Board, in its sole discretion;
- (ii) that the Award be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by similar options, rights or awards covering the stock of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and prices;
- (iii) that the Award shall be exercisable or payable or fully vested with respect to all Common Shares covered thereby, notwithstanding anything to the contrary in the applicable Award Agreement; or
- (iv) that the Award cannot vest, be exercised or become payable after a date certain in the future, which may be the effective date of the event.

Section 8. Income Tax Withholding and Tax Treatment

(a) Income Tax Withholding. In order to comply with all applicable federal, state, provincial, local or foreign income tax laws or regulations, the Company may take such action as it deems appropriate to ensure that all applicable federal, state, provincial, local or foreign payroll, withholding, income or other amounts and taxes, which are the sole and absolute responsibility of a Participant, are withheld or collected from such Participant. Without limiting the foregoing, for avoidance of doubt, the Committee, in its discretion and subject to such additional terms and conditions as it may adopt, may permit the Participant to satisfy such tax obligation by (a) electing to have the Company withhold a portion of the Common Shares otherwise to be delivered upon exercise or receipt of (or the lapse of restrictions relating to) such Award with a Fair Market Value equal to the amount of such taxes (subject to any limitations required by ASC Topic 718 to avoid adverse accounting treatment) and by the Company selling, or causing a broker to sell, on behalf of the Participant such Common Shares in the open market and use the proceeds from such sale to satisfy the amount of such taxes; (b) delivering to the Company Common Shares other than Common Shares issuable upon exercise or receipt of (or the lapse of restrictions relating to) such Award with a Fair Market Value equal to the amount of such taxes or (c) by any other means set forth in the applicable Award Agreement. For greater certainty, it is the responsibility of the Participant to complete and file any tax returns that may be required under applicable laws within the periods specified in those laws as a result of the Participant's participation in the Plan or any Award. Notwithstanding any other provision of this Plan, a Participant shall be solely responsible for all tax withholding obligations arising as a result of the Participant's participation in the Plan or any Award.

(b) No Guarantees Regarding Tax Treatment. Participants (and their beneficiaries) shall be responsible for all taxes with respect to any Award under the Plan. The Company, the Board and the Committee make no guarantees to any Person regarding the tax treatment in respect of the Awards or payments made under the Plan.

(c) Other Tax Matters. Each Option granted to a Participant who is a Canadian taxpayer will be construed and administered such that, in the reasonable good-faith determination of the Committee, the Participant qualifies for a deduction under paragraph 110(1)(d) of the Income Tax Act (Canada). Notwithstanding the foregoing, in no event will the Company, the Board or the Committee have any liability.

Section 9. General Provisions

(a) No Rights to Awards. No Eligible Person, Participant or other person shall have any claim to be granted any Award under the Plan, and there is no obligation for uniformity of treatment of Eligible Persons, Participants or holders or beneficiaries of Awards under the Plan. The terms and conditions of Awards need not be the same with respect to any Participant or with respect to different Participants.

(b) Award Agreements. No Participant shall have rights under an Award granted to such Participant unless and until an Award Agreement shall have been signed by the Participant (if requested by the Company), or until such Award Agreement is delivered and accepted through an electronic medium in accordance with procedures established by the Company. An Award Agreement need not be signed by a representative of the Company unless required by the Committee. Each Award Agreement shall be subject to the applicable terms and conditions of the Plan and any other terms and conditions (not inconsistent with the Plan) determined by the Committee. The Committee, in its sole discretion, may include such further provisions and limitations in any Award Agreement, as it may deem equitable and in the best interests of the Company that are not inconsistent with the provisions of the Plan.

(c) Plan Provisions Control. In the event that any provision of an Award Agreement conflicts with or is inconsistent in any respect with the terms of the Plan as set forth herein or subsequently amended, the terms of the Plan shall control.

(d) No Rights of Shareholders. Except with respect to Common Shares issued under Awards (and subject to such conditions as the Committee may impose on such Awards), neither a Participant nor the Participant's legal representative shall be, or have any of the rights and privileges of, a shareholder of the Company with respect to any Common Shares issuable upon the exercise or payment of any Award, in whole or in part, unless and until such Common Shares have been issued.

(e) No Limit on Other Compensation Arrangements. Nothing contained in the Plan shall prevent the Company or any Affiliate from adopting or continuing in effect other or additional compensation plans or arrangements, and such plans or arrangements may be either generally applicable or applicable only in specific cases.

