

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

Amendment No.1
To
FORM F-3
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.)

**2 Meridian Road
Toronto, Ontario
M9W 4Z7
(416) 798-1200**

(Address and Telephone Number of Principal Executive Offices)

**Aptose Biosciences U.S. Inc.
12770 High Bluff Drive, Suite 120
San Diego, California
92130**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Daniel M. Miller
Dorsey & Whitney LLP
Suite 1605, 777 Dunsmuir Street
Pacific Centre
Vancouver, British Columbia
Canada V7Y 1K4**

**Gregory K. Chow
Chief Financial Officer
Aptose Biosciences Inc.
2 Meridian Road
Toronto, Ontario
Canada M9W 4Z7**

Approximate date of commencement of proposed sale to the public: **From time to time after the effective date of this registration statement**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, please check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.C. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.C. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to Section 8(a), may determine.

PART I
INFORMATION REQUIRED IN THE PROSPECTUS



APTOSE BIOSCIENCES INC.

\$100,000,000
Common Shares
Warrants
Units

Aptose Biosciences Inc. may offer and sell from time to time up to an aggregate of \$100,000,000 of common shares (issued separately or upon exercise of warrants), warrants and units comprising any combination of common shares and warrants. The specific terms of any securities offered will be described in supplements to this prospectus. You should read this prospectus and any applicable prospectus supplement carefully before you purchase our securities. This prospectus may not be used to offer securities unless accompanied by a prospectus supplement.

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. The prospectus supplement for each offering of securities will describe in detail the plan of distribution. If underwriters, dealers and agents are used to sell these securities, we will name them and describe their compensation in a prospectus supplement.

Our outstanding common shares are listed and posted for trading on the Toronto Stock Exchange, which we refer to as the "TSX", under the symbol "APS" and the NASDAQ Capital Market, which we refer to as "NASDAQ", under the symbol "APTO". On December 23, 2014, the last reported sale price of our common shares on the TSX was Cdn\$6.60 per common share and on NASDAQ was \$5.69 per common share. **There is currently no market through which the securities, other than the common shares, may be sold and purchasers may not be able to resell the securities purchased under this prospectus. This may affect the pricing of the securities in the secondary market, the transparency and availability of trading prices, the liquidity of the securities and the extent of issuer regulation. See "Risk Factors".**

The aggregate market value of our outstanding voting and non-voting common equity held by non-affiliates on December 23, 2014, as calculated in accordance with General Instruction I.B.5. of Form F-3, was approximately Cdn\$57,962,000. We have not issued any securities pursuant to Instruction I.B.5 of Form F-3 during the 12 calendar month period that ends on and includes the date hereof.

Our principal executive offices are located at 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7 (telephone: (416) 798-1200).

Investing in our securities involves risks. Prior to purchasing our securities, you should carefully consider the risk factors that will be described in any applicable prospectus supplement and the risk factors described in our filings with the Securities and Exchange Commission, as explained under the heading "Risk Factors" on page 3 of this prospectus.

Neither the SEC, nor any securities commission of any state of the United States or any Canadian securities regulator has approved or disapproved the securities offered hereby or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offence.

The date of this prospectus is December 24, 2014.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we have filed with the SEC utilizing a “shelf” registration process. Under this shelf registration process, we may sell the securities described in this prospectus in one or more offerings up to a total dollar amount of initial aggregate offering price of \$100,000,000. This prospectus provides you with a general description of the securities that we may offer. Each time we sell securities under this process, we will provide a prospectus supplement that will contain specific information about the terms of that offering, including a description of any risks relating to the offering if those terms and risks are not described in this prospectus. A prospectus supplement may also add, update, or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the information in the prospectus supplement.

Before investing in our securities, please carefully read both this prospectus and any prospectus supplement together with the documents incorporated by reference into this prospectus, as listed under “Documents Incorporated by Reference,” and the additional information described below under “Where You Can Find More Information.”

We may sell securities to or through underwriters or dealers, and we may also sell securities directly to other purchasers or through agents. To the extent not described in this prospectus, the names of any underwriters, dealers, or agents employed by us in the sale of the securities covered by this prospectus, the principal amounts or number of shares or other securities, if any, to be purchased by such underwriters or dealers, and the compensation, if any, of such underwriters, dealers, or agents will be described in a prospectus supplement.

Owning securities may subject you to tax consequences both in the United States and in Canada. This prospectus or any applicable prospectus supplement may not describe these tax consequences fully. You should read the tax discussion in any prospectus supplement with respect to a particular offering and consult your own tax advisor with respect to your own particular circumstances.

You should rely only on the information contained in or incorporated by reference into this prospectus or a prospectus supplement. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The distribution or possession of this prospectus in or from certain jurisdictions may be restricted by law. This prospectus is not an offer to sell the securities and is not soliciting an offer to buy the securities in any jurisdiction where the offer or sale is not permitted or where the person making the offer or sale is not qualified to do so or to any person to whom it is not permitted to make such offer or sale. You should assume that the information contained in this prospectus and in any applicable prospectus supplement is accurate only as of the date on the front cover of this prospectus or prospectus supplement, as applicable, and the information incorporated by reference into this prospectus or any prospectus supplement is accurate only as of the date of the document incorporated by reference. Our business, financial condition, results of operations and prospects may have changed since that date.

In this prospectus, unless the context otherwise requires, references to “Aptose,” the “Company,” “we,” “us,” or “our” refer to Aptose Biosciences Inc. and its wholly owned subsidiaries through which it conducts its business.

Financial Statements and Exchange Rate Information

The consolidated financial statements incorporated by reference into this prospectus and the documents incorporated by reference into this prospectus, and the financial data derived from those consolidated financial statements included in this prospectus, are presented in Canadian dollars, unless otherwise specified, and have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board. References in this prospectus to “dollars”, “US\$” or “\$” are to United States dollars. Canadian dollars are indicated by the symbol “Cdn\$”.

The following table lists, for each period presented, the high and low exchange rates, the average of the exchange rates during the period indicated, and the exchange rates at the end of the period indicated, for one Canadian dollar, expressed in United States dollars, based on the noon exchange rate published by the Bank of Canada.

	Four Months ended September 30,		Year ended May 31,					
	2014		2014	2013		2012		
High for the period	\$	0.9404	\$	0.9833	\$	1.0299	\$	1.0583
Low for the period	\$	0.8922	\$	0.8888	\$	0.9599	\$	0.9430
End of period	\$	0.8922	\$	0.9202	\$	0.9672	\$	0.9663
Average for the period	\$	0.9195	\$	0.9379	\$	0.9956	\$	1.0007

On December 23, 2014, the Bank of Canada's noon exchange rate was Cdn\$1.00 = \$0.8601.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form F-3, of which this prospectus forms a part. This prospectus does not contain all the information set out in the registration statement. For further information about us and the securities, please refer to the registration statement, including the exhibits to the registration statement. The exhibits to the registration statement provide more details of the matters discussed in this prospectus.

We are subject to the information requirements of the United States Securities Exchange Act of 1934, and we therefore file reports and other information with the SEC. The reports and other information filed by us with the SEC may be read and copied at the SEC's public reference room at 100 F Street, N.E., Washington, D.C. 20549. Copies of the same documents can also be obtained from the public reference room of the SEC in Washington by paying a fee. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC also maintains a website (www.sec.gov) that makes available reports and other information that we file electronically with it, including the registration statement that we have filed with respect to the offering of these securities. We are also subject to filing requirements prescribed by the securities legislation of all Canadian provinces. These filings are electronically available from SEDAR at www.sedar.com.

As a "foreign private issuer" under the Exchange Act, we are exempt from the rules under the Exchange Act prescribing the furnishing and content of proxy statements, and our officers, directors and principal shareholders are exempt from the reporting and "short-swing profit" recovery provisions contained in Section 16 of the Exchange Act. In addition, we are not required to publish financial statements as promptly as United States companies.

ENFORCEMENT OF CIVIL LIABILITIES

The enforcement by investors of civil liabilities under U.S. federal securities laws may be affected adversely by the fact that we are incorporated under the laws of Canada, that many of our directors are residents of countries other than the United States, that some of the experts named in this prospectus are residents of countries other than the United States, and that some of our assets and the assets of said persons are located outside the United States.

