Filed Pursuant to Rule 424(b)(5)
Registration No. 333-230218

**PROSPECTUS SUPPLEMENT**
**To Prospectus dated April 25, 2019**

# 16,125,000 Shares


We are offering 16,125,000 common shares, no par value per common share.

Our common shares are listed on the Nasdaq Capital Market under the symbol "APTO" and on the Toronto Stock Exchange (the "TSX) under the symbol "APS". On December 16, 2019, the closing price of our common shares on the Nasdaq Capital Market was $4.43 per common share and on the Toronto Stock Exchange was C$5.80 per common share. The TSX has accepted notice of the offering and we are relying on the exemption included in section 602.1 of the TSX Company Manual.

**Our business and an investment in our common shares involve significant risks. See "Risk Factors" beginning on page S-16 of this prospectus supplement and page 2 of the accompanying prospectus to read about factors that you should consider before making an investment decision.**

| | Per common share | Total |
|---|---|---|
| Public offering price | $ 4.00 | $ 64,500,000 |
| Underwriting discounts and commissions(1) | $ 0.28 | $ 4,515,000 |
| Proceeds to us, before expenses | $ 3.72 | $ 59,985,000 |

(1) We have agreed to reimburse the underwriters for certain expenses. See "Underwriting for a description of compensation payable to the underwriters."

We have granted the underwriters an option to purchase up to an additional 2,418,750 shares from us at the public offering price, less underwriting discounts and commissions, within 30 days from the date of this prospectus supplement.

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

Delivery of the common shares will be made against payment thereon on or about December 19, 2019.

*Book-Running Manager*

**Piper Jaffray**

*Bookrunner*

**Canaccord Genuity**

*Lead Manager*

**Oppenheimer & Co.**

*Co-Manager*

**JonesTrading**

**The date of this prospectus supplement is December 16, 2019**

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## ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of the offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus dated April 25, 2019, including the documents incorporated by reference, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement. You should read this prospectus supplement and the accompanying prospectus, including the information incorporated by reference and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus, along with the information contained in any free writing prospectus that we have authorized for use in connection with this offering. If the description of the offering varies between this prospectus supplement and the accompanying prospectus, you should rely on the information in this prospectus supplement. We have not authorized anyone to provide you with different or additional information. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering is accurate only as of the respective dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties and covenants were accurate only as of the date when made; therefore, such representations, warranties and covenants should not be relied on as accurate representations of the current state of our affairs.

Unless we have otherwise indicated or unless the context otherwise requires, all references in this prospectus supplement and the accompanying prospectus to “the Company,” “Aptose,” “we,” “us,” “our,” or similar references mean Aptose Biosciences Inc.

This prospectus supplement, the accompanying prospectus and the information incorporated by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, 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. We refer to such forward-looking statements and forward-looking information collectively as "forward-looking statements". 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 supplement 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 business strategy;
- our clinical development plans;
- our plans to conduct clinical trials and preclinical programs;
- our ability to accrue appropriate numbers and types of patients;
- our reliance on external contract research/manufacturing organizations for certain activities;
- our plans to secure and maintain strategic partnerships to assist in the further development of our product candidates and to build our pipeline;
- our ability to file and maintain intellectual property to protect our pharmaceutical assets;
- potential exposure to legal actions and potential need to take action against other entities;
- our expectations regarding the progress and the successful and timely completion of the various stages of our drug discovery, drug synthesis and formulation, preclinical and clinical studies and the regulatory approval process;
- our plans, objectives, expectations and intentions; and
- other statements including words such as "anticipate", "contemplate", "continue", "believe", "plan", "estimate", "expect", "intend", "will", "should", "may", and other similar expressions.

The forward-looking statements contained in this prospectus supplement and in the documents incorporated by reference herein reflect our current views with respect to future events, are subject to significant risks and uncertainties, and are based upon a number of estimates and assumptions that, while considered reasonable by us, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause our actual results, performance or achievements to be materially different from any future results, performance, or achievements that may be expressed or implied by such forward-looking statements, including, among others:

- our lack of product revenues and net losses and a 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 need to raise substantial additional capital in the future and that we may be unable to raise such funds when needed and on acceptable terms;
- further equity financing, which may substantially dilute the interests of our existing shareholders;
- 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 substantially harm our business;
- our reliance on external contract research/manufacturing organizations for certain activities and if we are subject to quality, cost, or delivery issues with the preclinical and clinical grade materials supplied by contract manufacturers, our business operations could suffer significant harm;
- clinical studies are long, expensive and uncertain processes and the United States Food and Drug Administration, or "FDA", or other similar foreign regulatory agency that we are required to report to, may ultimately not approve any of our product candidates;
- our ability to comply with applicable governmental regulations and standards;
- our inability to achieve our projected development goals in the time frames we announce and expect;
- difficulties in enrolling patients for clinical trials may lead to delays or cancellations of our clinical trials;
- our reliance on third-parties to conduct and monitor our preclinical studies;
- our ability to attract and retain key personnel, including key executives and scientists;
- any misconduct or improper activities by our employees;
- our exposure to exchange rate risk;
- our ability to commercialize our business attributed to negative results from clinical trials;
- the marketplace may not accept our products or product candidates due to the intense competition and technological change in the biotechnical and pharmaceuticals, and we may not be able to compete successfully against other companies in our industries and achieve profitability;
- our ability to obtain and maintain patent protection;
- our ability to afford substantial costs incurred with defending our intellectual property;
- our ability to protect our intellectual property rights and not infringe on the intellectual property rights of others;
- our business is subject to potential product liability and other claims;
- potential exposure to legal actions and potential need to take action against other entities;
- commercialization limitations imposed by intellectual property rights owned or controlled by third parties;
- our ability to maintain adequate insurance at acceptable costs;

- our ability to find and enter into agreements with potential partners;
- extensive government regulation;
- data security incidents and privacy breaches could result in increased costs and reputational harm;
- our share price has been and is likely to continue to be volatile;
- future sales of our common shares by us or by our existing shareholders could cause our share price to drop;
- changing global market and financial conditions;
- changes in an active trading market in our common shares;
- difficulties by non-Canadian investors to obtain and enforce judgments against us because of our Canadian incorporation and presence;
- potential adverse U.S. federal tax consequences for U.S. shareholders because we are a "passive foreign investment company";
- our "emerging growth company" and "smaller reporting company" status;
- any failures to maintain an effective system of internal controls may result in material misstatements of our financial statements, or cause us to fail to meet our reporting obligations or fail to prevent fraud;
- our broad discretion in how we use the proceeds of the offering;
- our ability to expand our business through the acquisition of companies or businesses; and
- other risks detailed under the heading "Risk Factors" in this prospectus supplement and in the documents incorporated by reference.

Should one or more of these risks or uncertainties materialize, or should the assumptions described in the sections entitled "Risk Factors" in this prospectus supplement and in the documents incorporated by reference underlying those forward-looking statements prove incorrect, actual results may vary materially from those described in the forward-looking statements.

More detailed information about these and other factors is included in this prospectus supplement under the section entitled "Risk Factors" and in the documents incorporated by reference into this prospectus supplement. Although we have attempted to identify factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Forward-looking statements are based upon our beliefs, estimates and opinions at the time they are made and we undertake no obligation to update forward-looking statements if these beliefs, estimates and opinions or circumstances should change, except as required by applicable law. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.

Forward-looking statements contained in this prospectus supplement are made as of the date of this prospectus supplement. 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 supplement.

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 supplement and the documents incorporated by reference in this prospectus supplement by the foregoing cautionary statements.**

## PROSPECTUS SUPPLEMENT SUMMARY

*This summary highlights information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read this entire prospectus supplement and the accompanying prospectus carefully, including the sections titled "Risk Factors" contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, our financial statements and the related notes thereto and the other documents incorporated by reference in this prospectus supplement and the accompanying prospectus.*

### Overview

Aptose Biosciences Inc. ("we", "our", "us", "Aptose" or the "Company") is a science-driven biotechnology company advancingfirst-in-class targeted agents to treat life-threatening cancers, such as acute myeloid leukemia ("AML"), high-risk myelodysplastic syndromes ("MDS"), chronic lymphocytic leukemia ("CLL") and other hematologic malignancies. Based on insights into the genetic and epigenetic profiles of certain cancers and patient populations, Aptose is building a pipeline of novel oncology therapies directed at dysregulated processes and signaling pathways. Aptose is developing targeted medicines for precision treatment of these diseases to optimize efficacy and quality of life by minimizing the side effects associated with conventional therapies. We currently have in development two molecules: CG026806 ("CG-806") and APTO-253, both being evaluated for safety, tolerability, pharmacokinetics and signals of efficacy in Phase 1 clinical trials. We estimate a market potential of greater than $1 billion in the treatment of AML and CLL with GG-806 and APTO-253 molecules Each molecule is described below:

CG-806 is an orally administered, highly potentfirst-in-class FLT3/BTK inhibitor that targets defined clusters of kinases that are operative in hematologic malignancies. This mutationally agnostic small molecule anticancer agent is currently being evaluated in a Phase 1a/b study for the treatment of patients having B-cell malignancies including CLL, small lymphocytic lymphoma ("SLL") and certain non-Hodgkin's lymphomas ("NHL") that are resistant/refractory/intolerant to other therapies. Aptose also is planning for a Phase 1 study for the development of CG-806 for the treatment of patients with relapsed/refractory acute myeloid leukemia ("R/R AML"), including the emerging populations resistant to FMS-like tyrosine kinase 3 ("FLT3") inhibitors.

Overexpression of Bruton's tyrosine kinase ("BTK") drives certain B cell malignancies, and treatment of such B cell malignancies with covalent BTK inhibitors that target the cysteine residue in the active site of BTK have heralded dramatic responses in many patients, but also can lead to drug resistance via mutation of the cysteine amino acid residue to a serine residue ("BTK-C481S mutant") thus rendering such covalent inhibitors less effective. CG-806 targets the ATP-binding pocket of BTK through a reversible, non-covalent mechanism, thereby allowing CG-806 to retain low nanomolar potency against the BTK-C481S mutant and the BTK-wild type enzymes. Simultaneously, CG-806 inhibits aberrant intracellular BTK signaling and select other oncogenic signaling pathways, thereby allowing CG-806 to exert potent and direct killing of the cancer cells without targeting pathways often associated with toxicities. Thus, CG-806 may serve as a novel therapeutic agent to treat B cell malignancy patients that are refractory, resistant or intolerant to covalent BTK inhibitors and other non-covalent BTK inhibitors currently in development. In addition to potent inhibition of wild type and mutant forms of BTK, CG-806 exhibits high potency (picomolar to low nanomolar $IC_{50}$ values) inhibition of the FLT3 cell surface receptor with an internal tandem duplication ("FLT3-ITD") and significant potency against FLT3-wild type and all known mutant forms of FLT3. Because of the potency of CG-806 against FLT3,

it may become an effective therapy for AML patients, including the subset of patients having the FLT3-ITD, which occurs in approximately 30% of patients with AML and is associated with poor prognosis. As noted above, CG-806 also suppresses the initiation and intracellular transmission of other oncogenic signaling pathways which are operative in AML, thereby potentially allowing the agent to become a broadly active and important therapeutic option for difficult-to-treat AML patient populations, including those with FLT3-wild type, and hopefully slowing the pace of drug resistance in patients.

APTO-253 is our Phase 1/b-stage small molecule therapeutic agent that inhibits expression of the MYC oncogene without causing general myelosuppression of the bone marrow to date. The MYC oncogene is overexpressed in hematologic cancers, including AML and certain B cell malignancies. MYC is a transcription factor that regulates cell growth, proliferation, differentiation and apoptosis, and overexpression amplifies new sets of genes to promote survival of cancer cells. APTO-253 downregulates expression of the MYC oncogene in AML cells and depletes those cells of the MYC oncoprotein, leading to apoptotic cell death. Indeed, the first AML patient administered the lowest dose level (20 mg/m2) of APTO-253 experienced a significant reduction in the expression of MYC in blood cells ("PBMCs") during the 28-day cycle of therapy, and no drug-related adverse events were noted. Likewise, the second patient administered APTO-253, this time an MDS patient administered the second dose level (40 mg/m2), also showed a significant reduction in the expression of MYC in PBMCs during the 28-day cycle of therapy, and no drug-related adverse events were noted. Similarly, MYC inhibition was observed in patients in the 66 mg/m2 dose level. Aptose now is planning to dose patients with the fourth dose level (100 mg/m2). Thus, APTO-253 may serve as a safe and effective MYC inhibitor for AML/MDS patients that combines well with other agents and does not significantly impact the normal bone marrow.

**Program Updates**

***CG-806***

***Indication and Clinical Trials:*** CG-806 is being developed with the intent to deliver the agent as an oral therapeutic and to develop it for relapsed and refractory (R/R) AML/MDS and for appropriate B cell malignancies (including CLL, SLL and NHL).

