

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)

N/A  
(I.R.S. Employer  
Identification No.)

5955 Airport Road, Suite 228  
Mississauga, Ontario  
Canada L4V 1R9  
(Address of Principal Executive Offices)

Aptose Biosciences Inc. Share Option Plan ("Option Plan")  
Aptose Biosciences Inc. 2015 Stock Incentive Plan ("RSU Plan")  
(Full title of the plan)

Aptose Biosciences U.S. Inc.  
12770 High Bluff Drive, Suite 120  
San Diego, California 92130  
(Name, address and telephone number, including area code, of agent for service)

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

Large accelerated filer

Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Securities To Be Registered	Amount To Be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Shares				
To be issued pursuant to stock options outstanding under the Option Plan and restricted stock units under the RSU Plan	2,080,050	\$5.30 (2)	\$11,024,265	
<b>Total</b>	<b>2,080,050</b>		<b>\$11,024,265</b>	<b>\$1,282.00</b>

(1) Consists of common shares of the registrant (without par value) issuable upon the exercise of options granted pursuant to the Option Plan and the vesting of restricted stock units under the RSU Plan. Also includes such indeterminate number of common shares of the registrant as may be issued to prevent dilution resulting from stock dividends, stock splits or similar transactions in accordance with Rule 416 under the Securities Act of 1933.

(2) The proposed maximum offering price per share and the registration fee were calculated in accordance with Rule 457(c) and (h) based on the average high and low prices for the registrant's common shares on June 19, 2015, as quoted on the NASDAQ Capital Market.

## 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 (the "SEC") 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 Transition Report on Form 20-F for the transition period from June 1, 2014 to December 31, 2014, filed with the SEC on March 4, 2015.
- (b) Our Annual Report on Form 20-F for the fiscal year ended May 31, 2014, filed with the SEC on July 30, 2014.
- (c) Exhibit 99.3 to our Report of Foreign Issuer on Form 6-K furnished to the SEC on June 12, 2015.
- (d) Exhibits 99.1 and 99.2 to our Report of Foreign Issuer on Form 6-K furnished to the SEC on May 6, 2015.
- (e) All other reports filed by our company under Section 13(a) or 15(d) of the Securities Exchange Act of 1934 since December 31, 2014.
- (f) 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.

In addition, all reports and documents filed by us under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this registration statement and prior to the filing of a post-effective amendment which indicates that all securities being offered have been sold or which deregisters all securities then remaining unsold, and any Form 6-K furnished by us during such period or portions thereof that are identified in such Form 6-K as being incorporated by reference into this registration statement, shall be deemed to be incorporated by reference in and to be part of this registration statement from the date of filing of each such document.

**Item 4. Description of Securities.**

Not applicable.

**Item 5. Interests of Named Experts and Counsel.**

Not applicable.

**Item 6. Indemnification of Directors and Officers.**

Under the Canada Business Corporations Act (the "CBCA"), the registrant may indemnify its current or former directors or officers or another individual who acts or acted at the registrant's request as a director or officer, or an individual acting in a similar capacity, of another entity, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of his or her association with the registrant or another entity, and the individual seeking indemnity shall have a right to such indemnity if such individual was not judged by the court or other competent authority to have committed any fault or omitted to do anything that such individual ought to have done. The CBCA also provides that the registrant may advance moneys to such an individual for the costs, charges and expenses of such a proceeding.

The CBCA also provides that the registrant may with the approval of a court, indemnify such an individual or advance moneys against all costs, charges and expenses reasonably incurred by the individual in connection with an action by or on behalf of the registrant or other entity to procure a judgment in its favour, to which the individual is made a party because of the individual's association with the registrant or other entity at the registrant's request.

However, indemnification under any of the foregoing circumstances is prohibited under the CBCA unless the individual:

- acted honestly and in good faith with a view to the registrant's best interests, or the best interests of the other entity for which the individual acted as director or officer or in a similar capacity at the registrant's request; and
- in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that his or her conduct was lawful.

The registrant's by-law No. 2 provides that the registrant will indemnify its directors or officers, former directors or officers or other individuals who act or have acted at the registrant's request as a director or officer, or in a similar capacity, of another entity, and his or her heirs and legal representatives to the extent permitted by the CBCA.

The registrant's by-law No. 2 further provides that, except as otherwise required by the CBCA, the registrant may from time to time indemnify and save harmless any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the registrant) by reason of the fact that he or she is or was an employee or agent of the registrant, or is or was serving at the request of the registrant as an employee, agent of or participant in another entity against expenses (including legal fees), judgments, fines and any amount actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he or she acted honestly and in good faith with a view to the best interests of the registrant or, as the case may be, to the best interests of the other entity for which he or she served at the registrant's request and, with respect to any criminal or administrative action or proceeding that is enforced by a monetary penalty, had reasonable grounds for believing that his or her conduct was lawful. The termination of any action, suit or proceeding by judgment, order, settlement or conviction will not, of itself, create a presumption that the person did not act honestly and in good faith with a view to the best interests of the registrant or other entity and, with respect to any criminal or administrative action or proceeding that is enforced by a monetary penalty, had no reasonable grounds for believing that his or her conduct was lawful.