In particular, it may be difficult to bring and enforce suits against us or said persons under U.S. federal securities laws. It may be difficult for U.S. holders of our common shares to effect service of process on us or said persons within the United States or to enforce judgments obtained in the United States based on the civil liability provisions of the U.S. federal securities laws against us or said persons. In addition, a shareholder should not assume that the courts of Canada (i) would enforce judgments of U.S. courts obtained in actions against us, our officers or directors, or other said persons, predicated upon the civil liability provisions of the U.S. federal securities laws or other laws of the United States, or (ii) would enforce, in original actions, liabilities against us, our officers or directors or other said persons predicated upon the U.S. federal securities laws or other laws of the United States.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents filed with or furnished to the SEC are specifically incorporated by reference into, and form a part of, this prospectus:

- our Annual Report on Form 20-F for the fiscal year ended May 31, 2014, filed on July 30, 2014;

- the description of our common shares set forth in our registration statement on Form 8-A, filed on October 21, 2014 (which incorporates by references the description of our common shares included in our Annual Report on Form 20-F for the fiscal year ended May 31, 2014, filed on July 30, 2014);
- Exhibits 99.1 and 99.2 to our Report of Foreign Issuer on Form 6-K containing interim financial statements and interim management's discussion and analysis for the four months ended September 30, 2014, furnished to the SEC on November 5, 2014;
- our Report of Foreign Issuer on Form 6-K furnished to the SEC on October 22, 2014;
- our Report of Foreign Issuer on Form 6-K furnished to the SEC on October 9, 2014;
- Exhibit 99.1 to our Report of Foreign Issuer on Form 6-K furnished to the SEC on October 7, 2014;
- our Report of Foreign Issuer on Form 6-K containing the certificate of amendment, furnished to the SEC on September 2, 2014;
- our Report of Foreign Issuer on Form 6-K containing the report of voting results with respect to the results of the annual and special meeting of shareholders held on August 19, 2014, furnished to the SEC on August 19, 2014;
- Exhibits 99.1, 99.2 and 99.3 to our Report of Foreign Issuer on Form 6-K containing our annual information form, audited consolidated financial statements and management's discussion and analysis for the fiscal year ended May 31, 2014, furnished to the SEC on July 17, 2014;
- Exhibit 99.1 to our Report of Foreign Issuer on Form 6-K containing our management information circular with respect to the annual and special meeting of shareholders held on August 19, 2014, furnished to the SEC on July 17, 2014;
- Exhibit 99.1 to our Report of Foreign Issuer on Form 6-K furnished to the SEC on March 4, 2014;
- all other documents filed by us under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of this prospectus but before the end of the offering of the securities pursuant to this prospectus.

In addition, all subsequent Annual Reports on Form 20-F, Form 40-F or Form 10-K, and all subsequent filings on Form 10-Q or Form 8-K, that we file pursuant to the Exchange Act prior to the termination of this offering, are hereby incorporated by reference into this prospectus. Also, we may incorporate by reference future reports on Form 6-K that we furnish subsequent to the date of this prospectus by stating in those Form 6-Ks that they are being incorporated by reference into this prospectus.

Any statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, in one of those other documents or in any other later filed document that is also incorporated by reference into this prospectus modifies or supersedes that statement. Any such statement so modified shall not be deemed, except as so modified, to constitute a part of this prospectus. Any such statement so superseded shall be deemed not to constitute a part of this prospectus.

Any person receiving a copy of this prospectus, including any beneficial owner, may obtain without charge, upon written or oral request, a copy of any of the documents incorporated by reference into this prospectus, except for the exhibits to those documents unless the exhibits are specifically incorporated by reference into those documents. Requests should be directed to our principal executive offices, 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7, Attention: Senior Vice President and Chief Financial Officer (telephone: (416) 798-1200).

RISK FACTORS

An investment in our securities is highly speculative and subject to a number of known and unknown risks. Only those persons who can bear the risk of the entire loss of their investment should purchase our securities. You should carefully consider the risk factors in our Annual Report on Form 20-F and our Annual Information Form for the fiscal year ended May 31, 2014 incorporated by reference herein and the other information contained in this prospectus, as updated by our subsequent filings under the Exchange Act and Canadian securities laws and the risk factors and other information contained in any applicable prospectus supplement, before purchasing any of our securities. Any of the matters highlighted in these risk factors could have a material adverse effect on our business, results of operations and financial condition, causing an investor to lose all, or part of, its, his or her investment.

The risks and uncertainties described in this prospectus and the documents incorporated by reference into this prospectus are not the only ones we face. Additional risks and uncertainties that we are not aware of or focused on, or that we currently deem to be immaterial, may also impair our business operations and cause the trading price of our securities to decline.

In addition, we have not generated any significant revenue from product sales to date and it is possible that we will never have sufficient product sales revenue to achieve profitability and positive cash flow. We expect to continue to incur losses for at least the next several years as we or our collaborators and licensees pursue clinical trials and research and development efforts. To become profitable, we, either alone or with our collaborators and licensees, must successfully develop, manufacture and market our current product candidate APTO-253 as well as continue to identify, develop, manufacture and market new product candidates. It is possible that we will never have significant product sales revenue or receive royalties on our licensed product candidates. If funding is insufficient at any time in the future, we may not be able to develop or commercialize our products, take advantage of business opportunities or respond to competitive pressures.

We may be exposed to fluctuations of the Canadian dollar against certain other currencies because we publish our financial statements and hold our investments in Canadian dollars, while we incur many of our expenses in foreign currencies, primarily the United States dollar. Fluctuations in the value of currencies could cause us to incur currency exchange losses. We do not currently employ a hedging strategy against exchange rate risk. We cannot assert with any assurance that we will not suffer losses as a result of unfavorable fluctuations in the exchange rates between the Canadian dollar, the United States dollar and other currencies.

FORWARD-LOOKING STATEMENTS

This prospectus, including the documents incorporated by reference herein, contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and “forward-looking information” within the meaning of applicable Canadian securities law. These statements relate to future events or future performance and reflect our expectations and assumptions regarding our growth, results of operations, performance and business prospects and opportunities. Such forward-looking statements reflect our current beliefs and are based on information currently available to us. In some cases, forward-looking statements can be identified by terminology such as “may”, “would”, “could”, “will”, “should”, “expect”, “plan”, “intend”, “anticipate”, “believe”, “estimate”, “predict”, “potential”, “continue” or the negative of these terms or other similar expressions concerning matters that are not historical facts. The forward-looking statements in this prospectus and, including any documents incorporated by reference herein, include, among others, statements regarding our future operating results, economic performance and product development efforts, and statements in respect of:

- our ability to obtain the substantial capital we require to fund research and operations;
- our lack of product revenues and history of operating losses;
- our early stage of development, particularly the inherent risks and uncertainties associated with (i) developing new drug candidates generally, (ii) demonstrating the safety and efficacy of these drug candidates in clinical studies in humans, and (iii) obtaining regulatory approval to commercialize these drug candidates;
- our drug candidates require time-consuming and costly preclinical and clinical testing and regulatory approvals before commercialization;
- clinical studies and regulatory approvals of our drug candidates are subject to delays, and may not be completed or granted on expected timetables, if at all, and such delays may increase our costs and could delay our ability to generate revenue;
- the regulatory approval process;
- our ability to recruit patients for clinical trials;
- the progress of our clinical trials;
- our liability associated with the indemnification of our predecessor and its directors, officers and employees in respect of an arrangement completed in 2007;
- our ability to find and enter into agreements with potential partners;
- our ability to attract and retain key personnel;
- our ability to obtain patent protection;
- our ability to protect our intellectual property rights and not infringe on the intellectual property rights of others;
- our ability to comply with applicable governmental regulations and standards;

- development or commercialization of similar products by our competitors, many of which are more established and have or have access to greater financial resources than us;
- commercialization limitations imposed by intellectual property rights owned or controlled by third parties;
- potential product liability and other claims;
- our ability to maintain adequate insurance at acceptable costs;
- further equity financing, which may substantially dilute the interests of our shareholders; and
- changing market conditions.