On March 25, 2019, we announced that the U.S Food and Drug Administration ("FDA") granted Aptose Investigational New Drug ("IND") allowance to initiate its Phase 1 clinical trial for CG-806. The Phase 1 clinical trial is a multicenter, open label, dose-escalation study with expansions to assess the safety, tolerability, PK, and preliminary efficacy of CG-806 in patients with CLL, SLL or NHL. The initial goal of the trial is to evaluate safety, tolerability and pharmacokinetics of CG-806 in these patient populations and to observe for signals of efficacy. CG-806 in gelatin capsules will be dosed every 12 hours during a 28-day cycle, and the starting dose will be 150mg. Pending the collection of predictive pharmacokinetic data in humans, Aptose plans to seek allowance from the FDA to move CG-806 into the AML/MDS patient population in a separate Phase I trial.

As of the date of this report, we have initiated thirteen sites for the Phase 1a/b trial in patients with CLL/SLL or NHL and have completed enrollment of CLL patients on the first and second dose levels. The first CLL patient at the first dose level received 150mg taken twice daily ("BID") during a 28-day cycle and is continuing on study in their sixth cycle. Only one patient is required at this dose level. A second CLL patient was enrolled at the second dose level (300mg BID) during a 28-day cycle, and this patient also continues on study. In the CLL patient on the second dose level, we observed an increase in peripheral blood lymphocytes (or lymphocytosis), classically ascribed as a response to inhibition of BTK, and a modest reduction in metabolic SUV measurements across multiple index nodes and no new hypermetabolic foci, as assessed by FDG-PET/CT at the first scheduled scan.

Our Clinical Safety Review Committee reviews relevant data following completion of each cohort, and the committee approved escalation to the third dose level (450mg BID). Aptose is now screening for three patients to be enrolled at this dose level.

Additionally, we are finalizing our efforts to perform clinical studies in patients with AML/MDS. The FDA granted orphan drug designation to CG-806 for the treatment of patients with AML. Orphan drug designation is granted by the FDA to encourage companies to develop therapies for the treatment of diseases that affect fewer than 200,000 individuals in the United States. Orphan drug status provides research and development tax credits, an opportunity to obtain grant funding, exemption from FDA application fees and other benefits. If CG-806 is approved to treat AML, the orphan drug designation provides us with seven years of marketing exclusivity.

***Manufacturing:*** We created a scalable chemical synthetic route for the manufacture of CG-806 drug substance and have scaled the manufacture of API (active pharmaceutical ingredient, or drug substance) to kg levels. We manufactured and delivered a batch of API which was used for Dose Range Finding Studies that were performed and completed in early January 2018. We completed in March 2018 the manufacture of a multi-kg batch of Good Laboratory Practice ("GLP") grade API and then formulated that API into a drug product for use in IND-enabling GLP toxicology studies. We also completed the manufacture of a multi-kg batch of API under Good Manufacturing Product ("GMP") conditions as our API supply for our first-in-human clinical trials, and we manufactured under GMP conditions two dosage strengths of capsules to serve as our clinical supply in those human studies. In June 2018, we completed a second GMP batch of drug product to supply the trial. Although we have been able to manufacture API and capsules to support clinical supplies under GMP conditions, research and development funds are being utilized to support further exploratory formulation studies in an ongoing effort to craft a superior formulation for CG-806. During the year ended December 31, 2018, we completed the in-life dosing phase of the IND-enabling GLP toxicology studies and received audited reports for such studies early in fiscal 2019.

***Intellectual Property:*** In May 2018, we paid $2.0 million in cash and obtained the rights to CG-806, for all fields of use, in all territories outside of the Republic of Korea and China, by exercising an option we obtained through a June 2016 option-license agreement with South Korean company CrystalGenomics, Inc. ("CG"), granting us an exclusive option to research, develop and commercialize (collectively, the "Rights") CG-806.

In June 2018, we entered into a separate license agreement with CG for Aptose to gain a license for Rights to CG-806 in the People's Republic of China, Hong Kong and Macau (the "China Rights"). Under the license agreement, Aptose made an upfront payment to CG of $3.0 million for the China Rights. CG is eligible for payments upon the achievement of developmental, regulatory and commercial-based milestones, as well as single-digit royalties on product sales in China. Aptose now owns worldwide Rights to CG-806, including an issued patent in China but excluding any Rights in Korea.

We have continued to augment our patent protection on CG-806. On September 12, 2017, we announced that we received a notice from the United States Patent and Trademark Office ("USPTO") stating that our U.S. Patent Application had been issued as a patent. The patent claims numerous compounds, including the CG-806 compound, pharmaceutical compositions comprising the CG-806 compound, and methods of treating various diseases caused by abnormal or uncontrolled activation of protein kinases. On July 9, 2018, we received a notice from the Japan Patent Office stating that our Japan Patent Application has been issued as a patent. The patent claims the CG-806 compound, pharmaceutical compositions comprising the CG-806 compound, and uses for treating various diseases caused by abnormal or uncontrolled activation of protein kinases. On September 27, 2018, we

announced that the European Patent Office had issued a patent. The granted patent claims the CG-806 compound, pharmaceutical compositions comprising theCG-806 compound, and uses for treating diseases caused by abnormal or uncontrolled activation of protein kinases, such as cancer. This European patent will be nationalized in, and cover, approximately forty European countries including the United Kingdom, France, Germany, Italy, the Netherlands and Spain. The patent is expected to provide protection until the end of 2033. Finally, on March 4, 2019, we announced that the Australian Patent Office had issued a patent that claims various compounds, including the CG-806 compound, pharmaceutical compositions comprising the CG-806 compound, and uses for the treatment of various diseases, such as lymphoma or leukemia. The patent is expected to provide protection until December 2033.

We have completed several studies that demonstrate the highly differentiated profile ofCG-806. Key studies that have been presented at scientific forums are as follows:

- On April 15, 2018, at the 2018 Annual Meeting of the American Association for Cancer Research ("AACR"), we presented with the OHSU Knight Cancer Institute preclinical data demonstrating that CG-806, a pan-FLT3/pan-BTK inhibitor, demonstrates broader activity and superior potency to other FLT3 and BTK inhibitors against primary bone marrow samples from patients with hematologic malignancies. We also presented preclinical data demonstrating CG-806 targets multiple pathways to kill diverse subtypes of AML andB-cell malignancies in vitro.
- On June 15, 2018, at the 23rd Congress of the European Hematology Association ("EHA"), we presented, during a poster presentation, preclinical data demonstrating CG-806 unique binding to wild type and C481S mutant BTK. Further, we presented thatCG-806 suppresses the BCR, AKT/PI3K, ERK and NFkB signaling pathways and exerts broader and far greater potency of direct cancer cell killing that Ibrutinib against malignant bone marrow cells from patients with CLL, ALL and a host of other hematologic malignancies.
- On December 3, 2018, we announced two separate poster presentations at the American Society of Hematology (ASH) Annual Meeting being held on December 1-4, 2018. The OHSU Knight Cancer Institute and Aptose presented data in one poster and the team at The University of Texas MD Anderson Cancer Center ("MDACC") presented data in a separate poster. These presentations highlighted several key findings. First, in collaboration with the MDACC, orally administered CG-806 demonstrated efficacy in a patient derived xenograft ("PDX") study in which the bone marrow cells from a patient with AML having dual ITD and D835 mutations in FLT3 were implanted into a mouse. The dual FLT3 mutant form of AML represents a very difficult to treat population that has shown resistance to other FLT3 inhibitors, and data from the PDX model suggest that CG-806 may be useful in treating such patients. Secondly, Aptose presented high level data from preclinical GLP toxicology studies that demonstrate orally administered CG806 is a well-tolerated targeted molecule. Finally, in collaboration with the OHSU Knight Cancer Center, studies of CG-806 on 124 samples of freshly isolated bone marrow from CLL patients demonstrated both broader and greater cell killing potency for CG-806 than Ibrutinib.
- On April 1, 2019, at the 2019 Annual Meeting of the AACR, Aptose, along with our collaborators at OHSU Knight Cancer Institute, presented data highlighting CG-806 was more potent than other FLT3 inhibitors including midostaurin, sorafenib, sunitinib, dovitinib, quizartinib, crenolanib and gilteritinib. CG-806 was equally potent against cells from patients in the adverse, intermediate and favorable risk groups (2017 ELN risk stratification), and cells from patients with relapsed or transformed AML (World Health Organization classification) were as sensitive as those from patients with de novo AML. The

data demonstrated potency in primary AML patient samples across all AML subgroups including relapsed/refractory/transformed AML and those with genetic abnormalities related to poor prognosis. While patient samples with FLT3-ITD mutations were expected to have greater sensitivity to CG-806, the most surprising correlation was the sensitivity of patient samples with IDH1 R132 mutations. The enhanced sensitivity of IDH-1 mutant AML to CG-806 warrants investigation in the clinical setting. Moreover, in studies of CG-806 on AML patient bone marrow samples, we demonstrated that mutations in p53, ASXL1 and NPM1 do not hinder the potency of CG-806.

- On June 14, 2019, we presented new preclinical data for CG-806 in a poster presentation at the 24th Congress of the European Hematology Association (EHA) in Amsterdam, the Netherlands. The poster, *CG-806, preclinical in vivo efficacy and safety profile as a pan-FLT3 / pan-BTK inhibitor*, highlights the in vivo anti-leukemic efficacy of CG-806 and its GLP toxicology and toxicokinetic profile. In a preclinical MV4-11 FLT3-ITD AML xenograft mouse model, CG-806 suppressed leukemia growth at all doses tested throughout the 28-day period of dosing. In the mice treated with 100 mg/kg, 5 of 11 (45%) were cured through day 120, and in the 300 mg/kg group, 10 of 11 (91%) of the mice were cured. Retreating the "uncured' mice in these two dose groups for an additional 28 days beginning on day 88 led to rapid and robust antitumor response in all retreated mice through day 120. In the "re-treated" mice, no drug resistance and no toxicities were observed. GLP 28-day toxicology and TK studies mice and dogs showed no adverse CG-806-related effects on body weight, ophthalmic, respiratory or neurological examinations, clinical pathology (coagulation, clinical chemistry, or urinalysis), organ weight or macroscopic evaluations. No CG-806-related cardiovascular effects were noted in the 28-day GLP toxicology study or in a separate preclinical cardiovascular safety study.
- On October 24, 2019, we presented in a poster presentation at the 5th International Conference on Acute Myeloid Leukemia "Molecular and Translational" Advances in Biology and Treatment in Estoril, Portugal on the preclinical data for CG-806.
- On December 9, 2019, we announced two separate poster presentations at the American Society of Hematology (ASH) Annual Meeting being held on December 6-9, 2019. The University of Texas MD Anderson Cancer Center ("MDACC") and Aptose presented data in two separate posters. These presentations highlighted several key findings. In one poster, CG-806 broadly inhibits B-cell receptor signaling in CLL cells, resulting in CLL cell apoptosis and reduced proliferation, is more potent than ibrutinib to induce apoptosis of MEC1 CLL cells, and targets elements of the CLL microenvironment thereby potentially targeting pro-survival signals from the microenvironment. In a separate poster, CG-806 demonstrated superior anti-lymphoma effects compared with ibrutinib, exerting potent cell growth inhibitory effects in ibrutinib-resistant MCL cells, suppresses phosphor-BTK, -Stat3, -AKT, -ERK, -Src, NF-kB, and the anti-apoptotic protein Mcl1, while upregulating p53, increases autophagy in MCL cells, which may be associated with resistance to CG-806-mediated apoptosis, CG-806 treatment upregulates CXCR4/E-selectin levels in MCL cells and finally, combination of CXCR4/E-selectin antagonists with CG-806 enhances CG-806-induced apoptotic killing of MCL cells in the presence of the tumor microenvironment.

**APTO-253**

***Phase IB Trial***

APTO-253, a small molecule inhibitor of MYC gene expression, is being evaluated by Aptose in a Phase Ib clinical trial in patients with relapsed / refractory ("R/R") hematologic malignancies, particularly R/R-AML and high-risk MDS. The Phase Ib, multicenter, open-label, dose-escalation clinical trial ofAPTO-253 is designed to assess the safety, tolerability, pharmacokinetics and pharmacodynamic responses and efficacy of APTO-253 as a single agent and determine the recommended Phase II dose. APTO-253 will be administered once weekly, over a 28-day cycle. The dose escalation stage of the study could potentially enroll up to 20 patients withR/R-AML or high-risk MDS. The study is designed to then transition, as appropriate, to single-agent expansion cohorts in R/R-AML and/or high-risk MDS.

As of the date of this report, we have eight active sites recruiting patients in the dose escalation stage of the trial. The first patient, having AML, was dosed with 20mg/m2 and successfully completed the 28-day cycle. As only one patient was required at the first dose level, we then placed an MDS patient on the second dose level of 40mg/m2, and that patient successfully completed the 28-day cycle. We then successfully fulfilled the third cohort with three patients completing the28-day cycle at a dose level of 66mg/m2. Following review of relevant data by our Clinical Safety Review Committee, we plan to begin enrollment of three patients into the fourth cohort at a dose level of 100mg/m2. We observed meaningful reductions in MYC expression in the PBMC from patients at all dose levels with the new formulation of APTO-253.

We are continuing to manufacture additional drug substance and drug product for use in the ongoing trial. We have completed a second 2kg GMP batch of drug substance and are in the process of manufacturing two additional batches of GMP drug product.