The registrant has entered into indemnity agreements with its directors and certain officers pursuant to which it has agreed to indemnify its officers and directors for:

- (a) all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by them in respect of any civil, criminal or administrative action or proceeding to which they are made a party by reason of being or having been a director and/or officer of the registrant, if (i) they acted honestly and in good faith with a view to the best interests of the registrant, and (ii) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, they had reasonable grounds for believing that their conduct was lawful.
- (b) all costs, charges and expenses reasonably incurred by them in connection with any action by or on behalf of the registrant to procure a judgment in the registrant's favour to which they are made a party by reason of being or having been a director and/or officer of the registrant.
- (c) all costs, charges and expenses reasonably incurred by them in connection with the defense of any civil, criminal or administrative proceeding to which they are made a party by reason of being or having been a director and/or officer of the registrant if they have been substantially successful on the merits in their defense of the action or proceeding and they fulfil the conditions set forth in the two foregoing clauses (a)(i) and (a)(ii) above.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, the registrant has been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933, as amended, and is therefore unenforceable.

**Item 7. Exemption from Registration Claimed.**

Not applicable.

## Item 8. Exhibits.

A list of exhibits included as part of this registration statement is set forth in the Exhibit Index to this registration statement.

## Item 9. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment hereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

*provided, however,* that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-8 and if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference into this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in such Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the registrant 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 Francisco, on this 23 day of June, 2015.

**APTOSE BIOSCIENCES INC.**

By: /s/ Gregory K. Chow  
Gregory K. Chow  
Senior Vice President and Chief Financial 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 Gregory K. Chow, 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 June 23, 2015.

<u>Signature</u>	<u>Title</u>
<u>/s/ Dr. William G. Rice</u> Dr. William G. Rice	President, Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)
<u>/s/ Gregory K. Chow</u> Gregory K. Chow	Senior Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
<u>/s/ Avanish Vellanki</u> Avanish Vellanki	Senior Vice President and Chief Business Officer
<u>/s/ Dr. Dennis Burger</u> Dr. Dennis Burger	Director
<u>/s/ Dr. Brad Thompson</u> Dr. Brad Thompson	Director
<u>/s/ Dr. Erich M. Platzer</u> Dr. Erich M. Platzer	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 June 23, 2015.

**Aptose Biosciences U.S. Inc.**

By: /s/ Gregory K. Chow  
Gregory K. Chow  
Senior Vice President and Chief Financial Officer



## EXHIBIT INDEX

<b><u>Exhibit</u></b>	<b><u>Description of Exhibit</u></b>
4.1	Aptose Biosciences Inc. Share Option Plan. (incorporated by reference to Exhibit 99.2 to the Registrant's Report of Foreign Issuer on Form 6-K furnished with the Securities and Exchange Commission on June 12, 2015)
4.2	Aptose Biosciences Inc. 2015 Stock Incentive Plan (incorporated by reference to Exhibit 99.1 to the Registrant's Report of Foreign Issuer on Form 6-K furnished with the Securities and Exchange Commission on June 12, 2015)
5.1	Opinion of McCarthy Tétrault LLP.
23.1	Consent of KPMG LLP.
23.2	Consent of McCarthy Tétrault LLP (included in Exhibit 5.1).
24.1	Powers of Attorney (included on the signature pages to this registration statement).

McCarthy Tétrault LLP  
Le Complexe St-Amable  
1150, rue de Claire-Fontaine, 7e étage  
Québec QC G1R 5G4  
Canada  
Tel: 418-521-3000  
Fax:: 418-521-3099



June 23, 2015

**Aptose Biosciences Inc.**  
5955 Airport Road, Suite 228  
Mississauga, Ontario L4V 1R9

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 2,080,050 common shares of the Company (the “**Shares**”) issuable upon the due exercise of options granted pursuant to the share option plan of the Company, as amended (the “**Option Plan**”) and the vesting of restricted stock units granted pursuant to the 2015 stock incentive plan of the Company (the “**RSU Plan**” and, together with the Option Plan, the “**Plans**”).

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 Plans 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 Plans, 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 laws of the Province of Ontario and the federal laws of Canada applicable therein (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 Option 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 units in accordance with the terms of the RSU 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 LLP

---



**KPMG LLP**  
Bay Adelaide Centre  
333 Bay Street Suite 4600  
Toronto ON M5H 2S5  
Canada

Telephone (416) 777-8500  
Fax (416) 777-8818  
Internet www.kpmg.ca

**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
Aptose Biosciences Inc.

We consent to the use of:

- our audit report dated March 3, 2015, on the financial statements of Aptose Biosciences Inc., which comprise the consolidated statements of financial position as at December 31, 2014 and May 31, 2014, the consolidated statements of loss and comprehensive loss, changes in shareholders' equity and cash flows for the seven-month period ended December 31, 2014 and for each of the years in the two-year period ended May 31, 2014, and notes, comprising a summary of significant accounting policies and other explanatory information, and
- our audit report dated July 29, 2014, on the financial statements of Aptose Biosciences Inc., which comprise the consolidated financial position as at May 31, 2014 and 2013, the consolidated statements of loss and comprehensive loss, changes in shareholders' equity and cash flows for each of the years in the three-year period ended May 31, 2014, and notes, comprising a summary of significant accounting policies and other explanatory information,

each of which is incorporated by reference in this Registration Statement on Form S-8 related to the Aptose Biosciences Inc. Share Option Plan and the Aptose Biosciences Inc. 2015 Stock Incentive Plan.

Chartered Professional Accountants, Licensed Public Accountants

June 23, 2015  
Toronto, Canada

KPMG LLP is a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. KPMG Canada provides services to KPMG LLP.