Although the forward-looking statements contained in this prospectus and in the documents incorporated by reference are based on what we consider to be reasonable assumptions based on information currently available to us, there can be no assurance that actual events, performance or results will be consistent with these forward-looking statements, and our assumptions may prove to be incorrect. Forward-looking statements contained in this prospectus are made as of the date of this prospectus. Forward-looking statements made in a document incorporated by reference into this prospectus are made as of the date of the original document and have not been updated by us except as expressly provided for in this prospectus.

Except as required under applicable securities legislation, we undertake no obligation to publicly update or revise forward-looking statements, whether as a result of new information, future events or otherwise. **We qualify all the forward-looking statements contained in this prospectus and the documents incorporated by reference in this prospectus by the foregoing cautionary statements.**

THE COMPANY

This summary does not contain all of the information about our company that may be important to you and your investment decision. You should carefully read the entire prospectus and the applicable prospectus supplement, including the section entitled “Risk Factors” as well as the risk factors described in the documents incorporated by reference into this prospectus and the applicable prospectus supplement, before making an investment decision.

We are a clinical-stage biotechnology company committed to discovering and developing personalized therapies addressing unmet medical needs in oncology. We are advancing new therapeutics focused on novel cellular targets on the leading edge of cancer research coupled with companion diagnostics to identify the optimal patient population for our products. Our small molecule cancer therapeutics pipeline includes products designed to provide additive or synergistic efficacy with existing anti-cancer therapies and regimens without overlapping toxicities.

We were incorporated under the Business Corporations Act (Ontario) on September 5, 1986 under the name RML Medical Laboratories Inc. On October 28, 1991, we amalgamated with Mint Gold Resources Ltd., which caused us to become a reporting issuer in Ontario. On August 25, 1992, we changed our name to IMUTEC Corporation. On November 27, 1996, we changed our name to Imutec Pharma Inc., and on November 19, 1998, we changed our name to Lorus Therapeutics Inc. On October 1, 2005, we continued under the Canada Business Corporations Act and on July 10, 2007 we completed a plan of arrangement and corporate reorganization with, among others, 6650309 Canada Inc., 6707157 Canada Inc. and Pinnacle International Lands, Inc. On May 25, 2010, we consolidated our outstanding common shares on the basis of one post-consolidation common share for each 30 pre-consolidation common shares.

On August 28, 2014 we changed our name from Lorus Therapeutics Inc. to Aptose Biosciences Inc. and on October 1, 2014 we consolidated our outstanding common shares on the basis of one post-consolidation common share for each twelve pre-consolidation common shares.

We have two subsidiaries: NuChem Pharmaceuticals Inc. (“NuChem”), a company incorporated under the laws of Ontario, Canada, and Aptose Biosciences U.S. Inc. (“Aptose USA”), a company incorporated under the laws of Delaware, USA. The Company owns 80% of the issued and outstanding voting share capital of NuChem and 100% of the issued and outstanding voting share capital of Aptose USA.

Programs Updates

All activities for APTO-253 related to the prior Phase I solid tumor trial were completed in 2013, and no further studies in patients with solid tumors are contemplated at this time. Immediate plans for the clinical development of APTO-253 will focus exclusively on the treatment of patients having hematologic malignancies or myeloproliferative disorders. However, in the future we may evaluate APTO-253 against specific subpopulations of solid tumor patients in which the silencing of Krüppel-like factor 4 ("KLF4") is shown to be operative as a driver of the malignancy.

Our ongoing research and development programs include a blend of in vitro and in vivo studies for which Cdn\$2.0 million are expected to be funded from the proceeds we received as part of a prospectus offering completed on December 10, 2013 and January 8, 2014 (the "2013 Prospectus Offering") and a prospectus offering completed on April 10, 2014 and April 22, 2014 (the "2014 Prospectus Offering"). As at September 30, 2014, we had spent Cdn\$0.935 million in connection with our research and development programs. The in vitro studies planned for APTO-253 include testing of the molecule for (i) antiproliferative activity (IC50 values) against acute myeloid leukemia ("AML") cell lines and primary patient isolates, as well as other blood cancer cells lines; (ii) induction of KLF4 gene and cyclin-dependent kinase inhibitor 1 (p21) expression levels in AML cells and patient isolates; (iii) cell cycle arrest studies in these cells; and (iv) detailed mechanism of action and pathway analyses in these cells. A portion of such in vitro studies will be conducted internally by our research staff, but many of the specialized studies are being and will be conducted through sponsored research collaborations with experts in the field. For example, we announced on September 29, 2014, that we joined the Beat AML collaboration with The Leukemia & Lymphoma Society and the Knight Cancer Institute at Oregon Health & Science University. This collaboration plans to perform studies with APTO-253 on primary cells isolated from hematologic malignancy patients. We provide partial support for these studies to evaluate the genetic characteristics of patients that would be most sensitive or most resistant to our drug alone or in combination with other drugs. In vivo studies will include evaluation of efficacy, pharmacokinetics, biomarker analysis and dose scheduling evaluation in murine xenograft models of AML and other blood cancers. Following these studies with APTO-253 as a monotherapy, we intend to perform in vitro and in vivo drug combination studies through 2015 in preparation for Phase 2 clinical trials of APTO-253. In addition, we wish to conduct non-clinical studies in plasma protein binding (multiple species), protein/receptor binding and biodistribution studies with APTO-253 during 2015 in parallel to clinical studies. These non-clinical studies are intended to better characterize the APTO-253 molecule. A portion of these non-clinical studies is expected to be subcontracted to external vendors while the remaining portion will be conducted internally by us. These non-clinical studies are a component of our ongoing research and development programs and the costs associated therewith are included in the Cdn\$2.0 million expected to be funded from the proceeds received from the 2013 Prospectus Offering and the 2014 Prospectus Offering.

The Phase 1b trial with APTO-253 will evaluate safety, tolerability, pharmacokinetics, pharmacodynamic responses and efficacy of APTO-253 as a single agent. The trial is expected to enroll 45-60 patients as part of a dose-escalation program and two separate disease-specific single-agent expansion cohorts. The proposed Phase 1b trial was originally conceived to have one single dose escalation arm that included AML and myelodysplastic syndromes ("MDS") patients. In 2014, additional scientific publications revealed the role of KLF4 silencing in subsets of additional hematologic malignancies, including Hodgkin's and non-Hodgkin's lymphomas and multiple myeloma. Based on those reports, we decided to review the Phase 1b trial and include two separate dose escalation arms, one arm having AML and MDS patients and the other arm having lymphoma and myeloma patients. This modification will result in the recruitment of essentially twice the number of patients for the trial. Likewise, after completion of the dose escalation portion of the trial and determination of the recommended Phase 2 dose (RP2D), we plan to perform two separate single-agent expansion studies in patients having AML or MDS and having defined genetic characteristics. Given that APTO-253 may also have application to subsets of lymphomas and myelomas, we may choose to perform additional single-agent expansions in those indications. Further, we planned for two separate drug combination trials in patients with AML or MDS, but we may have sufficient data from the Phase 1b trial to support additional drug combination trials in patients with lymphomas and myelomas.

The Phase 1b trial with APTO-253 is expected to be funded from the proceeds received as part of the 2013 Prospectus Offering and from a portion of the proceeds of Cdn\$9.2 million received further to the exercise of outstanding warrants related to the June 2012 private placement. We currently anticipate that the direct costs associated with the Phase 1b trial will range between Cdn\$3.05 million and Cdn\$3.35 million as opposed to Cdn\$2.0 million disclosed under the final short form prospectus dated April 4, 2014. The variance is due to the addition of a separate dose escalation arm in the Phase 1b clinical trial having lymphoma and myeloma patients. As at September 30, 2014, we had spent Cdn\$409 thousand in connection with the Phase 1b trial. The Phase 1b trial was initiated in the fourth quarter of 2014 and we anticipate providing a potential update on the dose-escalation study during the first half of 2015, completing enrollment of the Phase 1b dose-escalation study by late-2015, starting the expansion studies derived from the Phase 1b study in 2016, and starting Phase 2 combination studies in 2016.

The costs associated with our APTO-253 manufacturing program are estimated to be approximately Cdn\$2.25 million and are expected to be funded from the proceeds received from the 2013 Prospectus Offering and the 2014 Prospectus Offering. As at September 30, 2014, we had spent Cdn\$576 thousand in connection with our APTO-253 manufacturing program.