We are exploring additional drug delivery methods for APTO-253 and plan to initiate additional non-clinical studies for solid tumor and hematologic cancer development. As preparing, submitting, and advancing applications for regulatory approval, developing drugs and drug product and clinical trials are sometimes complex, costly, and time-consuming processes, an estimate of the future costs is not reasonable at this time.

As reported previously, APTO-253 was placed on clinical hold by the FDA in November 2015 due to deficiencies in the drug product that was manufactured prior to 2013. Those shortcomings of the drug product were addressed and the clinical hold was lifted. More specifically, the Phase Ib trial of APTO-253 was placed on clinical hold as a consequence of an event that occurred at a clinical site with the infusion procedure. Ultimately, a root cause investigation determined that the event resulted from chemistry and manufacturing based issues, all of which were incorporated into a Chemistry, Manufacturing and Control amendment to the IND application. Effective June 29, 2018, the clinical hold was lifted and the APTO-253 clinical trial was re-initiated.

The Phase Ib trial was placed on clinical hold in order to solve a chemistry-based formulation issue, and the chemistry of the API and the formulation had undergone minor modifications to deliver a stable and soluble drug product for return to the clinical setting. In December 2016, we had successfully manufactured multiple non-GMP batches of a new drug product formulation for APTO-253; however, a batch that was the intended clinical supply encountered an unanticipated mishap during the filling process that compromised the stability of that batch of drug product. We conducted formal root cause analyses studies, identified the reason for the drug product stability failure, and established a corrective and prevention action plan for the manufacture of future batches of drug product. During the first quarter of 2018, we manufactured a new GMP clinical supply of drug product and performed studies

required to demonstrate the fitness of the drug product for clinical usage. The release specifications for the new clinical supply were met, and we presented the findings to the FDA in the second quarter of 2018. On June 28, 2018, the FDA notified us that it had lifted the clinical hold on APTO-253.

We then completed all tasks required to return APTO-253 to the Phase Ib clinical trial.

Preclinical data presented at scientific forums are as follows:

- On April 17, 2018, at the 2018 Annual Meeting of the AACR, we presented preclinical data demonstrating that APTO-253 is a new addition to the repertoire of drugs that can exploit DNA BRCA1/2 deficiency, broadening the potential applicability of APTO-253 towards solid cancer indications.
- On June 4, 2018, we announced that preclinical data elucidating the mechanism of action of APTO-253 were published in two separate articles in the June 2018 issue (Volume 17, Number 6) of Molecular Cancer Therapeutics, a peer-reviewed journal of the American Associate for Cancer Research. The most important finding disclosed in the published articles is the ability of the APTO-253 small molecule to bind to and stabilize a G-quadruplex DNA motif found in the promoter regulatory region of the MYC oncogene and to inhibit expression of the MYC gene, thereby depleting the cells of the MYC oncoprotein and leading to cancer cell death. These findings make APTO-253 the only clinical stage molecule that can directly target the MYC gene and inhibit its expression.
- On April 1, 2019, at the 2019 Annual Meeting of the AACR, we presented in vitro studies that further define the mechanism of action of APTO-253. Researchers found that APTO-253 targets a G-quadruplex motif in the P1/P2 promoter region of the MYC gene and inhibits MYC gene expression to induce apoptosis, resulting in its ability to potently kill hematologic malignant cell lines and primary samples from AML and CLL patients. In this study, researchers performed long-term in vitro studies to determine if and how cells might develop resistance to APTO-253. MYC driven Raji cells required three years in increasing concentrations of APTO-253 in order to adopt multiple modifications and develop high level resistance to APTO-253. These modifications include up-regulation of the ABCG2 transporter, acquisition of a more stable MYC protein lacking the conserved core sequence of MYC Box III generated by deletion of an internal region of the MYC gene exon 2, and utilization of alternate P3 promoter not inhibited by G4 binding and stabilization.

***Multi-Targeting Epigenetic Program***

In November 2015, we announced an exclusive drug discovery partnership with Laxai Avanti Life Sciences ("LALS") for the development of next generation epigenetic-based therapies. Under the agreement, LALS was responsible for optimizing candidates derived from our collaboration with the Moffitt Cancer Center, which was terminated in January 2017, for the development of dual-targeting single agent inhibitors for the treatment of hematologic and solid tumor cancers and we would own global rights to all newly discovered candidates characterized and optimized under the collaboration, including all generated intellectual property. As of November 2016, LALS and we had generated novel compounds that inhibit both the bromodomain proteins and oncogenic kinases, while improving pharmaceutical properties that could serve as a basis for further optimization towards a lead preclinical candidate. However, due to a prioritization of development efforts, LALS and we suspended work on the program in January 2017, and the collaboration with LALS was terminated. However, the program delivered novel intellectual property and compelling hit molecules for further optimization.

On March 7, 2018, we entered into an exclusive global license agreement with Ohm Oncology ("OHM"), an affiliate of LALS that was formed in 2016 to advance the clinical development of compelling molecules derived from the LALS initiative, for the development, manufacture and commercialization of APL-581, as well as related molecules from our dual bromodomain and extra-terminal domain motif protein and kinase inhibitor program. Under the agreement, we will retain reacquisition rights to certain molecules, while OHM/LALS will have the rights to develop and sublicense all other molecules. We have received two separate upfront cash payments and are eligible to receive up to $125 million of additional payments based on the achievement of certain development, regulatory and sales milestones, as well as significant royalties on future sales generated from the program, if any.

**Recent Developments**

To facilitate this offering, on December 16, 2019, we, Piper Jaffray & Co. and Canaccord Genuity LLC mutually entered into a Termination and Waiver Agreement, dated December 16, 2019, pursuant to which our Equity Distribution Agreement with Piper Jaffray & Co. and Canaccord Genuity LLC, as co-placement agents, dated May 24, 2019 (the "Equity Distribution Agreement") was terminated. We are no longer offering any securities pursuant to the prospectus supplement filed with the Securities and Exchange Commission on May 24, 2019 relating to the offer and sale of our common shares pursuant to the Equity Distribution Agreement. We have also mutually, with Aspire Capital Fund, LLC, agreed to terminate, pursuant to a Mutual Termination Agreement, dated December 16, 2019, the Common Share Purchase Agreement with Aspire Capital Fund, LLC, dated May 7, 2019 (the "Aspire Agreement"). Pursuant to the Aspire Agreement, Aspire Capital Fund, LLC had committed to purchase up to $20,000,000 of our common shares from time to time for up to 30 months. Accordingly, as we have terminated the Aspire Agreement, we are no longer offering any securities pursuant to the prospectus supplement filed with the Securities and Exchange Commission on May 13, 2019.

## THE OFFERING

| | |
|---|---|
| Common shares offered by us | 16,125,000 common shares (or 18,543,750 common shares if the underwriters' option is exercised in full) |
| Common shares outstanding immediately after this offering | 71,611,564 common shares (or 74,030,314 common shares if the underwriters' option is exercised in full) |
| Use of proceeds | We intend to use the net proceeds from this offering as described under the heading "*Use of Proceeds*" in this prospectus supplement. We may use all or a portion of the net proceeds to (i) accelerate and expand clinical trials for CG-806; (ii) accelerate and expand our clinical trials for APTO-253; (iii) acquire and fund (including through partnerships and in-licensing) additional clinical assets; and (iv) for working capital and general corporate purposes relating to (i), (ii) or (iii) above. |
| Nasdaq Capital Market symbol | "APTO" |
| Toronto Stock Exchange symbol | "APS" |
| Risk factors | This investment involves a high degree of risk. See "*Risk Factors*" beginning on page S-14 of this prospectus supplement. |

The number of common shares to be outstanding after this offering as reflected in the table above is based on the actual number of shares outstanding as of September 30, 2019, which was 55,486,564 common shares, which does not include:

- 6,103,137 common shares issuable upon exercise of outstanding stock options having a weighted average exercise price of $2.81 per common share as of September 30, 2019;
- 40,000 common shares issuable upon the vesting of restricted share units outstanding as of September 30, 2019;
- 3,567,012 common shares that have been reserved for issuance in connection with future grants under our stock option plans as of September 30, 2019, and
- 1,800,000 common shares that have been issued since September 30, 2019 in connection with sales to Aspire Capital Fund, LLC through the Common Share Purchase Agreement dated May 7, 2019.

Unless we specifically state otherwise, all information in this prospectus supplement assumes no exercise by the underwriters of their option to purchase additional common shares.

## RISK FACTORS

An investment in our common shares is highly speculative and subject to a number of known and unknown risks. Before making an investment decision, you should carefully consider the risks described in the sections entitled "Risk Factors" in our most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q as filed with the SEC, which are incorporated herein by reference in their entirety, as well any amendment or updates to our risk factors reflected in subsequent filings with the SEC and the risks described below. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment. This prospectus supplement and the incorporated documents also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks mentioned elsewhere in this prospectus.

**Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.**

Our management will have broad discretion in the application of the proceeds from the offering, and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common shares. Our failure to apply these funds effectively could have a material adverse effect on our business and cause the price of our common shares to decline.

**If you purchase our common shares in this offering, you will incur immediate and substantial dilution in the book value of your shares.**

Investors purchasing common shares in this offering will pay a price per common share that substantially exceeds the as adjusted book value per common share of our tangible assets as of September 30, 2019. As a result, investors purchasing common shares in this offering will incur immediate dilution of $2.78 per common share, based on the difference between the public offering price of $4.00 per common share and the as adjusted net tangible book value per common share of our outstanding common shares as of September 30, 2019.

These future issuances of common shares or common share-related securities and any additional shares issued in connection with acquisitions, if any, may result in further dilution. For a further description of the dilution that you will experience immediately after this offering, see "Dilution."

**In addition to potential dilution associated with future fundraising transactions, we currently have significant numbers of securities outstanding that are exercisable for our common shares, which could result in significant additional dilution and downward pressure on our stock price.**

As of September 30, 2019, there were 55,486,546 common shares outstanding. In addition, as of September 30, 2019, there were outstanding stock options representing the potential issuance of an additional 6,103,137 common shares. The issuance of these shares in the future would result in significant dilution to our current stockholders and could adversely affect the price of our common shares and the terms on which we could raise additional capital. In addition, the issuance and subsequent trading of shares could cause the supply of our common shares available for purchase in the market to exceed the purchase demand for our common shares. Such supply in excess of demand could cause the market price of our common shares to decline.

**Future sales of a significant number of our common shares in the public markets, or the perception that such sales could occur, could depress the market price of our common shares.**

Sales of a substantial number of our common shares in the public markets, or the perception that such sales could occur, could depress the market price of our common shares and impair our ability to raise

capital through the sale of additional equity securities. A substantial number of common shares are being offered by this prospectus supplement, and we cannot predict if and when the sales agents may sell such shares in the public markets. In addition, we cannot predict the number of these shares that might be sold nor the effect that future sales of our common shares would have on the market price of our common shares.

## USE OF PROCEEDS

We estimate that the net proceeds from the sale of the 16,125,000 common shares that we are offering will be approximately $59.59 million ($68.58 million if the underwriters' option to purchase additional common shares is exercised in full) based on the public offering price of $4.00 per common share, after deducting the estimated underwriting discounts and expenses and estimated offering expenses payable by us.

We intend to use the net proceeds of the offering to (i) accelerate and expand clinical trials for CG-806; (ii) accelerate and expand our clinical trials for APTO-253; (iii) acquire and fund (including through partnerships and in-licensing) additional clinical assets; and (iv) for working capital and general corporate purposes relating to (i), (ii) or (iii) above. Accordingly, our management will have broad discretion in the application of net proceeds.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to be received from this offering. The amounts and timing of our actual expenditures will depend on numerous factors including the progress in, and costs of, our clinical trials and other preclinical development programs. Accordingly, our management will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of management regarding the application of the net proceeds from the offering. Pending such uses set forth above, we plan to invest the net proceeds in government securities and other short-term investment grade, marketable securities.

## DILUTION

Our net tangible book value as of September 30, 2019 was approximately $27.43 million, or $0.49 per common share. Net tangible book value per common share is calculated by subtracting our total liabilities from our total tangible assets, which is total assets less intangible assets, and dividing this amount by the number of common shares outstanding.

After giving effect to the sale of 16,125,000 common shares at a public offering price of $4.00 per common share, and after deducting estimated offering commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2019 would have been approximately $87.31 million, or $1.22 per common share. This represents an immediate increase in net tangible book value of $0.73 per common share to existing stockholders and immediate dilution in net tangible book value of $2.78 per common share to investors participating in this offering. The following table illustrates this dilution on a per common share basis:

| | | |
|---|---|---|
| Assumed public offering price per common share | | $ 4.00 |
| Net tangible book value per common share as of September 30, 2019 | $ 0.49 | |
| Increase per common share attributable to the offering | $ 0.73 | |
| As-adjusted net tangible book value per common share after this offering | | $ 1.22 |
| Dilution per common share to new investors | | $ 2.78 |

If the underwriters exercise in full their option to purchase 2,418,750 additional common shares in this offering, the as adjusted net tangible book value per common share after giving effect to this offering would be $1.30 per common share, and the dilution in as adjusted net tangible book value per common share to investors in this offering would be $2.70 per common share.