(f) No Right to Employment or Directorship. The grant of an Award shall not be construed as giving a Participant the right to be retained as an employee of the Company or any Affiliate, or the right to be retained as a Director, nor will it affect in any way the right of the Company or an Affiliate to terminate a Participant's employment at any time, with or without cause, or remove a Director in accordance with applicable law. In addition, the Company or an Affiliate may at any time dismiss a Participant from employment, or remove a Director who is a Participant, free from any liability or any claim under the Plan or any Award, unless otherwise expressly provided in the Plan or in any Award Agreement. Nothing in this Plan shall confer on any person any legal or equitable right against the Company or any Affiliate, directly or indirectly, or give rise to any cause of action at law or in equity against the Company or an Affiliate. Under no circumstances shall any person ceasing to be an employee or Director of the Company or any Affiliate be entitled to any compensation for any loss of any right or benefit under the Plan which such employee or Director might otherwise have enjoyed but for termination of employment or directorship, whether such compensation is claimed by way of damages for wrongful or unfair dismissal, breach of contract or otherwise. By participating in the Plan, each Participant shall be deemed to have accepted all the conditions of the Plan and the terms and conditions of any rules and regulations adopted by the Committee and shall be fully bound thereby.

(g) Governing Law. The internal law, and not the law of conflicts, of the Province of Ontario shall govern all questions concerning the validity, construction and effect of the Plan or any Award, and any rules and regulations relating to the Plan or any Award.

(h) Severability. If any provision of the Plan or any Award is or becomes or is deemed to be invalid, illegal or unenforceable in any jurisdiction or would disqualify the Plan or any Award under any law deemed applicable by the Committee, such provision shall be construed or deemed amended to conform to applicable laws, or if it cannot be so construed or deemed amended without, in the determination of the Committee, materially altering the purpose or intent of the Plan or the Award, such provision shall be stricken as to such jurisdiction or Award, and the remainder of the Plan or any such Award shall remain in full force and effect.

(i) No Trust or Fund Created. Neither the Plan nor any Award shall create or be construed to create a trust or separate fund of any kind or a fiduciary relationship between the Company or any Affiliate and a Participant or any other person. To the extent that any person acquires a right to receive payments from the Company or any Affiliate pursuant to an Award, such right shall be no greater than the right of any unsecured general creditor of the Company or any Affiliate.

(j) Other Benefits. No compensation or benefit awarded to or realized by any Participant under the Plan shall be included for the purpose of computing such Participant's compensation or benefits under any pension, retirement, savings, profit sharing, group insurance, disability, severance, termination pay, welfare or other benefit plan of the Company, unless required by law or otherwise provided by such other plan.

(k) No Fractional Common Shares. No fractional Common Shares shall be issued or delivered pursuant to the Plan or any Award, and the Committee shall determine whether cash shall be paid in lieu of any fractional Common Share or whether such fractional Common Share or any rights thereto shall be canceled, terminated or otherwise eliminated.

(l) Clawback and Recoupment. All Awards under this Plan shall be subject to forfeiture or other penalties pursuant to any Company clawback policy, as may be adopted or amended from time to time, and such forfeiture and/or penalty conditions or provisions as determined by the Committee.

(m) Headings. Headings are given to the sections and subsections of the Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of the Plan or any provision thereof.

Section 10. Effective Date of the Plan

The Plan was adopted by the Board on April 20, 2021 and approved by the shareholders of the Company at the annual and special meeting of shareholders of the Company held on June 1, 2021, and the Plan shall be effective as of the date of such shareholder approval. An amendment to the Plan was approved by the Board on April 19, 2022 and approved by the shareholders of the Company at the annual and special meeting of shareholders of the Company held on May 31, 2022.

Section 11. Term of the Plan

No Award shall be granted under the Plan, and the Plan shall terminate, on the tenth anniversary of the earlier of the date of adoption of the Plan by the Board or date of approval by the Company's shareholders or any earlier date of discontinuation or termination established pursuant to Section 7(a) of the Plan. Unless otherwise expressly provided in the Plan or in an applicable Award Agreement, any Award theretofore granted may extend beyond such dates, and the authority of the Committee provided for hereunder with respect to the Plan and any Awards, and the authority of the Board to amend the Plan, shall extend beyond the termination of the Plan.

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September 21, 2023

Aptose Biosciences Inc.
251 Consumers Road, Suite 1105
Toronto, Ontario M2J 4R3

Re: Registration Statement on Form S-8

Dear Sir/Mesdames:

This opinion is furnished to Aptose Biosciences Inc. (“**Aptose**” or the “**Company**”), a corporation incorporated under the laws of Canada, in connection with the preparation and filing with the United States Securities and Exchange Commission (the “**Commission**”) under the United States Securities Act of 1933, as amended (the “**Securities Act**”), of the Company’s Registration Statement on Form S-8 to be filed on the date hereof (the “**Registration Statement**”) relating to 68,517 common shares of the Company (the “**Shares**”) issuable upon the due exercise or conversion of stock options, restricted stock and restricted stock units (including performance-based restricted stock and stock units) and dividend equivalents granted pursuant to the 2021 Stock Incentive Plan of the Company, as amended (the “**Incentive Plan**”).