Based on our current understanding of the Phase 1b trial and depending on the results of the Phase 1b trial, we currently expect to initiate four focused clinical studies in specific cancers: (i) two single-agent expansion trials (evaluating APTO-253 alone), one in AML and one in MDS; and (ii) two Phase 2 drug-combination trials (evaluating APTO-253 in combination with another drug), one in AML and one in MDS. We expect, based on our current understanding of the Phase 1b trial and depending on the results of the Phase 1b trial, to initiate the two single-agent expansion trials and two Phase 2 drug-combination trials in 2016. We also anticipate the total direct costs for the four focused trials would consume approximately Cdn\$7.8 million. As at September 30, 2014, we had not spent any amount in connection with the four focused trials. For such trials, our internal clinical development team is expected to provide oversight of the activities, but we plan to contract certain activities to external subcontractors. The estimates of costs and timing are based on the experience of our management in performing clinical trials in patients with solid tumors or with blood cancers, as well as on the experience of our management with certain of the subcontractors that we intend to use as part of the planned trials. Currently, the focused trials are expected to consist of two 2 single-agent expansion trials (one in AML and one in MDS) consisting of 15 patients each, and two focused Phase 2 drug-combination trials (one in AML and one in MDS) consisting of 20 patients each. We will make the appropriate decisions at the appropriate time and after collection of the appropriate data to guide our thoughts regarding patient populations, dose, schedule, timing, costs, risks, rewards, available capital, available partnerships and other relevant parameters.

For all of the aforementioned reasons, we believe that the foregoing represents our best estimates of the timing and costs of potential upcoming trials, but we are not currently in a position to provide additional details on the proposed trials. The amounts actually expended for the purposes described above may vary significantly depending upon a number of factors, including those listed under the heading "Risk Factors" in this prospectus.

Recent Developments

On December 15, 2014, we announced the appointment of Dr. Erich M. Platzer to, and the resignation of Dr. Brian Underdown from, our board of directors.

At the American Society of Hematology Annual Meeting held in December 2014, we presented the poster entitled: APTO-253 Induces KLF4 to Promote Potent in Vitro Pro-Apoptotic Activity in Hematologic Cancer Cell Lines and Antitumor Efficacy as a Single Agent and in Combination with Azacitidine in Animal Models of Acute Myelogenous Leukemia. In the poster, our researchers reported the first set of in vivo murine xenograft study data for APTO-253 in hematologic malignancies, demonstrating antitumor activity as a single agent, and in combination with the hypomethylating agent, azacitidine. Notably, combination therapy led to enhanced antitumor activity versus either agent alone. Furthermore, single agent and combination studies exhibited a favorable safety profile with no evidence of bone marrow suppression. The AML xenograft studies assessed various dose regimens of APTO-253, including twice-weekly intravenous administration. As a single agent, APTO-253 led to tumor growth inhibition or tumor regression in mice bearing tumors of Kasumi-1, KG-1, THP-1 or HL-60 AML cells. Furthermore, both once-weekly and twice-weekly dosing of APTO-253 in combination with azacitidine resulted in enhanced antitumor activity relative to either single agent alone in THP-1 and HL-60 AML models. APTO-253 was effective and well tolerated as a single agent or in combination with azacitidine in multiple AML xenograft models, had no overt toxicity based on clinical observations and body weight measurements, and did not cause bone marrow suppression.

CAPITALIZATION AND INDEBTEDNESS

Our capitalization will be set forth in a prospectus supplement to this prospectus or in a report on Form 6-K subsequently furnished to the SEC and specifically incorporated herein by reference.

Other than as set out herein under "Description of Share Capital - Prior Sales," there have been no material changes in our share capitalization since September 30, 2014.

OFFER AND LISTING

Our common shares are currently listed on the TSX under the symbol “APS”. The following table sets out the price ranges and trading volumes of our common shares on the TSX for the periods indicated below.

	TSX (CDN\$)		
	High	Low	Volume ⁽¹⁾
Five most recent full fiscal years:			
Year ended May 31, 2014	12.48	2.04	6,125,432
Year ended May 31, 2013	7.68	2.28	614,114
Year ended May 31, 2012	8.64	1.92	350,900
Year ended May 31, 2011	30.60	8.16	217,475
Year ended May 31, 2010	46.80	21.60	200,392
Year ended May 31, 2014			
Quarter ended May 31, 2014	12.48	2.04	6,125,432
Quarter ended February 28, 2014	9.24	5.16	2,340,239
Quarter ended November 30, 2013	10.56	5.88	2,396,512
Quarter ended August 31, 2013	12.48	2.16	1,324,831
Quarter ended May 31, 2013	2.88	2.04	63,850
Year ended May 31, 2013			
Quarter ended May 31, 2013	7.68	2.28	614,114
Quarter ended February 29, 2013	3.60	2.28	95,679
Quarter ended November 30, 2012	5.40	2.64	253,004
Quarter ended August 31, 2012	5.76	2.40	84,682
Quarter ended May 31, 2012	7.68	3.84	180,749
Most recent twelve months:			
December 2014 through December 23, 2014	8.30	6.34	252,118
November 2014	8.50	6.81	363,147
October 2014	9.14	5.20	1,046,471
September 2014	6.84	5.28	1,045,137
August 2014	6.36	4.80	552,367
July 2014	6.36	5.04	421,114
June 2014	6.36	5.16	1,123,143
May 2014	6.84	5.16	716,906
April 2014	7.08	5.76	963,448
March 2014	9.24	5.76	659,885
February 2014	10.56	6.96	883,909
January 2014	8.40	5.88	1,004,185
December 2013	7.80	6.24	508,418

(1) Figures have been rounded to the nearest whole number, as applicable.

On October 1, 2014 the Company announced that it had filed articles of amendment to give effect to a reverse stock split (consolidation) of its common shares on the basis of one post-consolidation common share for each twelve pre-consolidation common shares. The post-consolidation shares began trading on the Toronto Stock Exchange on October 6, 2014. Historical trading prices and volumes have been amended to reflect the 1 for 12 consolidation.

Our common shares began trading on NASDAQ on October 23, 2014 under the symbol “APTO”. The following table sets out the price ranges and trading volumes of our common shares on NASDAQ for the periods indicated below.

Most recent two months:	NASDAQ (\$)		Volume ⁽¹⁾
	High	Low	
December 2014 through December 23, 2014	7.45	5.60	205,002
November 2014	7.58	5.87	172,138
October 23, 2014 through October 31, 2014	8.80	5.52	123,265

(1) Figures have been rounded to the nearest whole number, as applicable.

On December 23, 2014, the last reported sale price of our common shares on the TSX was Cdn\$6.60 per common share and on NASDAQ was \$5.69 per common share.

USE OF PROCEEDS

The aggregate proceeds of distributions of securities under this prospectus shall not exceed \$100,000,000. Unless otherwise indicated in a prospectus supplement, the net proceeds that we receive from the sale of the securities offered by this prospectus will be used by us for working capital and general corporate purposes. We have not allocated any portion of the net proceeds for any particular use as of the date of this prospectus. The net proceeds may be invested temporarily until they are used for their stated purpose. Specific information concerning the use of proceeds from the sale of any securities will be included in the prospectus supplement relating to such securities.

We expect that our currently available cash will be sufficient to pay planned expenditures, including current clinical and operational plans, over the next 25 months.

Negative Cash Flow

For the four months ended September 30, 2014, cash used in operating activities by us was Cdn\$3,938,000 and we had a net loss of Cdn\$4,187,000 for such period. Our working capital as at September 30, 2014 was approximately Cdn\$31,800,000. We have not generated any significant revenue from product sales to date and it is possible that we will never have sufficient product sales revenue to achieve profitability and positive cash flow. We expect to continue to incur losses for at least the next several years as we or our collaborators and licensees pursue clinical trials and research and development efforts. To become profitable, we, either alone or with our collaborators and licensees, must successfully develop, manufacture and market our current product candidate APTO-253, as well as continue to identify, develop, manufacture and market new product candidates. It is possible that we will never have significant product sales revenue or receive royalties on our licensed product candidates. If funding is insufficient at any time in the future, we may not be able to develop or commercialize our products, take advantage of business opportunities or respond to competitive pressures. It is expected that proceeds of distributions of securities under this prospectus will be used to fund anticipated negative cash flow from operating activities, as described above.