The above discussion and table are based on the 55,486,564 common shares outstanding as of September 30, 2019 and exclude the following:

- 6,103,137 common shares issuable upon exercise of outstanding stock options having a weighted average exercise price of $2.81 per common share as of September 30, 2019;
- 40,000 common shares issuable upon the vesting of restricted share units outstanding as of September 30, 2019;
- 3,567,012 common shares that have been reserved for issuance in connection with future grants under our stock option plans as of September 30, 2019, and
- 1,800,000 common shares that have been issued since September 30, 2019 in connection with sales to Aspire Capital Fund, LLC through the Common Share Purchase Agreement dated May 7, 2019.

## MATERIAL U.S. FEDERAL INCOME TAXATION CONSIDERATIONS

The following discussion is limited to certain material U.S. federal income tax considerations relating to the purchase, ownership and disposition of the common shares by U.S. Holders (as defined below) who purchase common shares under the offering. This discussion applies to U.S. Holders that hold common shares as capital assets. This summary is for general information purposes only and does not purport to be a complete analysis or listing of all potential U.S. federal income tax considerations that may apply to a U.S. Holder arising from and relating to the acquisition, ownership, and disposition of common shares. Except as discussed below, this summary does not discuss tax reporting requirements. Accordingly, this summary is not intended to be, and should not be construed as, legal or U.S. federal income tax advice with respect to any U.S. Holder.

No legal opinion from U.S. legal counsel or ruling from the Internal Revenue Service (the "IRS") has been requested, or will be obtained, regarding the U.S. federal income tax consequences of the acquisition, ownership, and disposition of common shares. This summary is not binding on the IRS, and the IRS is not precluded from taking a position that is different from, and contrary to, the positions taken in this summary. In addition, because the authorities on which this summary is based are subject to various interpretations, the IRS and the U.S. courts could disagree with one or more of the conclusions described in this summary.

This discussion is based on the U.S. Internal Revenue Code of 1986, as amended (the "Code"), U.S. Treasury regulations promulgated thereunder and administrative and judicial interpretations thereof, all as in effect on the date hereof and all of which are subject to change, possibly with retroactive effect. This summary does not discuss the potential effects, whether adverse or beneficial, of any proposed legislation.

This discussion does not address all of the U.S. federal income tax considerations that may be relevant to specific U.S. Holders in light of their particular circumstances or to U.S. Holders subject to special treatment under U.S. federal income tax law (such as certain financial institutions, insurance companies, broker-dealers and traders in securities or other persons that generally mark their securities to market for U.S. federal income tax purposes, tax-exempt entities, retirement plans, regulated investment companies, real estate investment trusts, certain former citizens or residents of the United States, persons who hold common shares as part of a "straddle", "hedge", "conversion transaction", "synthetic security" or integrated investment, persons that have a "functional currency" other than the U.S. dollar, persons that own (or are deemed to own) 10% or more (by voting power or value) of common shares, corporations that accumulate earnings to avoid U.S. federal income tax, persons required to accelerate the recognition of any item of gross income with respect to common shares as a result of such income being recognized on an applicable financial statement, and partnerships and other pass-through entities, and investors in such pass-through entities). This discussion does not address any U.S. state or local or non-U.S. tax considerations or any U.S. federal estate, gift or alternative minimum tax considerations.

As used in this discussion, the term "U.S. Holder" means a beneficial owner of the common shares that is, for U.S. federal income tax purposes, (1) an individual who is a citizen or resident of the United States, (2) a corporation (or entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof, or the District of Columbia, (3) an estate the income of which is subject to U.S. federal income tax regardless of its source or (4) a trust (x) with respect to which a court within the United States is able to exercise primary supervision over its administration and one or more United States persons have the authority to control all of its substantial decisions or (y) that has elected under applicable U.S. Treasury regulations to be treated as a domestic trust for U.S. federal income tax purposes.

If an entity treated as a partnership for U.S. federal income tax purposes holds the common shares, the U.S. federal income tax considerations relating to an investment in the common shares will depend in part upon the status and activities of such entity and the particular partner. Any such entity should consult its own tax advisor regarding the U.S. federal income tax considerations applicable to it and its partners of the purchase, ownership and disposition of the common shares.

Persons holding common shares should consult their own tax advisors as to the particular tax considerations applicable to them relating to the purchase, ownership and disposition of common shares, including the applicability of U.S. federal, state and local tax laws and non-U.S. tax laws.

**Distributions**

Subject to the discussion below under "*Passive Foreign Investment Company Considerations*", a U.S. Holder that receives a distribution with respect to the common shares generally will be required to include the gross amount of such distribution (before reduction for any Canadian withholding taxes) in gross income as a dividend when actually or constructively received to the extent of the U.S. Holder's pro rata share of our current and/or accumulated earnings and profits (as determined under U.S. federal income tax principles). To the extent a distribution received by a U.S. Holder is not a dividend because it exceeds the U.S. Holder's *pro rata* share of our current and accumulated earnings and profits, it will be treated first as a tax-free return of capital and reduce (but not below zero) the adjusted tax basis of the U.S. Holder's common shares. To the extent the distribution exceeds the adjusted tax basis of the U.S. Holder's common shares, the remainder will be taxed as capital gain. Because we may not calculate our earnings and profits under U.S. federal income tax principles, U.S. Holders should expect all distributions to be reported to them as dividends.

The U.S. dollar value of any distribution on the common shares made in Canadian dollars generally should be calculated by reference to the exchange rate between the U.S. dollar and the Canadian dollar in effect on the date of receipt (or deemed receipt) of such distribution by the U.S. Holder regardless of whether the Canadian dollars so received are in fact converted into U.S. dollars at that time. If the Canadian dollars received are converted into U.S. dollars on the date of receipt (or deemed receipt), a U.S. Holder generally should not recognize currency gain or loss on such conversion. If the Canadian dollars received are not converted into U.S. dollars on the date of receipt (or deemed receipt), a U.S. Holder generally will have a basis in such Canadian dollars equal to the U.S. dollar value of such Canadian dollars on the date of receipt (or deemed receipt). Any gain or loss on a subsequent conversion or other disposition of such Canadian dollars by such U.S. Holder generally will be treated as ordinary income or loss and generally will be income or loss from sources within the United States for U.S. foreign tax credit purposes. Different rules apply to U.S. Holders who use the accrual method of tax accounting. Each U.S. Holder should consult its own U.S. tax advisors regarding the U.S. federal income tax consequences of receiving, owning, and disposing of foreign currency.

Distributions on the common shares that are treated as dividends generally will constitute income from sources outside the United States for foreign tax credit purposes and generally will constitute passive category income. Such dividends will not be eligible for the "dividends received" deduction generally allowed to corporate shareholders with respect to dividends received from U.S. corporations. Dividends paid by a "qualified foreign corporation" are eligible for taxation at a reduced capital gains rate rather than the marginal tax rates generally applicable to ordinary income provided that a holding period requirement (more than 60 days of ownership, without protection from the risk of loss, during the 121-day period beginning 60 days before the ex-dividend date) and certain other requirements are met. However, if we are a PFIC for the taxable year in which the dividend is paid or the preceding taxable year (see discussion below under "*Passive Foreign Investment Company Considerations*"), we will not be treated as a qualified foreign corporation, and therefore the reduced capital gains tax rate described

above will not apply. Each U.S. Holder is advised to consult its own tax advisors regarding the availability of the reduced tax rate on dividends.

If a U.S. Holder is subject to Canadian withholding tax on dividends paid on the holder's common shares, the U.S. Holder may be eligible, subject to a number of complex limitations, to claim a credit against its U.S. federal income tax for the Canadian withholding tax imposed on the dividends. A U.S. Holder may claim a deduction for the Canadian withholding tax in lieu of a credit, but only for a year in which the U.S. Holder elects to do so for all creditable foreign income taxes. The rules governing the foreign tax credit are complex. Each U.S. Holder is advised to consult its own tax advisor regarding the availability of the foreign tax credit under its particular circumstances.

**Sale, Exchange or Other Disposition of Common Shares**

Subject to the discussion below under "*Passive Foreign Investment Company Considerations*" a U.S. Holder generally will recognize capital gain or loss for U.S. federal income tax purposes upon the sale, exchange or other disposition of common shares. The amount of gain recognized will equal the excess of the amount realized (i.e., the amount of cash plus the fair market value of any property received) over the U.S. Holder's adjusted tax basis in the common shares sold or exchanged. The amount of loss recognized will equal the excess of the U.S. Holder's adjusted tax basis in the common shares sold or exchanged over the amount realized. Such capital gain or loss generally will be long-term capital gain or loss if, on the date of sale, exchange or other disposition, the common shares were held by the U.S. Holder for more than one year. Net long-term capital gain derived by a non-corporate U.S. Holder currently is subject to tax at reduced rates. The deductibility of a capital loss is subject to limitations. Any gain or loss recognized from the sale, exchange or other disposition of common shares will generally be gain or loss from sources within the United States for U.S. foreign tax credit purposes, except as otherwise provided in an applicable income tax treaty and if an election is properly made under the Code.

**Passive Foreign Investment Company Considerations**

In general, a corporation organized outside the United States will be treated as a PFIC in any taxable year in which either (1) at least 75% of its gross income is "passive income" or (2) at least 50% of the average quarterly value of its assets is attributable to assets that produce passive income or are held for the production of passive income. Passive income for this purpose generally includes, among other things, dividends, interest, royalties, rents, and gains from commodities transactions and from the sale or exchange of property that gives rise to passive income. In determining whether a foreign corporation is a PFIC, a proportionate share of the items of gross income and assets of each corporation in which it owns, directly or indirectly, at least a 25% interest (by value) are taken into account.

We believe we were a PFIC for our taxable year ended December 31, 2018 and based on the nature of our business, the projected composition of our gross income and the projected composition and estimated fair market values of our assets, we expect to be a PFIC for our taxable year ending December 31, 2019 and may be a PFIC in subsequent tax years. No opinion of legal counsel or ruling from the IRS concerning our status as a PFIC has been obtained or is currently planned to be requested. However, the determination of our PFIC status is made annually after the close of each taxable year and it is difficult to predict before such determination whether we will be a PFIC for any given taxable year. Even if we determine that we are not a PFIC after the close of a taxable year, there can be no assurance that the IRS will agree with our conclusion. No assurance can be provided regarded our PFIC status, and neither we nor our United States counsel expresses any opinion with respect to our PFIC status for the taxable year ended December 31, 2018 or for any other taxable year.

If we are a PFIC at any time when a U.S. Holder owns common shares, such U.S. Holder will generally be subject to federal tax under the excess distribution regime on (1) distributions paid during a taxable

year that are greater than 125% of the average annual distributions paid in the three preceding taxable years, or, if shorter, the U.S. Holder's holding period for the common shares, and (2) any gain recognized on a sale, exchange or other disposition (which would include a pledge) of common shares. Under the excess distribution regime, the U.S. Holder's tax liability will be determined by allocating such distribution or gain ratably to each day in the U.S. Holder's holding period for the common shares. The amount allocated to the current taxable year (i.e., the year in which the distribution occurs or the gain is recognized) and any year prior to the first taxable year in which we were a PFIC in the holding period will be taxed as ordinary income earned in the current taxable year. The amount allocated to other taxable years will be taxed at the highest marginal rate in effect (for individuals or corporations as applicable) for ordinary income in each such taxable year, and an interest charge, generally that applicable to the underpayment of tax, will be added to the tax. Once we are a PFIC with respect to a particular U.S. Holder, we generally will remain a PFIC with respect to the U.S. Holder, unless we cease to meet the gross income and asset tests described above and the U.S. Holder makes a "deemed sale" election with respect to all of the U.S. Holder's common shares. If such election is made, the U.S. Holder will be deemed to have sold the common shares held at their fair market value on the last day of the last taxable year in which we qualified as a PFIC, and any gain from such deemed sale would be taxed under the excess distribution regime described above. After the deemed sale election, the U.S. Holder's common shares would not be treated as common shares of a PFIC unless we subsequently became a PFIC.

If we are a PFIC for any taxable year during which a U.S. Holder holds the common shares and one of our non-United States subsidiaries is also a PFIC (i.e., a lower-tier PFIC), the U.S. Holder will be treated as owning a proportionate amount (by value) of the common shares of the lower-tier PFIC and will be subject to the rules described above on certain distributions by the lower-tier PFIC and a disposition (or deemed disposition) of common shares of the lower-tier PFIC, even though the U.S. Holder would not receive the distributions or the proceeds from the disposition of the common shares of the lower-tier PFIC. Each U.S. Holder is advised to consult its own tax advisors regarding the application of the PFIC rules to any of our subsidiaries.

The tax considerations that would apply if we were a PFIC would be different from those described above if a U.S. Holder were able to make a valid "qualified electing fund", or "QEF election". We do not intend to provide U.S. Holders with the information required to permit them to make a QEF election and, accordingly, prospective investors should assume that a QEF election will not be available.