As counsel, we have made such investigations and examined the originals, or duplicate, certified, conformed, facsimiled or photostatic copies of such corporate records, agreements, documents and other instruments and have made such other investigations as we have considered necessary or relevant for the purposes of this opinion. We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates of public officials, certificates of officers, or other representatives of the Company, and such other documents as we have deemed necessary or appropriate as a basis for the opinion set forth herein.

In our examination, we have assumed the legal capacity of all natural persons, the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified, conformed, photostatic, electronic, or facsimile copies and the authenticity of the originals of such documents. In making our examination of executed documents or documents which may be executed, we have assumed that the parties thereto, other than the Company, had or will have the power, corporate or other, to enter into and perform all obligations thereunder and have also assumed the due authorization by all requisite action, corporate or other, and execution and delivery by such parties, of such documents and that such documents constitute or will constitute valid and binding obligations of the parties thereto.

In connection with our opinions expressed below, we have assumed that, at or prior to the time of the issuance of any such Shares, the authorization to issue the Shares pursuant to the Incentive Plan will not have been modified or rescinded by the Board of Directors of Aptose and there will not have occurred any change in law affecting the validity or enforceability of such issuance of Shares. We have also assumed that neither the issuance of the Shares, nor the compliance by Aptose with the terms of the Incentive Plan, will violate any applicable federal, provincial or state law or will result in a violation of any provision of any instrument or agreement then binding upon Aptose or any restriction imposed by any court or governmental body having jurisdiction over Aptose.

The opinions expressed herein are limited to the federal laws of Canada (the “**Applicable Law**”).

Based upon and subject to the foregoing, we are of the opinion that the Shares, when issued (i) upon the exercise of options in accordance with the terms of the Incentive Plan and any relevant agreements thereunder and upon payment of the consideration provided therein to the Company; and (ii) upon the lapse or waiver of restrictions and the restriction period relating to the restricted stock and restricted stock units in accordance with the terms of the Incentive Plan and any relevant agreements thereunder will be validly issued as fully paid and non-assessable common shares of the Company.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement. In giving this consent, we do not thereby admit that we are in the category of persons whose consent is required under the Securities Act or the rules and regulations promulgated thereunder. This opinion is expressed as of the date hereof unless otherwise expressly stated, and we disclaim any undertaking to advise you of any subsequent changes of the facts stated or assumed herein or any subsequent changes in Applicable Law.

Yours truly,
/s/ McCarthy Tétrault



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Tel 905-265 5900
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Consent of Independent Registered Public Accounting Firm

The Board of Directors

Aptose Biosciences Inc.

We consent to use of our report dated March 23, 2023, on the consolidated financial statements of Aptose Biosciences Inc., which comprise the consolidated statements of financial position as at December 31, 2022 and December 31, 2021, the related consolidated statements of loss and comprehensive loss, changes in shareholders' equity and cash flows for the years then ended, and the related notes, which is incorporated by reference in the registration statement (No. 333-[]) dated September 21, 2023 on Form S-8 of Aptose Biosciences Inc..

/s/ KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants
September 21, 2023
Vaughan, Canada

Calculation of Filing Fee Table

Form S-8
(Form Type)

Aptose Biosciences Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered ⁽¹⁾	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Common Shares, without par value, issuable under the Aptose Biosciences Inc. 2021 Stock Incentive Plan, Equity as amended		Other	68,517 ⁽²⁾	\$3.305 ⁽³⁾	\$226,448.685 ⁽³⁾	0.00011020\$	24.95
Total Offering Amounts					\$ 226,448.685		\$ 24.95
Total Fee Offsets							-
Net Fee Due							\$ 24.95

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Represents 68,517 additional common shares, without par value (the “Common Shares”), of Aptose Biosciences Inc. (the “Registrant”) available for issuance under the Aptose Biosciences Inc. 2021 Stock Incentive Plan (the “2021 Plan”).
- (3) Estimated solely for the purpose of calculating the registration fee under Rule 457(c) and (h) of the Securities Act on the basis of the average of the high and low sales price per Common Share on September 20, 2023, as reported on the Nasdaq Capital Market.