DESCRIPTION OF SHARE CAPITAL

Authorized Capital

On October 1 2014, the Company announced that it had filed articles of amendment to give effect to a reverse stock split (consolidation) of its common shares on the basis of one post-consolidation common share for each twelve pre-consolidation common shares.

Our authorized share capital consists of an unlimited number of common shares, without par value. As of December 24, 2014, there were 11,699,873 common shares issued and outstanding on a post-consolidated basis.

As of December 24, 2014, our current and former directors, executive officers, employees and certain consultants held options to acquire an aggregate of 1,374,013 common shares under the terms of our employee stock option plan on a post-consolidated basis.

As of December 24, 2014, an aggregate of 208,969 common shares were issuable upon the exercise of outstanding common share purchase warrants with exercise prices between Cdn\$3.00 and Cdn\$6.60 per common share on a post-consolidated basis.

Common Shares

The holders of our common shares are entitled to receive notice of and to attend and vote at all annual and special meetings of our shareholders. Our common shares carry one vote per common share and do not have cumulative voting rights. The holders of our common shares are entitled, at the discretion of our board of directors, to receive out of any or all profits or surplus of the Company properly available for the payment of dividends, any dividend declared by the board of directors and payable by us on our common shares. The holders of our common shares will participate ratably in any distribution of the remaining property of the Company upon our liquidation, dissolution or winding-up or any other return of capital or distribution of our assets among our shareholders for the purpose of winding up our affairs. The common shares are not subject to any future call or assessment and there are no pre-emptive, conversion or redemption rights attached to such shares.

Prior Sales

During the 36-month period prior to the date of this prospectus, we issued 10,392,780 common shares (124,713,371 pre-consolidation). An aggregate of 41,208 common shares (494,496 pre-consolidation) were issued upon the exercise of outstanding stock options for prices ranging from Cdn\$2.16 to Cdn\$5.70. On February 20, 2014, we issued 4,583 common shares (55,000 pre-consolidation) upon the exercise of stock options at exercise prices ranging from Cdn\$2.16 to Cdn\$5.70 (Cdn\$0.18-Cdn\$0.465 pre-consolidation), on February 27, 2014, we issued 1,042 common shares (12,500 pre-consolidation) upon the exercise of stock options at an exercise price of Cdn\$5.70 per common share, on December 3, 2014 we issued 30,000 common shares upon the exercise of stock options at a price of Cdn\$5.70 per common share and on December 15, 2014 we issued 5,583 common shares upon the exercise of stock options at an exercise price of Cdn\$2.16 per common share. In addition, 65,000 common shares (780,000 pre-consolidation) were issued upon settlement of an outstanding deferred share unit liability.

In April 2014, we completed a public offering in Canada and a simultaneous private placement in the United States of common shares. We issued 4,708,333 common shares (56,500,000 pre-consolidation) at a purchase price of Cdn\$6.00 per common share (Cdn\$0.50 pre-consolidation) including 541,667 common shares (6,500,000 pre-consolidation) pursuant to the partial exercise of an over-allotment option, for aggregate gross proceeds of approximately Cdn\$28,250,000.

On December 10, 2013, we completed a public offering in Canada of common shares. We issued a total of 1,060,833 common shares (12,730,000 pre-consolidation) at a price of Cdn\$6.60 per common share (Cdn\$0.55 pre-consolidation), for aggregate gross proceeds of approximately Cdn\$7,001,500 from this offering. On January 8, 2014, the underwriters conducting the offering exercised in full their over-allotment option to purchase an additional 159,125 common shares (1,909,500 pre-consolidation) of the Company at a price of Cdn\$6.60 per common share (Cdn\$0.55 pre-consolidation) for additional gross proceeds of approximately Cdn\$1,050,225. The Company also issued 73,198 broker warrants (878,370 pre-consolidation) with an estimated fair value of Cdn\$349,592 using the Black Scholes model. Each broker warrant is exercisable into one common share of the Company at a price of Cdn\$6.60 (Cdn\$0.55 pre-consolidation) until December 10, 2015.

In September 2013, we completed a private placement of convertible promissory notes for aggregate gross proceeds of Cdn\$600,000. Each convertible promissory note consists of a Cdn\$1,000 principal amount of unsecured promissory note convertible into common shares of the Company at a price per share of Cdn\$3.60 (Cdn\$0.30 pre-consolidation). The promissory notes bear interest at a rate of 10% per annum, payable quarterly and are due September 26, 2015. In October 2014, Cdn\$162,500 of these promissory notes were converted into 45,139 common shares of the Company.

In June 2013, we completed a private placement of units at a price of Cdn\$1,000 per unit, for aggregate gross proceeds of Cdn\$918,000. Each unit consisted of (i) a Cdn\$1,000 principal amount of unsecured promissory note and (ii) 1,000 common share purchase warrants. The promissory notes bore interest at a rate of 10% per annum, payable monthly and were due June 19, 2014. Each warrant entitled the holder to purchase one common share of the Company at a price per common share equal to Cdn\$3.00 (Cdn\$0.25 pre-consolidation) at any time until June 19, 2015. The notes and any interest accrued thereon were repaid in full in April 2014. Of the 76,500 common share purchase warrants (918,000 pre-consolidation) issued as part of the transaction 29,167 (350,000 pre-consolidation) have been exercised up to September 30, 2014, leaving 47,333 (568,000 pre-consolidation) outstanding.

In June 2012, we completed a private placement of 1,718,750 units (20,625,000 pre-consolidation) at a subscription price of Cdn\$3.84 (Cdn\$0.32 pre-consolidation) per unit and each unit consisted of one common share and one common share purchase warrant for gross proceeds to the Company of approximately Cdn\$6,600,000. Each warrant was exercisable for a period of 24 months from the date of issuance at an exercise price of Cdn\$5.40 (Cdn\$0.45 pre-consolidation). The Company also issued 103,125 finder's warrants (1,237,500 pre-consolidation) at an exercise price of Cdn\$3.84 (Cdn\$0.32 pre-consolidation) each. Each finder's warrant was exercisable into units consisting of 103,125 common shares (1,237,500 pre-consolidation) and 103,125 warrants (1,237,500 pre-consolidation). All of the common share purchase warrants issued in the transaction had an expiry date of June 8, 2014. The 103,125 finders warrants (1,237,500 pre-consolidation) were exercised including the underlying common share purchase warrants and 1,528,468 of the common share purchase warrants (18,341,620 pre-consolidation) were exercised at a price of Cdn\$5.40 per common share (Cdn\$0.45 pre-consolidation). The remaining 190,282 common share purchase warrants (2,283,380 pre-consolidation) expired unexercised.

In May 2012, 4,949 warrants (59,384 pre-consolidation) were exercised for cash proceeds of Cdn\$16,628.

In August 2011, we closed a Canadian public offering for gross proceeds of Cdn\$2,193,600 whereby we issued 457,000 common shares (5,484,000 pre-consolidation) and 473,126 warrants (5,677,515 pre-consolidation) including broker warrants. Each warrant entitles the holder to purchase one common share for five years after the closing of the offering at an exercise price of Cdn\$5.40 (Cdn\$0.45 pre-consolidation). If on any date the 10-day volume weighted average trading price of the common shares on the TSX equals or exceeds 200% of the Cdn\$5.40 (Cdn\$0.45 pre-consolidation) exercise price, then upon sending the holders of warrants written notice of and issuing a news release announcing such accelerated exercise date, the warrants shall only be exercisable for a period of 30 days following the date of notice. To date 368,562 of the common share purchase warrants (4,422,750 pre-consolidation) have been exercised and the 16,126 broker warrants (193,515 pre-consolidation) expired unexercised.

Dividend Policy

We have not paid any dividends since our incorporation. We will consider paying dividends in future as our operational circumstances may permit having regard to, among other things, our earnings, cash flow and financial requirements. It is the current policy of the board of directors to retain all earnings to finance our business plan.

Transfer Agent and Registrar

The transfer agent and registrar for our common shares is Computershare Investor Services Inc. at its principal offices in Toronto, Ontario, Canada.

Our common shares are listed on the TSX under the symbol "APS" and on NASDAQ under the symbol "APTO".