A U.S. Holder may avoid taxation under the excess distribution regime if the holder makes a valid "mark-to-market" election. An electing U.S. Holder generally would take into account as ordinary income each year, the excess of the fair market value of the common shares held at the end of the taxable year over the adjusted tax basis of such common shares. The U.S. Holder would also take into account, as an ordinary loss each year, the excess of the adjusted tax basis of such common shares over their fair market value at the end of the taxable year, but only to the extent of the excess of amounts previously included in income over ordinary losses deducted as a result of the mark-to-market election. The U.S. Holder's tax basis in the common shares would be adjusted to reflect any income or loss recognized as a result of the mark-to-market election. Any gain from a sale, exchange or other disposition of the common shares in any taxable year in which we are a PFIC, (i.e., when we meet the gross income test or asset test described above) would be treated as ordinary income and any loss from a sale, exchange or other disposition would be treated first as an ordinary loss (to the extent of any net mark-to-market gains previously included in income) and thereafter as a capital loss. If we cease to be a PFIC, any gain or loss recognized by a U.S. Holder on the sale or exchange of the common shares would be classified as a capital gain or loss.

A mark-to-market election is available to a U.S. Holder only for "marketable stock". Generally, stock will be considered marketable stock if it is "regularly traded" on a "qualified exchange" within the meaning of applicable U.S. Treasury regulations. A class of stock is regularly traded during any calendar

year during which such class of stock is traded, other than in *de minimis* quantities, on at least 15 days during each calendar quarter. The common shares should be marketable stock as long as they are listed on the TSX and are regularly traded. A mark-to-market election will not apply to the common shares for any taxable year during which we are not a PFIC, but will remain in effect with respect to any subsequent taxable year in which we again become a PFIC. Such election will not apply to any subsidiary that we own. Accordingly, a U.S. Holder may continue to be subject to the PFIC rules with respect to any lower-tier PFICs notwithstanding the U.S. Holder's mark-to-market election.

Each U.S. person who is a shareholder of a PFIC generally must file an annual report with the IRS containing certain information, and the failure to file such report could result in the imposition of penalties on such U.S. person and in the extension of the statute of limitations with respect to federal income tax returns filed by such U.S. person.

The U.S. federal income tax rules relating to PFICs are very complex. U.S. Holders are urged to consult their own tax advisors with respect to the purchase, ownership and disposition of common shares, the consequences to them of an investment in a PFIC, any elections available with respect to the common shares and the IRS information reporting obligations with respect to the purchase, ownership and disposition of common shares in the event we are considered a PFIC.

**Additional Tax on Passive Income**

Certain U.S. Holders that are individuals, estates or trusts (other than trusts that are exempt from tax) will be subject to a 3.8% tax on all or a portion of their "net investment income", which includes dividends on the common shares, and net gains from the disposition of the common shares. Further, excess distributions treated as dividends, gains treated as excess distributions, and mark-to-market inclusions and deductions are all included in the calculation of net investment income.

Treasury regulations provide, subject to the election described in the following paragraph, that solely for purposes of this additional tax, that distributions of previously taxed income will be treated as dividends and included in net investment income subject to the additional 3.8% tax. Additionally, to determine the amount of any capital gain from the sale or other taxable disposition of common shares that will be subject to the additional tax on net investment income, a U.S. Holder who has made a QEF election will be required to recalculate its basis in the common shares excluding QEF election basis adjustments.

Alternatively, a U.S. Holder may make an election which will be effective with respect to all interests in a PFIC for which a QEF election has been made and which was held in that year or acquired in future years. Under this election, a U.S. Holder pays the additional 3.8% tax on QEF election income inclusions and on gains calculated after giving effect to related tax basis adjustments. U.S. Holders that are individuals, estates or trusts should consult their own tax advisors regarding the applicability of this tax to any of their income or gains in respect of the common shares.

**Information Reporting with Respect to Foreign Financial Assets**

U.S. individuals that own "specified foreign financial assets" with an aggregate fair market value exceeding certain threshold amounts generally are required to file an information report on IRS Form 8938 with respect to such assets with their tax returns. Significant penalties may apply to persons who fail to comply with these rules. Specified foreign financial assets include not only financial accounts maintained in foreign financial institutions, but also, unless held in accounts maintained by a financial institution, any stock or security issued by a non-U.S. person. Upon the issuance of future U.S. Treasury regulations, these information reporting requirements may apply to certain U.S. entities that own specified foreign financial assets. The failure to report information required under the current regulations could result in substantial penalties and in the extension of the statute of limitations with respect to

federal income tax returns filed by a U.S. Holder. U.S. Holders should consult their own tax advisors regarding the possible implications of these U.S. Treasury regulations for an investment in common shares.

**Special Reporting Requirements for Transfers to Foreign Corporations**

A U.S. Holder that acquires common shares generally will be required to file Form 926 with the IRS if (1) immediately after the acquisition such U.S. Holder, directly or indirectly, owns at least 10% of the common shares, or (2) the amount of cash transferred in exchange for common shares during the 12-month period ending on the date of the acquisition exceeds US$100,000. Significant penalties may apply for failing to satisfy these filing requirements. U.S. Holders are urged to contact their own tax advisors regarding these filing requirements.

**Information Reporting and Backup Withholding**

Dividends on and proceeds from the sale or other disposition of common shares may be reported to the IRS unless the U.S. Holder establishes a basis for exemption. Backup withholding may apply to amounts subject to reporting if (1) the holder fails to provide an accurate taxpayer identification number or otherwise establish a basis for exemption, or (2) is described in certain other categories of persons.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules generally will be allowed as a refund or a credit against a U.S. Holder's U.S. federal income tax liability if the required information is furnished by the U.S. Holder on a timely basis to the IRS.

**THE DISCUSSION ABOVE IS A GENERAL SUMMARY. IT DOES NOT COVER ALL TAX MATTERS THAT MAY BE OF IMPORTANCE TO A US HOLDER. EACH US HOLDER IS URGED TO CONSULT ITS OWN TAX ADVISOR ABOUT THE TAX CONSEQUENCES TO IT OF AN INVESTMENT IN COMMON SHARES IN LIGHT OF THE INVESTOR'S OWN CIRCUMSTANCES.**

## UNDERWRITING

We are offering the common shares described in this prospectus supplement through Piper Jaffray & Co. as book-running manager. We have entered into a firm commitment underwriting agreement with Piper Jaffray & Co., as representative of the several underwriters named below. Subject to the terms and conditions set forth in the underwriting agreement, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of common shares listed opposite its name below:

| Name | Number of Shares |
|---|---|
| Piper Jaffray & Co. | 10,481,250 |
| Canaccord Genuity LLC | 3,547,500 |
| Oppenheimer & Co. Inc. | 1,612,500 |
| JonesTrading Institutional Services LLC | 483,750 |
| **Total** | 16,125,000 |

### Option to Purchase Additional Shares

We have granted the underwriters an option to buy up to 2,418,750 additional common shares from us. The underwriters may exercise this option at any time and from time to time during the 30-day period from the date of this prospectus supplement. If any additional common shares are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

### Discounts and Commissions

The underwriters have advised us that they propose to offer the common shares directly to the public at the offering price set forth on the cover page of this prospectus supplement. The underwriters propose to offer the shares to certain dealers at the same price less a concession of not more than $0.168 per share. After the offering, these figures may be changed by the underwriters.

The underwriting fee is equal to the public offering price per share of common share less the amount paid by the underwriters to us per common share. The following table shows the per share and total underwriting discount to be paid by the underwriters in connection with this offering, assuming either no exercise and full exercise of the option to purchase additional shares:

| | | Total | |
|---|---|---|---|
| | Per Share | Without Option | With Option |
| Public offering price | $ 4.00 | $ 64,500,000 | $ 74,175,000 |
| Underwriting discounts and commissions | $ 0.28 | $ 4,515,000 | $ 5,192,250 |
| Proceeds, before expenses, to us | $ 3.72 | $ 59,985,000 | $ 68,982,750 |

We estimate that the total fees and expenses payable by us, excluding underwriting discount and excluding the reimbursement of the underwriters' expenses, will be approximately $300,000. We have also agreed to reimburse the underwriters for certain of their expenses in an amount up to $100,000.

### Indemnification of Underwriters

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the underwriters may be required to make in respect of those liabilities.

**No Sales of Similar Securities**

We and each of our directors and executive officers are subject to lock-up agreements that, subject to certain customary exceptions, prohibit us and them from offering, pledging, announcing the intention to sell, selling, contracting to sell, selling any option or contract to purchase, purchasing any option or contract to sell, granting any option, right or warrant to purchase, making any short sale or otherwise transferring or disposing of, directly or indirectly, any common shares or any securities convertible into or exercisable or exchangeable for common shares for a period of at least 90 days following the date of this prospectus supplement without the prior written consent of Piper Jaffray & Co.

**Listing**

Our common shares are listed on the Nasdaq Capital Market under the symbol "APTO."

The TSX has accepted notice of the offering and we are relying on the exemption included in section 602.1 of the TSX Company Manual.

**Price Stabilization, Short Positions and Penalty Bids**

To facilitate the offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common shares during and after the offering. Specifically, the underwriters may over-allot or otherwise create a short position in the common shares for their own account by selling more common shares than we have sold to them. Short sales involve the sale by the underwriters of a greater number of shares than the underwriters are required to purchase in the offering. The underwriters may close out any short position by either exercising their option to purchase additional shares or purchasing shares in the open market.

In addition, the underwriters may stabilize or maintain the price of the common shares by bidding for or purchasing common shares in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if common shares previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the common shares at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the common shares to the extent that it discourages resales of the common shares. The magnitude or effect of any stabilization or other transactions is uncertain. These transactions may be effected on Nasdaq or otherwise and, if commenced, may be discontinued at any time. The underwriters may also engage in passive market making transactions in our common shares. Passive market making consists of displaying bids on Nasdaq and is limited by the prices of independent market makers and effecting purchases is limited by those prices in response to order flow. Rule 103 of Regulation M promulgated by the SEC limits the amount of net purchases that each passive market maker may make and the displayed size of each bid. Passive market making may stabilize the market price of the common shares at a level above that which might otherwise prevail in the open market and, if commenced, may be discontinued at any time.

**Electronic Distribution**

This prospectus supplement and the accompanying base prospectus in electronic format may be made available on the web sites maintained by one or more of the underwriters and the underwriters may distribute prospectuses and prospectus supplements electronically.

**Affiliations**

From time to time in the ordinary course of its businesses, the underwriters and certain of their affiliates have engaged, and may in the future engage, in commercial banking or investment banking transactions with us and our affiliates.

**Selling Restrictions**

***Notice to Prospective Investors in the European Economic Area*** In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), each underwriter represents and agrees that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, it has not made and will not make an offer of securities which are the subject of the offering contemplated by this prospectus supplement to the public in that Relevant Member State other than:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the securities to be offered so as to enable an investor to decide to purchase or subscribe the securities, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression Prospectus Directive means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU

***Notice to Prospective Investors in the United Kingdom*** Each of the underwriters severally represents, warrants and agrees as follows:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 ("FSMA") received by it in connection with the issue or sale of the securities in circumstances in which Section 21 of the FSMA does not apply to us; and

(b) it has complied with, and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

***Notice to Prospective Investors in Israel*** In the State of Israel this prospectus supplement shall not be regarded as an offer to the public to purchase securities under the Israeli Securities Law, 5728 — 1968, which requires a prospectus to be published and authorized by the Israel Securities Authority, if it complies with certain provisions of Section 15 of the Israeli Securities Law, 5728 — 1968, including, inter alia, if: (i) the offer is made distributed or directed to not more than 35 investors, subject to certain conditions, or the Addressed Investors; or (ii) the offer is made, distributed or directed to certain qualified investors defined in the First Addendum of the Israeli Securities Law, 5728 — 1968, subject to certain conditions, or the Qualified Investors. The Qualified Investors shall not be taken into account in the count of the Addressed Investors and may be offered to purchase securities in addition to the 35 Addressed Investors. Our company has not and will not take any action that would require it to publish a prospectus in accordance with and subject to the Israeli Securities Law, 5728 — 1968. We have not

and will not distribute this prospectus supplement or make, distribute or direct an offer to subscribe for our securities to any person within the State of Israel, other than to Qualified Investors and up to 35 Addressed Investors.

Qualified Investors may have to submit written evidence that they meet the definitions set out in of the First Addendum to the Israeli Securities Law, 5728 — 1968. In particular, we may request, as a condition to be offered securities, that Qualified Investors will each represent, warrant and certify to us or to anyone acting on our behalf: (i) that it is an investor falling within one of the categories listed in the First Addendum to the Israeli Securities Law, 5728 — 1968; (ii) which of the categories listed in the First Addendum to the Israeli Securities Law, 5728 — 1968 regarding Qualified Investors is applicable to it; (iii) that it will abide by all provisions set forth in the Israeli Securities Law, 5728 — 1968 and the regulations promulgated thereunder in connection with the offer to be issued securities; (iv) that the securities that it will be issued are, subject to exemptions available under the Israeli Securities Law, 5728 — 1968: (a) for its own account; (b) for investment purposes only; and (c) not issued with a view to resale within the State of Israel, other than in accordance with the provisions of the Israeli Securities Law, 5728 — 1968; and (v) that it is willing to provide further evidence of its Qualified Investor status. Addressed Investors may have to submit written evidence in respect of their identity and may have to sign and submit a declaration containing, inter alia, the Addressed Investor's name, address and passport number or Israeli identification number.

***Notice to Prospective Investors in Hong Kong*** The securities may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of the Laws of Hong Kong) ("Companies (Winding Up and Miscellaneous Provisions) Ordinance") or which do not constitute an invitation to the public within the meaning of the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) ("Securities and Futures Ordinance"), or (ii) to "professional investors" as defined in the Securities and Futures Ordinance and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance, and no advertisement, invitation or document relating to the securities may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" in Hong Kong as defined in the Securities and Futures Ordinance and any rules made thereunder

***Notice to Prospective Investors in Singapore*** This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined under Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA")) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to conditions set forth in the SFA. Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for 6 months after that corporation has acquired the shares under Section 275 of the

SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore ("Regulation 32").

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for 6 months after that trust has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than S$200,000 (or its equivalent in a foreign currency) for each transaction (whether such amount is to be paid for in cash or by exchange of securities or other assets), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

***Notice to Prospective Investors in Japan*** The securities have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended), or the FIEA. The securities may not be offered or sold, directly or indirectly, in Japan or to or for the benefit of any resident of Japan (including any person resident in Japan or any corporation or other entity organized under the laws of Japan) or to others for reoffering or resale, directly or indirectly, in Japan or to or for the benefit of any resident of Japan, except pursuant to an exemption from the registration requirements of the FIEA and otherwise in compliance with any relevant laws and regulations of Japan.

***Notice to Prospective Investors in Australia*** No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission ("ASIC"), in relation to the offering. This offering document does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act. Any offer in Australia of the shares may only be made to persons (the "Exempt Investors") who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This offering document contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this offering document is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

***Notice to Prospective Investors in Dubai International Financial Centre*** This offering document relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This offering document is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth in this prospectus and has no responsibility for the offering document. The securities to which this offering document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the securities offered should conduct their own due diligence on the securities. If you do not understand the contents of this offering document you should consult an authorized financial advisor.

***Notice to Prospective Investors in Switzerland*** We have not and will not register with the Swiss Financial Market Supervisory Authority ("FINMA") as a foreign collective investment scheme pursuant to Article 119 of the Federal Act on Collective Investment Scheme of 23 June 2006, as amended ("CISA"), and accordingly the securities being offered pursuant to this prospectus have not and will not be approved, and may not be licensable, with FINMA. Therefore, the securities have not been authorized for distribution by FINMA as a foreign collective investment scheme pursuant to Article 119 CISA and the securities offered hereby may not be offered to the public (as this term is defined in Article 3 CISA) in or from Switzerland. The securities may solely be offered to "qualified investors," as this term is defined in Article 10 CISA, and in the circumstances set out in Article 3 of the Ordinance on Collective Investment Scheme of 22 November 2006, as amended ("CISO"), such that there is no public offer. Investors, however, do not benefit from protection under CISA or CISO or supervision by FINMA. This prospectus and any other materials relating to the securities are strictly personal and confidential to each offeree and do not constitute an offer to any other person. This prospectus may only be used by those qualified investors to whom it has been handed out in connection with the offer described in this prospectus and may neither directly or indirectly be distributed or made available to any person or entity other than its recipients. It may not be used in connection with any other offer and shall in particular not be copied and/or distributed to the public in Switzerland or from Switzerland. This prospectus does not constitute an issue prospectus as that term is understood pursuant to Article 652a and/or 1156 of the Swiss Federal Code of Obligations. We have not applied for a listing of the securities on the SIX Swiss Exchange or any other regulated securities market in Switzerland, and consequently, the information presented in this prospectus does not necessarily comply with the information standards set out in the listing rules of the SIX Swiss Exchange and corresponding prospectus schemes annexed to the listing rules of the SIX Swiss Exchange.

## LEGAL MATTERS

Certain legal matters relating to the offering under this prospectus supplement will be passed upon on behalf of the Company by McCarthy Tétrault LLP, with respect to matters of Canadian law, and Dorsey & Whitney LLP, Vancouver, British Columbia and Denver, Colorado, with respect to matters of United States law. In addition, certain legal matters in connection with the offering under this prospectus supplement will be passed upon on behalf of the underwriters by Goodwin Procter LLP, New York, New York.

## EXPERTS

Our consolidated financial statements as of December 31, 2018 and December 31, 2017 and for each of the years in thetwo-year period ended December 31, 2018, have been audited by KPMG LLP as set forth in their reports thereon and incorporated herein by reference.

KPMG LLP's report dated March 12, 2019, contains an explanatory paragraph that states, without qualifying its opinion on the consolidated financial statements, that it draw attention to Notes 2(a) and 15 to the consolidated financial statements, which indicate that the Company has retrospectively adopted United States generally accepted accounting principles (U.S. GAAP).

Such consolidated financial statements have been incorporated by reference herein in reliance upon the report of KPMG LLP, and upon the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

This prospectus supplement is part of a registration statement on Form S-3 that we filed with the SEC. The registration statement that contains this prospectus supplement, including the exhibits to the registration statement, contains additional information about us and the common shares offered by this prospectus supplement.

We file annual, quarterly and current reports and proxy statements and other information with the SEC. Our SEC filings are also available on the SEC's web site at http://www.sec.gov. Copies of certain information filed by us with the SEC are also available on our web site at http://www.aptose.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document.

## INFORMATION INCORPORATED BY REFERENCE

The Securities and Exchange Commission allows us to "incorporate by reference" information in documents we file with them, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is considered to be part of this prospectus and information that we file later with the Securities and Exchange Commission automatically will update and supersede such information. We hereby incorporate by reference the documents listed below and any future filings we make with the Securities and Exchange Commission under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, following the date of this prospectus and prior to the termination of the offering of the securities covered by this prospectus, as amended:

(1) our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on March 12, 2019 and as amended on March 25, 2019, April 12, 2019 and April 22, 2019;

(2) our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2019, June 30, 2019 and September 30, 2019, filed with the SEC on, respectively, May 7, 2019, August 6, 2019 and November 5, 2019;

(3) our Current Reports on Form 8-K filed on May 24, 2019, May 30, 2019, June 3, 2019, June 5, 2019, and December 5, 2019; and

(4) the description of our common shares set forth under the heading "Additional Information—Common Shares" contained in our Annual Report on Form 20-F for the fiscal year end May 31, 2014, filed with the SEC on July 30, 2014, and incorporated by reference into our Registration Statement on Form 8-A, as filed with the SEC on October 21, 2014, including any amendment or report to such Registration Statement on Form 8-A filed for the purpose of amending such description.

In addition, all 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 termination of the offering of the securities covered by this prospectus, are hereby incorporated by reference into this prospectus.

We have not authorized anyone to provide you with any different or additional information other than that contained in or incorporated by reference into this prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any information that others may provide.

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

The documents incorporated by reference into this prospectus are available from us upon request. We will provide a copy of any and all of the information that is incorporated by reference into this prospectus to any person, including a beneficial owner, to whom a prospectus is delivered, without charge, upon written or oral request. If exhibits to the documents incorporated by reference into this prospectus are not themselves specifically incorporated by reference in this prospectus, then the exhibits will not be provided.

Requests for any of these documents should be directed to:

Investor Relations
Aptose Biosciences Inc.
251 Consumers Road, Suite 1105
Toronto, Ontario, Canada M2J 4R3
(647) 479-9828

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

We may offer and issue from time to time common shares or warrants or any combination of those securities, either individually or in units, up to an aggregate initial offering price of $100,000,000, in one or more transactions under this prospectus. The securities may be offered in amounts, at prices and on terms to be determined based on market conditions at the time of sale and set forth in an accompanying prospectus supplement.

This prospectus provides you with a general description of the securities that we may offer. Each time we offer securities, we will provide you with a prospectus supplement that describes specific information about the particular securities being offered and may add, update or change information contained or incorporated by reference in this prospectus. You should read both this prospectus and the applicable prospectus supplement, together with the additional information that is incorporated by reference into this prospectus and the applicable prospectus supplement.

Our common shares are listed on the NASDAQ Capital Market under the symbol “APTO” and on the Toronto Stock Exchange under the symbol “APS”. On April 25, 2019, the closing price of our common shares on NASDAQ was $2.00 per share and on the Toronto Stock Exchange was C$2.67 per share.

**Investing in our securities involves a high degree of risk. You should carefully read the “Risk Factors” section of this prospectus beginning on page 2.**

**These securities have not been approved or disapproved by the Securities and Exchange Commission or any state securities regulatory authority, nor has the SEC or any state securities regulatory authority passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.**

**The date of this prospectus is April 25, 2019.**

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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 any combination of the securities described in this prospectus, either individually or in units, in one or more offerings up to an aggregate initial offering price of $100,000,000.

This prospectus provides you with a general description of the securities that we may sell under this prospectus. Each time we sell securities, we may also provide a prospectus supplement that may include, where applicable, specific information about the terms of that offering. If there is any inconsistency between the information in this prospectus and any applicable prospectus supplement, you should rely on the information in the prospectus supplement. Where required by statute, regulation or policy, and where securities are offered in currencies other than U. S. dollars, appropriate disclosure of foreign exchange rates applicable to those securities will be included in the prospectus supplement describing those securities.

We may also prepare free writing prospectuses to describe the terms of particular sales of securities, which terms may vary from those described in any prospectus supplement. You therefore should carefully review any free writing prospectus in connection with your review of this prospectus and any applicable prospectus supplement.

Please carefully read both this prospectus and any prospectus supplement, together with the documents incorporated by reference into this prospectus and any prospectus supplement, and the additional information described below under "Where You Can Find Additional Information". This prospectus contains summaries of certain provisions contained in some of the documents described in this prospectus, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to in this prospectus have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under "Where You Can Find Additional Information".

You should rely only on the information contained in or incorporated by reference into this prospectus and any prospectus supplement. We have not authorized anyone to provide you with different information. 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 any securities and is not soliciting an offer to buy 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. The information contained in this prospectus is accurate only as of the date of this prospectus and any information incorporated by reference into this prospectus is accurate only as of the date of the applicable document incorporated by reference, regardless of the time of delivery of this prospectus or of any sale of the securities. Our business, financial condition, results of operations and prospects may have changed since that date.

As used in this prospectus and in any prospectus supplement, unless the context otherwise requires, the terms "Aptose," the "Company," "we," "us," and "our" refer to Aptose Biosciences Inc., and, unless the context requires otherwise, the subsidiaries through which it conducts business.

**Unless stated otherwise or if the context otherwise requires, all references to dollar amounts in this prospectus and any prospectus supplement are references to U. S. dollars.**

## RISK FACTORS

An investment in our securities involves a significant degree of risk. You should carefully consider the risk factors and all of the other information included in this prospectus, any prospectus supplement, the documents we have incorporated by reference into this prospectus and any prospectus supplement, and in any related free writing prospectus, including those in Item 1A "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, as updated by annual, quarterly and other reports and documents we file with the SEC after the date of this prospectus and that are incorporated by reference into this prospectus, in evaluating an investment in our securities. If any of these risks were actually to occur, our business, financial condition or results of operations could be materially adversely affected. When we offer and sell any securities pursuant to a prospectus supplement, we may include in the applicable prospectus supplement additional risk factors relevant to those securities.

## 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. We refer to such forward-looking statements and forward-looking information collectively as "forward-looking statements". 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 business strategy;
- our clinical development plans;
- our plans to conduct clinical trials and preclinical programs;
- our ability to accrue appropriate numbers and types of patients;
- our reliance on external contract research/manufacturing organizations for certain activities;
- our plans to secure and maintain strategic partnerships to assist in the further development of our product candidates and to build our pipeline;
- our ability to file and maintain intellectual property to protect our pharmaceutical assets;
- potential exposure to legal actions and potential need to take action against other entities;
- our expectations regarding the progress and the successful and timely completion of the various stages of our drug discovery, drug synthesis and formulation, preclinical and clinical studies and the regulatory approval process;
- our plans, objectives, expectations and intentions; and
- other statements including words such as "anticipate", "contemplate", "continue", "believe", "plan", "estimate", "expect", "intend", "will", "should", "may", and other similar expressions.