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of common shares. Warrants may be offered separately or together with other securities offered by this prospectus, as the case may be. Unless the applicable prospectus supplement otherwise indicates, each series of warrants will be issued under a separate warrant indenture to be entered into between us and one or more banks or trust companies acting as warrant agent. The applicable prospectus supplement will include details of the warrant agreements covering the warrants being offered. The warrant agent will act solely as our agent and will not assume a relationship of agency with any holders of warrant certificates or beneficial owners of warrants.

The following sets forth certain general terms and provisions of the warrants offered under this prospectus. The specific terms of the warrants, and the extent to which the general terms described in this section apply to those warrants, will be set forth in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

The particular terms of each issue of warrants will be described in the related prospectus supplement. This description will include some or all of the following:

- the designation and aggregate number of warrants;
- the price at which the warrants will be offered;
- the currency or currencies in which the warrants will be offered;
- the designation and terms of our common shares purchasable upon exercise of the warrants;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- the number of common shares that may be purchased upon exercise of each warrant and the price at which and currency or currencies in which our common shares may be purchased upon exercise of each warrant;
- the designation and terms of any securities with which the warrants will be offered, if any, and the number of the warrants that will be offered with each security;
- the date or dates, if any, on or after which the warrants and the related securities will be transferable separately;
- if applicable, whether the warrants will be subject to redemption or call and, if so, the terms of such redemption or call provisions;
- material United States and Canadian tax consequences of owning the warrants; and
- any other material terms or conditions of the warrants.

Each warrant will entitle the holder to purchase common shares, as specified in the applicable prospectus supplement at the exercise price that we describe therein. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

The warrant indenture, if any, and the warrant certificate will specify that upon the subdivision, consolidation, reclassification or other material change of our common shares or any other reorganization, amalgamation, merger or sale of all or substantially all of our assets, the warrants will thereafter evidence the right of the holder to receive the securities, property or cash deliverable in exchange for or on the conversion of or in respect of our common shares to which the holder of a common share would have been entitled immediately after such event. Similarly, any distribution to all or substantially all of the holders of common shares of rights, options, warrants, evidences of indebtedness or assets will result in an adjustment in the number of common shares to be issued to holders of warrants.

Prior to the exercise of any warrants to purchase common shares, holders of the warrants will not have any of the rights of holders of the underlying common shares, including the right to receive payments of dividends, if any, on the underlying common shares, or to exercise any applicable right to vote.

DESCRIPTION OF UNITS

We may issue units comprised of one or more of the other securities that may be offered under this prospectus, in any combination. The following information, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of any such the units that we may offer under this prospectus. While the information below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the general terms described below.

We will file the form of unit agreement, if any, between us and a unit agent that describes the terms and conditions of the series of units we are offering, and any supplemental agreements, concurrently with the filing of the applicable prospectus supplement under which such series of units are offered. This summary is subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement, if any, and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we sell under this prospectus, as well as the complete unit agreement, if any, and any supplemental agreements that contain the terms of the units.

We may issue units comprising one or more of common shares and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement, under which a unit may be issued, if any, may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. We will describe in the applicable prospectus supplement the terms of the series of units.

The provisions described in this section, as well as those described under “Description of Share Capital” and “Description of Warrants” will apply to each unit and to any common share or warrant included in each unit, respectively.

We may issue units in such amounts and in numerous distinct series as we determine.

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus to or through underwriters or dealers, and also may sell those securities to one or more other purchasers directly or through agents, including sales pursuant to ordinary brokerage transactions and transactions in which a broker-dealer solicits purchasers, or if indicated in a prospectus supplement, pursuant to delayed delivery contracts, by remarketing firms or by other means. Underwriters may sell securities to or through dealers. Each prospectus supplement will set forth the terms of the offering, including the name or names of any underwriters, dealers or agents and any fees or compensation payable to them in connection with the offering and sale of a particular series or issue of securities, the public offering price or prices of the securities and the proceeds from the sale of the securities.

The securities may be sold, from time to time in one or more transactions at a fixed price or prices which may be changed or at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices, including sales in transactions that are deemed to be “at-the-market distributions” as defined in National Instrument 44-102 Shelf Distributions, including sales made directly on the TSX, NASDAQ or other existing trading markets for the securities. The prices at which the securities may be offered may vary as between purchasers and during the period of distribution. If, in connection with the offering of securities at a fixed price or prices, the underwriters have made a bona fide effort to sell all of the securities at the initial offering price fixed in the applicable prospectus supplement, the public offering price may be decreased and thereafter further changed, from time to time, to an amount not greater than the initial public offering price fixed in such prospectus supplement, in which case the compensation realized by the underwriters will be decreased by the amount that the aggregate price paid by purchasers for the securities is less than the gross proceeds paid by the underwriters to us.

Underwriters, dealers and agents who participate in the distribution of the securities may be entitled under agreements to be entered into with us to indemnification by us against certain liabilities, including liabilities under the United States Securities Act of 1933 and Canadian securities legislation, or to contribution with respect to payments which such underwriters, dealers or agents may be required to make in respect thereof. Such underwriters, dealers and agents may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

In connection with any offering of securities, the underwriters may over-allot or effect transactions which stabilize or maintain the market price of the securities offered at a level above that which might otherwise prevail in the open market. Such transactions, if commenced, may be discontinued at any time. Any underwriters, dealers or agents to or through which securities other than our common shares are sold by us for public offering and sale may make a market in such securities, but such underwriters, dealers or agents will not be obligated to do so and may discontinue any such market making at any time and without notice. No assurance can be given that a market for trading in securities of any series or issue will develop or as to the liquidity of any such market, whether or not such securities are listed on a securities exchange.

The place, time of delivery, and other terms of the offered securities will be described in the applicable prospectus supplement.

CERTAIN INCOME TAX CONSIDERATIONS

The applicable prospectus supplement may describe certain Canadian federal income tax consequences to investors described therein of acquiring securities offered by the prospectus, including, in the case of an investor who is not a resident of Canada (for purposes of the *Income Tax Act* (Canada)), if applicable, whether payment of principal, premium, if any, and interest will be subject to Canadian non-resident withholding tax.

The applicable prospectus supplement may also describe certain United States federal income tax consequences of the acquisition, ownership and disposition of securities offered by this prospectus by an initial investor who is subject to United States federal income taxation.

INTERESTS OF NAMED EXPERTS AND COUNSEL

None.

LEGAL MATTERS

Unless otherwise specified in the prospectus supplement relating to any offering of securities under this prospectus, certain matters under Canadian law relating to the offering of the securities under this prospectus will be passed upon for us by McCarthy Tétrault LLP and certain legal matters under United States law will be passed upon for us by Dorsey & Whitney LLP, Vancouver, British Columbia and Seattle, Washington. In addition, certain legal matters in connection with any offering of securities under this prospectus will be passed upon for any underwriters, dealers or agents by counsel to be designated at the time of the offering by such underwriters, dealers or agents with respect to matters of Canadian and United States law. Any securities offered pursuant to this prospectus, including by way of at-the-market offerings, will be conducted in accordance with applicable securities legislation in Canada and the United States, and, if applicable, will be subject to regulatory approval.

EXPERTS AND AUDITOR

The consolidated financial statements of Aptose Biosciences Inc. as of May 31, 2014 and 2013, and for each of the years in the three-year period ended May 31, 2014, have been incorporated by reference herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

Base Shelf Prospectus

No securities regulatory authority has expressed an opinion about these securities and it is an offence to claim otherwise.

This short form prospectus has been filed under legislation in the provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador that permits certain information about these securities to be determined after this prospectus has become final and that permits the omission from this prospectus of that information. The legislation requires the delivery to purchasers of a prospectus supplement containing the omitted information within a specified period of time after agreeing to purchase any of these securities.

Information contained herein is subject to completion or amendment. A registration statement relating to these securities has been filed with the United States Securities Exchange Commission. These securities may not be offered or sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This short form prospectus shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any state of the United States in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state of the United States

Information has been incorporated by reference in this prospectus from documents filed with securities commissions or similar authorities in Canada. Copies of the documents incorporated herein by reference may be obtained on request without charge from the Director of Finance of the Company at 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7, telephone (416) 798-1200, and are also available electronically at www.sedar.com.

SHORT FORM BASE SHELF PROSPECTUS

New Issue

December 24, 2014



APTOSE BIOSCIENCES INC.