The forward-looking statements contained in this prospectus and in the documents incorporated by reference reflect our current views with respect to future events, are subject to significant risks and uncertainties, and are based upon a number of estimates and assumptions that, while considered reasonable by us, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause our actual results, performance or achievements to be materially different from any future results, performance, or achievements that may be expressed or implied by such forward-looking statements, including, among others:

- our lack of product revenues and net losses and a 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 need to raise substantial additional capital in the future and that we may be unable to raise such funds when needed and on acceptable terms;
- further equity financing, which may substantially dilute the interests of our existing shareholders;
- 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 substantially harm our business;
- our reliance on external contract research/manufacturing organizations for certain activities and if we are subject to quality, cost, or delivery issues with the preclinical and clinical grade materials supplied by contract manufacturers, our business operations could suffer significant harm;
- clinical studies are long, expensive and uncertain processes and the United States Food and Drug Administration, or "FDA", or other similar foreign regulatory agency that we are required to report to, may ultimately not approve any of our product candidates;
- our ability to comply with applicable governmental regulations and standards;
- our inability to achieve our projected development goals in the time frames we announce and expect;
- difficulties in enrolling patients for clinical trials may lead to delays or cancellations of our clinical trials;
- our reliance on third-parties to conduct and monitor our preclinical studies;
- our ability to attract and retain key personnel, including key executives and scientists;
- any misconduct or improper activities by our employees;
- our exposure to exchange rate risk;
- our ability to commercialize our business attributed to negative results from clinical trials;
- the marketplace may not accept our products or product candidates due to the intense competition and technological change in the biotechnical and pharmaceuticals, and we may not be able to compete successfully against other companies in our industries and achieve profitability;
- our ability to obtain and maintain patent protection;
- our ability to afford substantial costs incurred with defending our intellectual property;
- our ability to protect our intellectual property rights and not infringe on the intellectual property rights of others;
- our business is subject to potential product liability and other claims;
- potential exposure to legal actions and potential need to take action against other entities;
- commercialization limitations imposed by intellectual property rights owned or controlled by third parties;
- our ability to maintain adequate insurance at acceptable costs;
- our ability to find and enter into agreements with potential partners;
- extensive government regulation;
- data security incidents and privacy breaches could result in increased costs and reputational harm; ·
- our share price has been and is likely to continue to be volatile; ·
- future sales of our common shares by us or by our existing shareholders could cause our share price to drop; ·

- changing global market and financial conditions; ·
- changes in an active trading market in our common shares;
- difficulties by non-Canadian investors to obtain and enforce judgments against us because of our Canadian incorporation and presence;
- potential adverse U. S. federal tax consequences for U. S. shareholders because we are a "passive foreign investment company";
- our "emerging growth company" and "smaller reporting company" status;
- any failures to maintain an effective system of internal controls may result in material misstatements of our financial statements, or cause us to fail to meet our reporting obligations or fail to prevent fraud;
- our broad discretion in how we use the proceeds of the sale of the common shares to Aspire Capital pursuant to the purchase agreement between us and Aspire;
- any failure of Aspire to purchase common shares from us when required to do so;
- our ability to expand our business through the acquisition of companies or businesses; and
- other risks detailed from time-to-time in our on-going filings with the SEC and Canadian securities regulators, and those which are discussed under the heading "Risk Factors" in this prospectus and in the documents incorporated by reference.

Should one or more of these risks or uncertainties materialize, or should the assumptions described in the sections entitled "Risk Factors" in this prospectus and in the documents incorporated by reference underlying those forward-looking statements prove incorrect, actual results may vary materially from those described in the forward-looking statements.

More detailed information about these and other factors is included in this prospectus under the section entitled "Risk Factors" and in the documents incorporated by reference into this prospectus. Although we have attempted to identify factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Forward-looking statements are based upon our beliefs, estimates and opinions at the time they are made and we undertake no obligation to update forward-looking statements if these beliefs, estimates and opinions or circumstances should change, except as required by applicable law. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.

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.**

## ENFORCEABILITY OF CIVIL LIABILITIES

We are incorporated under the laws of Canada. Many of our directors and officers and the experts named in this prospectus are residents of countries other than the United States, and all or a substantial portion of their assets and some of our assets are located outside the United States. We have appointed Aptose Biosciences U. S. Inc. as our agent for service of process in the United States, but it may be difficult for holders of securities who reside in the United States to effect service within the United States upon those directors, officers and experts who are not residents of the United States. Additionally, it may not be possible for you to enforce judgments obtained in U. S. courts based upon the civil liability provisions of the U. S. federal securities laws or other laws of the United States. In addition, there is doubt as to whether an original action could be brought in Canada against us or our directors or officers based solely upon U. S. federal or state securities laws and as to the enforceability in Canadian courts of judgments of U. S. courts obtained in actions based upon the civil liability provisions of U. S. federal or state securities laws.

## APTOSE BIOSCIENCES INC.

*This summary does not contain all the information about us that may be important to you. Please carefully read both this prospectus and any prospectus supplement together with the additional information contained in or incorporated by reference into this prospectus and any prospectus supplement.*

Aptose is a science-driven biotechnology company advancing highly differentiated agents to treat unmet medical needs in life-threatening cancers, such as acute myeloid leukemia, or "AML", certain B-cell malignancies, high-risk myelodysplastic syndromes, or "MDS", and other hematologic malignancies. Based on insights into the genetic and epigenetic profiles of certain cancers and patient populations, we are building a pipeline of novel and targeted oncology therapies directed at dysregulated processes and signaling pathways in cancer cells, and this strategy is intended to optimize efficacy and quality of life by minimizing the cytotoxic side effects associated with conventional therapies and minimize the emergence of drug resistance. Our product pipeline includes cancer drug candidates that exert potent activity as stand-alone agents and that enhance the activities of other anticancer agents without causing overlapping toxicities. Indeed, we believe our targeted products can emerge as first-in-class or best-in-class agents that deliver single agent benefit and may serve as part of a combination therapeutic strategy for specific populations of cancer patients.

We currently are engaged in the development of a clinical-stage program, a late preclinical stage program, and a third program that is discovery-stage and positioned for potential partnering. Our pan-FLT3 / pan-BTK inhibitor, CG-806, is currently in the Investigational New Drug, or "IND", review period with the FDA, with anticipation of commencing a Phase 1 in the first half of 2019. On December 26, 2017, CG-806 received orphan drug designation from the FDA for the treatment of AML. APTO-253 is our second anticancer agent and at the Phase 1b clinical stage for the treatment of patients with relapsed / refractory blood cancers, including AML and high-risk MDS, under an IND allowed by the FDA to evaluate APTO-253 as a therapeutic agent dosed on a weekly administration schedule for the treatment of certain hematologic malignancies. The APTO-253 program has received orphan drug designation from the FDA for the treatment of AML, and is currently on clinical hold while attempts are made to manufacture a newly formulated and stable clinical supply.

As noted above, we are committed to the development of anticancer drugs that target aberrant oncologic signaling processes that underlie particular life-threatening malignancies. This targeted approach is intended to impact the disease-causing events in cancer cells without affecting normal processes within cells. Such an approach requires that we first identify critical underlying oncogenic mechanisms in cancer cells and then develop a therapeutic that selectively impacts such oncogenic mechanisms. As a multi-kinase pan-FLT3 /pan-BTK inhibitor, CG'806 targets multiple critical pathways that lead to the proliferation of cancer cells, including the B-cell receptor signaling pathways (drive certain B cell malignancies) and FLT3 receptor pathways (drive AML). Further, we created the APTO-253 small molecule targeted drug that inhibits expression of the c-Myc oncogene and is under development as a novel therapy for AML and the related MDS.

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: Aptose Biosciences U. S. Inc., a corporation incorporated under the laws of Delaware; and NuChem Pharmaceuticals Inc., a corporation incorporated under the laws of Ontario, Canada. Aptose Biosciences Inc. owns 100% of the issued and outstanding voting share capital of Aptose Biosciences U. S. Inc., and 80% of the issued and outstanding voting share capital of NuChem Pharmaceuticals Inc.

Our head, registered and records office is located at 251 Consumers Road, Suite 1105, Toronto, Ontario, Canada, M2J 4R3. Our executive office is located at 12770 High Bluff Drive, Suite 120, San Diego, CA 92130. We maintain a website at www.aptose.com. Information contained on our website is not part of this prospectus.

## USE OF PROCEEDS

Unless otherwise specified in a prospectus supplement, the net proceeds that we receive from the sale of our securities will be used for working capital and general corporate purposes, including, but not limited to, progressing our research and development programs, and supporting our clinical programs and manufacturing activities.

More specific allocations may be included in a prospectus supplement relating to a specific offering of securities. All expenses relating to an offering of securities and any compensation paid to underwriters, dealers or agents, as the case may be, will be paid out of our general funds, unless otherwise stated in the applicable prospectus supplement.

## DESCRIPTION OF SHARE CAPITAL, WARRANTS AND RELATED INFORMATION

The descriptions below of our share capital, warrants and related information are summaries and are qualified by reference to documents incorporated by reference to the registration statement of which this prospectus is a part.

### Authorized Capital

Our authorized share capital consists of an unlimited number of common shares, no par value, of which 38,161,808 were issued and outstanding as at December 31, 2018. None of our common shares are held by us or on our behalf.

### 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 of our profits or surplus 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 on a pro rata basis in any distribution of our remaining property 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.

### Dividend Policy

We have not paid any dividends since our incorporation. At the discretion of our board of directors, we will consider paying dividends in the 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 our board of directors to retain all earnings to finance our business plan.

### Description of Warrants

The following description of the terms of warrants provides some general terms and provisions of warrants in respect of which a prospectus supplement may be filed. This summary is not complete. The particular terms and provisions of warrants offered by any prospectus supplement, and the extent to which the general terms and provisions described below may apply to them, will be described in the applicable prospectus supplement. Warrants may be offered separately or in combination with common shares.

The description of general terms and provisions of warrants described in any prospectus supplement will include, but is not limited to, where applicable:

- the designation and aggregate number of warrants offered;
- the price at which the warrants will be offered;
- the currency or currencies in which the warrants are denominated;
- the number of common shares that may be purchased on the exercise of the warrants and conditions and procedures that will result in an adjustment of that number;
- the exercise price of the warrants and the dates or periods during which the warrants are exercisable;
- any minimum or maximum amount of warrants that may be exercised at any one time;
- any terms, procedures and limitations relating to the transferability, exchange or exercise of the warrants; and
- any other material terms of the warrants.

If the warrants are issued pursuant to warrant agreements or warrant indentures, we will so specify in the prospectus supplement relating to the warrants being offered pursuant to the prospectus supplement. We will file any warrant agreement or warrant indenture with the SEC and incorporate them by reference as an exhibit to the registration statement of which this prospectus is a part, on or before the time we issue a series of warrants.

Each warrant will entitle the holder to acquire such number of common shares at such exercise price and in accordance with such terms as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the warrants offered by the prospectus supplement. Warrants may be exercised at any time up to the close of business on the expiration date set forth in the prospectus supplement relating to the warrants offered thereby. After the close of business on the expiration date, unexercised warrants will become void.

The warrants may be exercised as set forth in the prospectus supplement relating to the warrants offered thereby. Upon receipt of payment and the taking of other action specified in the applicable prospectus supplement, we will, as soon as practicable, forward the securities purchasable upon exercise. If less than all of the warrants represented by such warrant certificate are exercised, a new warrant certificate will be issued for the remaining warrants.

Before the exercise of their warrants, holders of warrants will not have any of the rights of holders of common shares. Therefore, holders of warrants will not be entitled, by virtue of being such holders, to vote, consent, receive dividends, receive notice as shareholders with respect to any meeting of shareholders for the election of our directors or any other matter, or to exercise any rights whatsoever as our shareholders. We reserve the right to include in a prospectus supplement specific terms of the warrants that are not within the options and parameters described in this prospectus. In addition, to the extent that any particular terms of the warrants described in a prospectus supplement differ from any of the terms described in this prospectus, the description of those terms included in this prospectus shall be deemed to have been superseded by the description of the differing terms set forth in such prospectus supplement with respect to such warrants.

**Description of Units**

We may issue units comprised of one or more of the securities described in this prospectus 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, if any, under which a unit is issued may provide that the securities comprising the unit may not be held or transferred separately, at any time or at any time before a specified date.

The particular terms and provisions of units offered by any prospectus supplement, and the extent to which the general terms and provisions described below may apply thereto, will be described in the prospectus supplement filed in respect of such units. This description will include, where applicable:

- the designation and aggregate number of units offered;
- the price at which the units will be offered;
- the currency or currencies in which the units are denominated;
- the terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- the number of securities that may be purchased upon exercise of each unit and the price at which the currency or currencies in which that amount of securities may be purchased upon exercise of each unit;
- any provisions for the issuance, payment, settlement, transfer, adjustment or exchange of the units or of the securities comprising the units; and
- any other material terms of the units.

We reserve the right to set forth in a prospectus supplement specific terms of the units that are not within the options and parameters set forth in this prospectus. In addition, to the extent that any particular terms of the units described in a prospectus supplement differ from any of the terms described in this prospectus, the description of such terms set forth in this prospectus shall be deemed to have been superseded by the description of the differing terms set forth in such prospectus supplement with respect to such units.

## GLOBAL SECURITIES

**Book-Entry, Delivery and Form**

Unless we indicate differently in any applicable prospectus supplement or free writing prospectus, the securities initially will be issued in book-entry form and represented by one or more global notes or global securities, or, collectively, global securities. The global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, or DTC, as depositary, and registered in the name of Cede & Co., the nominee of DTC. Unless and until it is exchanged for individual certificates evidencing securities under the limited circumstances described below, a global security may not be transferred except as a whole by the depositary to its nominee or by the nominee to the depositary, or by the depositary or its nominee to a successor depositary or to a nominee of the successor depositary.