**US\$100,000,000
Common Shares
Warrants
Units**

Aptose Biosciences Inc. may offer and sell from time to time up to an aggregate of US\$100,000,000 of common shares (issued separately or upon exercise of warrants), warrants and units comprising any combination of common shares and warrants during the period that the registration statement of which this prospectus, including any amendments, forms a part remains effective. Any offerings of the Company's securities in Canada pursuant to this prospectus and any related filings with the securities commissions or other securities regulatory bodies in Canada shall be made only during the 25-month period commencing on the date hereof. The specific terms of any securities offered will be described in supplements to this prospectus. You should read this prospectus and any applicable prospectus supplement carefully before you purchase our securities. This prospectus may not be used to offer securities unless accompanied by a prospectus supplement.

All shelf information permitted under Canadian securities legislation to be omitted from this prospectus will be contained in one or more prospectus supplements that will be delivered to purchasers together with this prospectus. Each prospectus supplement will be incorporated by reference into this prospectus for the purposes of Canadian securities legislation as of the date of the prospectus supplement and only for the purposes of the distribution of the securities to which the prospectus supplement pertains. This prospectus and any applicable prospectus supplement should be read carefully before investing in securities.

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. The prospectus supplement for each offering of securities will describe in detail the plan of distribution. If underwriters, dealers and agents are used to sell these securities, we will name them and describe their compensation in a prospectus supplement.

Our outstanding common shares are listed and posted for trading on the Toronto Stock Exchange, which we refer to as the "TSX", under the symbol "APS" and the NASDAQ Capital Market, which we refer to as "NASDAQ", under the symbol "APTO". On December 23, 2014, the last reported sale price of our common shares on the TSX was Cdn\$6.60 per common share and on NASDAQ was US\$5.69 per common share. **There is no market through which the securities, other than the common shares, may be sold and purchasers may not be able to resell the securities purchased under this prospectus. This may affect the pricing of the securities in the secondary market, the transparency and availability of trading prices, the liquidity of the securities and the extent of issuer regulation. See "Risk Factors".**

We may offer and sell securities to or through underwriters or dealers, directly to one or more purchasers pursuant to applicable statutory exemptions, or through agents designated from time to time at amounts and prices and other terms determined by us. The prospectus supplement relating to a particular offering of securities will identify each underwriter, dealer or agent engaged in connection with the offering and sale of securities and will set forth the plan of distribution for such securities, including the proceeds to the Company and any fees, discounts, concessions or other compensation payable to the underwriters, dealers or agents, and any other material terms of the plan of distribution. See "Plan of Distribution".

In connection with any underwritten offering of the securities (unless otherwise specified in a prospectus supplement), the underwriters or agents may over-allot or effect transactions which stabilize or maintain the market price of the securities offered at a higher level than that which might exist in the open market. Such transactions, if commenced, may be interrupted or discontinued at any time. See "Plan of Distribution".

Dr. William G. Rice, President, Chief Executive Officer and Chairman of the Board of Directors of the Company, Gregory K. Chow, Senior Vice President and Chief Financial Officer of the Company, Dr. Denis Burger, a director of the Company and Dr. Erich Platzter, a director of the Company, all reside outside of Canada and have appointed Aptose Biosciences Inc., 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7, as agent for service of process. Purchasers are advised that it may not be possible for investors to enforce judgments obtained in Canada against any person or company that is incorporated, continued or otherwise organized under the laws of a foreign jurisdiction or resides outside of Canada, even if the party has appointed an agent for service of process.

Our principal executive offices are located at 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7 (telephone: (416) 798-1200).

Investing in our securities involves risks. Prior to purchasing our securities, you should carefully consider the risk factors that will be described in any applicable prospectus supplement and the risk factors described in our filings with the Securities and Exchange Commission and Canadian securities regulators, as explained under the heading "Risk Factors" on page 4 of this prospectus.

No underwriter has been involved in the preparation of this prospectus or performed any review of the content of this prospectus.

Neither the SEC, nor any securities commission of any state of the United States or any Canadian securities regulator has approved or disapproved the securities offered hereby or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offence.

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DOCUMENTS INCORPORATED BY REFERENCE

Information has been incorporated by reference in this prospectus from documents filed with securities commissions or similar authorities in Canada and filed with, or furnished to, the SEC. Copies of the documents incorporated herein by reference may be obtained on request without charge from the Director of Finance of the Company at 2 Meridian Road, Toronto, Ontario M9W 4Z7, telephone (416) 798-1200, and are also available electronically at www.sedar.com. Disclosure documents filed with, or furnished to, the SEC are available through the SEC's Electronic Document Gathering and Retrieval System (EDGAR) at www.sec.gov.

The following documents of the Company filed with the securities commissions or similar authorities in the provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador and the SEC, as applicable, are specifically incorporated by reference in this prospectus:

- (a) our Annual Report on Form 20-F for the fiscal year ended May 31, 2014, furnished to the SEC on July 30, 2014 and filed on SEDAR on December 16, 2014;
- (b) the description of our common shares set forth in our registration statement on Form 8-A, filed on October 21, 2014 (which incorporates by references the description of our common shares included in our Annual Report on Form 20-F for the fiscal year ended May 31, 2014, filed on July 30, 2014);
- (c) our annual information form dated July 15, 2014 for the financial year ended May 31, 2014, which was included as Exhibit 99.3 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on July 17, 2014;
- (d) our audited consolidated financial statements for the year ended May 31, 2014 together with the notes thereto, which were included as Exhibit 99.1 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on July 17, 2014;
- (e) management's discussion and analysis of financial condition and results of operations for the financial year ended May 31, 2014, which was included as Exhibit 99.2 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on July 17, 2014;
- (f) our interim unaudited consolidated financial statements and the notes thereto for the four-month period ended September 30, 2014 and the three-month period ended August 31, 2013, which were included as Exhibit 99.1 to the Report of Foreign Issuer on Form 6-K furnished to the SEC on November 5, 2014;
- (g) management's discussion and analysis on financial position and operating results for the four-month period ended September 30, 2014, which was included as Exhibit 99.2 to the Report of Foreign Issuer on Form 6-K furnished to the SEC on November 5, 2014;
- (h) the report of voting results issued on August 19, 2014 with respect to the results of the annual and special meeting of the shareholders of the Company held on August 19, 2014, which was included as Exhibit 99.1 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on August 19, 2014;
- (i) the certificate of amendment dated August 28, 2014, filed on September 2, 2014, with respect to the change of name of the Company to "Aptose Biosciences Inc.", which was included as Exhibit 99.1 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on September 2, 2014;
- (j) our material change report dated October 6, 2014 relating to the consolidation of the common shares on the basis of one post-consolidation share for each 12 pre-consolidation share, which was included as Exhibit 99.1 to the Report of Foreign Issuer on Form 6-K furnished to the SEC on October 7, 2014;
- (k) the notice of change of financial year-end of the Company to December 31, dated July 17, 2014, which was included as Exhibit 99.1 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on October 9, 2014;

Alternate Page for Canadian Prospectus

- (l) our material change report dated October 21, 2014 relating to the listing of the common shares on NASDAQ, which was included as Exhibit 99.1 to the Report of Foreign Issuer on Form 6-K furnished to the SEC on October 22, 2014;
- (m) our management information circular dated February 24, 2014 with respect to the annual and special meeting of the shareholders of the Company held on March 27, 2014, which was included as Exhibit 99.1 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on March 4, 2014;
- (n) our management information circular dated July 15, 2014 with respect to the annual and special meeting of the shareholders of the Company held on August 19, 2014, which was included as Exhibit 99.1 to a Report of Foreign Issuer on Form 6-K furnished to the SEC on July 17, 2014; and
- (o) all other documents filed by us under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, after the date of this prospectus but before the end of the offering of the securities pursuant to this prospectus.

Any documents of the type required by National Instrument 44-101 – *Short Form Prospectus Distributions* to be incorporated by reference in a short form prospectus including any material change reports (excluding any confidential material change reports), comparative interim financial statements, comparative annual financial statements and the auditor’s report thereon, information circulars, annual information forms and business acquisition reports filed by us with a securities commission or similar regulatory authorities in Canada on or after the date of this prospectus and prior to the termination of the distribution under this prospectus shall be deemed to be incorporated by reference into this prospectus.

Upon a new renewal annual information form and the related audited annual consolidated financial statements and management’s discussion and analysis of financial condition and results of operations being filed by us with the applicable securities regulatory authorities during the currency of this prospectus, the previous annual information form, the previous audited annual consolidated financial statements and the management information circular filed prior to the commencement of the Company’s financial year in which the new renewal annual information form was filed shall be deemed no longer to be incorporated into this prospectus for purposes of future offerings of securities hereunder.

Any statement contained in this prospectus or in a document incorporated by reference or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in this prospectus or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes such statement. The modifying or superseding statement need not state that it has modified or superseded a prior statement or include any other information set forth in the document which it modifies or supersedes. The making of such a modifying or superseding statement shall not be deemed an admission for any purposes that the modified or superseded statement, when made, constituted a misrepresentation, an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make a statement not misleading in light of the circumstances in which it was made. Only the modifying or superseding statement shall be deemed to constitute a part of this prospectus.

In addition, all subsequent Annual Reports on Form 20-F, Form 40-F or Form 10-K, and all subsequent filings on Form 10-Q or Form 8-K, that we file pursuant to the Exchange Act prior to the termination of this offering, are hereby incorporated by reference into this prospectus. Also, we may incorporate by reference future reports on Form 6-K that we furnish subsequent to the date of this prospectus by stating in those Form 6-Ks that they are being incorporated by reference into this prospectus.

Any person receiving a copy of this prospectus, including any beneficial owner, may obtain without charge, upon written or oral request, a copy of any of the documents incorporated by reference into this prospectus, except for the exhibits to those documents unless the exhibits are specifically incorporated by reference into those documents. Requests should be directed to our principal executive offices, 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7, Attention: Senior Vice President and Chief Financial Officer (telephone: (416) 798-1200).

LEGAL MATTERS

Unless otherwise specified in the prospectus supplement relating to any offering of securities under this prospectus, certain matters under Canadian law relating to the offering of the securities under this prospectus will be passed upon for us by McCarthy Tétrault LLP and certain legal matters under United States law will be passed upon for us by Dorsey & Whitney LLP, Vancouver, British Columbia and Seattle, Washington. In addition, certain legal matters in connection with any offering of securities under this prospectus will be passed upon for any underwriters, dealers or agents by counsel to be designated at the time of the offering by such underwriters, dealers or agents with respect to matters of Canadian and United States law. Any securities offered pursuant to this prospectus, including by way of at-the-market offerings, will be conducted in accordance with applicable securities legislation in Canada and the United States, and, if applicable, will be subject to regulatory approval.

As of the date hereof, the partners and associates of McCarthy Tétrault LLP, as a group, beneficially owned, directly or indirectly, less than 1% of the outstanding common shares of the Company or any of its associates or affiliates.

EXPERTS AND AUDITOR

Our auditor is KPMG LLP, Chartered Professional Accountants, Bay Adelaide Centre, 333 Bay Street, Suite 4600, Toronto, Ontario, Canada, M5H 2S5 and they have confirmed they are independent with respect to the Company within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations.

AGENT FOR SERVICE OF PROCESS

Dr. William G. Rice, President, Chief Executive Officer and Chairman of the Board of Directors of the Company, Gregory K. Chow, Senior Vice President and Chief Financial Officer of the Company, Dr. Denis Burger, a director of the Company and Dr. Erich Platzer, a director of the Company all reside outside of Canada and have appointed Aptose Biosciences Inc., 2 Meridian Road, Toronto, Ontario, Canada M9W 4Z7 as agent for service of process.

Purchasers are advised that it may not be possible for investors to enforce judgments obtained in Canada against any person or company that is incorporated, continued or otherwise organized under the laws of a foreign jurisdiction or resides outside of Canada, even if the party has appointed an agent for service of process.

PURCHASERS' STATUTORY RIGHTS

Securities legislation in certain of the provinces of Canada provides purchasers with the right to withdraw from an agreement to purchase securities. This right may be exercised within two business days after receipt or deemed receipt of a prospectus, the accompanying prospectus supplements and any amendment. In several of the provinces of Canada, the securities legislation further provides a purchaser with remedies for rescission or, in some jurisdictions, revisions of the price or damages if the prospectus, the accompanying prospectus supplements or any amendment contains a misrepresentation or is not delivered to the purchaser, provided that the remedies for rescission, revision of the price or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province for the particulars of these rights or consult with a legal adviser.

In an offering of warrants and units, investors are cautioned that the statutory right of action for damages for a misrepresentation contained in the prospectus and the accompanying prospectus supplements is limited, in certain provincial securities legislation, to the price at which such security is offered to the public under the prospectus offering. This means that, under the securities legislation of certain provinces, if the purchaser pays additional amounts upon conversion, exchange or exercise of the security, those amounts may not be recoverable under the statutory right of action for damages that applies in those provinces. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province for the particulars of this right of action for damages or consult with a legal advisor.

CERTIFICATE OF THE COMPANY

Dated: December 24, 2014

This short form prospectus, together with the documents incorporated in this prospectus by reference, constitutes full, true and plain disclosure of all material facts relating to the securities offered by this prospectus as required by the securities legislation of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador.

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

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

On behalf of the Board of Directors

/s/ Denis R. Burger
Denis R. Burger
Director

/s/ Brad Thompson
Brad Thompson
Director

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 8. 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 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 and is therefore unenforceable.

Item 9. Exhibits.

Exhibit	Description
1.1*	Form of Underwriting Agreement
4.1*	Form of Warrant
4.2*	Form of Warrant Indenture
4.3*	Form of Unit Agreement
5.1**	Opinion of McCarthy Tétrault LLP
23.1	Consent of KPMG LLP
23.4**	Consent of McCarthy Tétrault LLP (included in Exhibit 5.1)
24.1**	Powers of Attorney (included on the signature pages to this registration statement)

*To be filed as an exhibit to a post-effective amendment to this registration statement or as an exhibit to a report filed on Form 6-K under the Exchange Act and incorporated herein by reference.

** Previously filed.

Item 10. Undertakings.

The undersigned registrant hereby undertakes:

(a)(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 the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

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

provided, however, that the undertakings set forth in paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the 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.

(4) To file a post-effective amendment to the registration statement to include any financial statements required by Item 8.A of Form 20-F at the start of any delayed offering or throughout a continuous offering. Financial statements and information otherwise required by Section 10(a)(3) of the Securities Act of 1933 need not be furnished, *provided* that the registrant includes in the prospectus, by means of post-effective amendment, financial statements required pursuant to this paragraph (4) and other information necessary to ensure that all other information in the prospectus is at least as current as the date of those financial statements. Notwithstanding the foregoing, with respect to registration statements on Form F-3, a post-effective amendment need not be filed to include financial statements and information required by Section 10(a)(3) of the Securities Act or Rule 3-19 of Regulation S-K if such financial statements and information are contained in periodic reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference into the registration statement.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) If the registrant is relying on Rule 430B:

(A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

(ii) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) 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 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities 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.

AUTHORIZED REPRESENTATIVE

Pursuant to the requirements of Section 6(a) of the Securities Act of 1933, the undersigned has signed this registration statement, in the capacity of the duly authorized representative of Aptose Biosciences Inc. in the United States, in the City of San Diego, in the State of California, on December 24, 2014.

APTOSE BIOSCIENCES U.S. INC.

By: /s/ William G. Rice

Name: William G. Rice

Title: Chief Executive Officer

EXHIBIT INDEX

Exhibit	Description
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23.1	Consent of KPMG LLP
23.4**	Consent of McCarthy Tétrault LLP (included in Exhibit 5.1)
24.1**	Powers of Attorney (included on the signature pages to this registration statement)

*To be filed as an exhibit to a post-effective amendment to this registration statement or as an exhibit to a report filed on Form 6-K under the Exchange Act and incorporated herein by reference.

** Previously filed



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 report dated July 29, 2014, with respect to the consolidated balance sheets of Aptose Biosciences Inc. as at May 31, 2014 and 2013, and the related 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, incorporated herein by reference and to the reference to our firm under the heading "Experts and Auditor" in the prospectus.

A handwritten signature in black ink that reads "KPMG LLP" in a cursive, slanted font. A horizontal line is drawn underneath the signature.

Chartered Professional Accountants, Licensed Public Accountants
December 24, 2014
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.