DTC has advised us that it is:

- a limited-purpose trust company organized under the New York Banking Law;
- a "banking organization" within the meaning of the New York Banking Law;
- a member of the Federal Reserve System;
- a "clearing corporation" within the meaning of the New York Uniform Commercial Code; and
- a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934.

DTC holds securities that its participants deposit with DTC. DTC also facilitates the settlement among its participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in participants' accounts, thereby eliminating the need for physical movement of securities certificates. "Direct participants" in DTC include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, which we sometimes refer to as indirect participants, that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of securities under the DTC system must be made by or through direct participants, which will receive a credit for the securities on DTC's records. The ownership interest of the actual purchaser of a security, which we sometimes refer to as a beneficial owner, is in turn recorded on the direct and indirect participants' records. Beneficial owners of securities will not receive written confirmation from DTC of their purchases. However, beneficial owners are expected to receive written confirmations providing details of their transactions, as well as periodic statements of their holdings, from the direct or indirect participants through which they purchased securities. Transfers of ownership interests in global securities are to be accomplished by entries made on the books of participants acting on behalf of beneficial owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except under the limited circumstances described below.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC will be registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of securities with DTC and their registration in the name of Cede & Co. or such other nominee will not change the beneficial ownership of the securities. DTC has no knowledge of the actual beneficial owners of the securities. DTC's records reflect only the identity of the direct participants to whose accounts the securities are credited, which may or may not be the beneficial owners. The participants are responsible for keeping account of their holdings on behalf of their customers.

So long as the securities are in book-entry form, you will receive payments and may transfer securities only through the facilities of the depositary and its direct and indirect participants. We will maintain an office or agency in the location specified in the prospectus supplement for the applicable securities, where notices and demands in respect of the securities and the indenture may be delivered to us and where certificated securities may be surrendered for payment, registration of transfer or exchange.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any legal requirements in effect from time to time.

Redemption notices will be sent to DTC. If less than all of the securities of a particular series are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in the securities of such series to be redeemed.

Neither DTC nor Cede & Co. (or such other DTC nominee) will consent or vote with respect to the securities. Under its usual procedures, DTC will mail an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns the consenting or voting rights of Cede & Co. to those direct participants to whose accounts the securities of such series are credited on the record date, identified in a listing attached to the omnibus proxy.

So long as securities are in book-entry form, we will make payments on those securities to the depositary or its nominee, as the registered owner of such securities, by wire transfer of immediately available funds. If securities are issued in definitive certificated form under the limited circumstances described below and unless if otherwise provided in the description of the applicable securities herein or in the applicable prospectus supplement, we will have the option of making payments by check mailed to the addresses of the persons entitled to payment or by wire transfer to bank accounts in the United States designated in writing to the applicable trustee or other designated party at least 15 days before the applicable payment date by the persons entitled to payment, unless a shorter period is satisfactory to the applicable trustee or other designated party.

Redemption proceeds, distributions and dividend payments on the securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us on the payment date in accordance with their respective holdings shown on DTC records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the account of customers in bearer form or registered in "street name." Those payments will be the responsibility of participants and not of DTC or us, subject to any statutory or regulatory requirements in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC, is our responsibility, disbursement of payments to direct participants is the responsibility of DTC, and disbursement of payments to the beneficial owners is the responsibility of direct and indirect participants.

Except under the limited circumstances described below, purchasers of securities will not be entitled to have securities registered in their names and will not receive physical delivery of securities. Accordingly, each beneficial owner must rely on the procedures of DTC and its participants to exercise any rights under the securities and the indenture.

The laws of some jurisdictions may require that some purchasers of securities take physical delivery of securities in definitive form. Those laws may impair the ability to transfer or pledge beneficial interests in securities.

DTC may discontinue providing its services as securities depositary with respect to the securities at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depositary is not obtained, securities certificates are required to be printed and delivered.

As noted above, beneficial owners of a particular series of securities generally will not receive certificates representing their ownership interests in those securities. However, if:

- DTC notifies us that it is unwilling or unable to continue as a depositary for the global security or securities representing such series of securities or if DTC ceases to be a clearing agency registered under the Exchange Act at a time when it is required to be registered and a successor depositary is not appointed within 90 days of the notification to us or of our becoming aware of DTC's ceasing to be so registered, as the case may be;
- we determine, in our sole discretion, not to have such securities represented by one or more global securities; or
- an event of default has occurred and is continuing with respect to such series of securities,

we will prepare and deliver certificates for such securities in exchange for beneficial interests in the global securities. Any beneficial interest in a global security that is exchangeable under the circumstances described in the preceding sentence will be exchangeable for securities in definitive certificated form registered in the names that the depositary directs. It is expected that these directions will be based upon directions received by the depositary from its participants with respect to ownership of beneficial interests in the global securities.

***Euroclear, Clearstream and CDS***

If so provided in the applicable prospectus supplement, you may hold interests in a global security through the Canadian Depository for Securities, which we refer to as "CDS", Clearstream Banking S.A., which we refer to as "Clearstream," or Euroclear Bank S.A./N.V., as operator of the Euroclear System, which we refer to as "Euroclear," either directly if you are a participant in CDS, Clearstream or Euroclear or indirectly through organizations which are participants in CDS, Clearstream or Euroclear. CDS, Clearstream and Euroclear will hold interests on behalf of their respective participants through customers' securities accounts in the names of CDS, Clearstream and Euroclear, respectively, on the books of their respective U. S. depositaries (if applicable), which in turn will hold such interests in customers' securities accounts in such depositaries' names on DTC's books.

CDS, Clearstream and Euroclear are securities clearance systems in Canada (CDS) and Europe (Clearstream and Euroclear). CDS, Clearstream and Euroclear hold securities for their respective participating organizations and facilitate the clearance and settlement of securities transactions between those participants through electronic book-entry changes in their accounts, thereby eliminating the need for physical movement of certificates.

Payments, deliveries, transfers, exchanges, notices and other matters relating to beneficial interests in global securities owned through CDS, Euroclear or Clearstream must comply with the rules and procedures of those systems. Transactions between participants in CDS, Euroclear or Clearstream, on one hand, and other participants in DTC, on the other hand, are also subject to DTC's rules and procedures.

Investors will be able to make and receive through CDS, Euroclear and Clearstream payments, deliveries, transfers and other transactions involving any beneficial interests in global securities held through those systems only on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers and other institutions are open for business in the United States.

Cross-market transfers between participants in DTC, on the one hand, and participants in CDS, Euroclear or Clearstream, on the other hand, will be effected through DTC in accordance with the DTC's rules on behalf of CDS, Euroclear or Clearstream, as the case may be, by their respective U. S. depositaries (if applicable); however, such cross-market transactions will require delivery of instructions to CDS, Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with the rules and procedures and within the established deadlines (if applicable) of such system. CDS, Euroclear or Clearstream, as the case may be, will,

if the transaction meets its settlement requirements and if applicable, deliver instructions to its U. S. depositary to take action to effect final settlement on its behalf by delivering or receiving interests in the global securities through DTC, and making or receiving payment in accordance with normal procedures for same-day fund settlement. If applicable, participants in CDS, Euroclear or Clearstream may not deliver instructions directly to their respective U. S. depositaries.

Due to time zone differences, the securities accounts of a participant in Euroclear or Clearstream purchasing an interest in a global security from a direct participant in DTC will be credited, and any such crediting will be reported to the relevant participant in Euroclear or Clearstream, during the securities settlement processing day (which must be a business day for Euroclear or Clearstream) immediately following the settlement date of DTC. Cash received in Euroclear or Clearstream as a result of sales of interests in a global security by or through a participant in Euroclear or Clearstream to a direct participant in DTC will be received with value on the settlement date of DTC but will be available in the relevant Euroclear or Clearstream cash account only as of the business day for Euroclear or Clearstream following DTC's settlement date.

***Other***

The information in this section of this prospectus concerning DTC, CDS, Clearstream, Euroclear and their respective book-entry systems has been obtained from sources that we believe to be reliable, but we do not take responsibility for this information. This information has been provided solely as a matter of convenience. The rules and procedures of DTC, CDS, Clearstream and Euroclear are solely within the control of those organizations and could change at any time. Neither we nor the trustee nor any agent of ours or of the trustee has any control over those entities and none of us takes any responsibility for their activities. You are urged to contact DTC, CDS, Clearstream and Euroclear or their respective participants directly to discuss those matters. In addition, although we expect that DTC, CDS, Clearstream and Euroclear will perform the foregoing procedures, none of them is under any obligation to perform or continue to perform such procedures and such procedures may be discontinued at any time. Neither we nor any agent of ours will have any responsibility for the performance or nonperformance by DTC, CDS, Clearstream and Euroclear or their respective participants of these or any other rules or procedures governing their respective operations.

## PLAN OF DISTRIBUTION

We may sell securities to or through underwriters or dealers, and also may sell 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. Underwriters may sell securities to or through dealers. Each prospectus supplement for a particular offering of securities will set forth the terms of the offering, including:

- the name or names of any underwriters, dealers, or agents;
- the purchase price of, and form of consideration for, the securities and the proceeds to us;
- any delayed delivery arrangements;
- any underwriting commissions, fees, discounts and other items constituting underwriters' compensation;
- the offering price for the securities (or the manner of determination of the offering price if offered on anon-fixed price basis);
- any discounts or concessions allowed or re-allowed or paid to dealers;
- the expected delivery date of the sale of the offered securities; and
- any securities exchanges on which the securities may be listed.

The securities may be sold, from time to time, in one or more transactions at a fixed price or prices that may be changed or at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at varying prices determined at the time of sale, or at negotiated prices, including sales made directly on NASDAQ or other existing trading markets for the securities. We may engage in at-the-market offerings of our 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 Securities Act of 1933, or to contribution with respect to payments that 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, other than anat-the-market offering, the underwriters may over-allot or effect transactions that 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.

## MATERIAL INCOME TAX CONSIDERATIONS

The applicable prospectus supplement may describe material U. S. federal income tax consequences of the acquisition, ownership and disposition of any of the securities offered by this prospectus by an investor who is subject to U. S. federal taxation.

The applicable prospectus supplement may also describe material Canadian federal income tax considerations generally applicable to investors described therein of purchasing, holding and disposing of the applicable securities, including, in the case of an investor who is not a resident of Canada, Canadian non-resident withholding tax considerations.

## LEGAL MATTERS

Unless otherwise specified in a prospectus supplement, certain legal matters relating to the securities will be passed upon for us by Dorsey & Whitney LLP, Vancouver, B. C., and Seattle, Washington, with respect to matters of United States law, and McCarthy Tétrault LLP, Toronto, Ontario, with respect to matters of Canadian law.

## EXPERTS

Our consolidated financial statements as of December 31, 2018 and December 31, 2017 and for each of the years in thetwo-year period ended December 31, 2018, have been audited by KPMG LLP as set forth in their reports thereon and incorporated herein by reference.

Such consolidated financial statements have been incorporated by reference herein in reliance upon the report of KPMG LLP, and upon the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are subject to the information requirements of the Exchange Act and, accordingly, we file reports with and furnish other information to the SEC. We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933 with respect to the securities offered by this prospectus. This prospectus does not contain all of the information contained in the registration statement that we filed. For further information regarding us and the securities covered by this prospectus, you may desire to review the full registration statement, including its exhibits. The registration statement, including its exhibits, as well as the documents that we file with the SEC, may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Room 1580, Washington, D. C. 20549. You may obtain information on the operation of the public reference room by calling 1-800-SEC-0330. Copies of such materials are also available by mail from the Public Reference Branch of the SEC at 100 F Street, N.E., Washington, D. C. 20549 at prescribed rates. In addition, the SEC maintains a website (http://www.sec.gov) from which interested persons can electronically access the registration statement, including the exhibits to the registration statement.

## INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" information we file with the SEC. This means that we can disclose important information to you by referring you to those documents.

We incorporate by reference into this prospectus the documents listed below:

(a) our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on March 12, 2019;

(b) all other reports filed by us pursuant to Section 13(a) or 15(d) of the Exchange Act since December 31, 2018; and

(c) the description of our common shares set forth under the heading "Additional Information—Common Shares" contained in our Annual Report on Form 20-F for the fiscal year end May 31, 2014, filed with the SEC on July 30, 2014, and incorporated by reference into our Registration Statement on Form 8-A, as filed with the SEC on October 21, 2014, including any amendment or report to such Registration Statement on Form 8-A filed for the purpose of amending such description.

In addition, all 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 termination of the offering of the securities covered by this prospectus, are hereby incorporated by reference into this prospectus.

We have not authorized anyone to provide you with any different or additional information other than that contained in or incorporated by reference into this prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any information that others may provide.

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

The documents incorporated by reference into this prospectus are available from us upon request. We will provide a copy of any and all of the information that is incorporated by reference into this prospectus to any person, including a beneficial owner, to whom a prospectus is delivered, without charge, upon written or oral request. If exhibits to the documents incorporated by reference into this prospectus are not themselves specifically incorporated by reference in this prospectus, then the exhibits will not be provided.

Requests for any of these documents should be directed to:

Investor Relations
Aptose Biosciences Inc.
251 Consumers Road, Suite 1105
Toronto, Ontario, Canada M2J 4R3
(647)479-9828

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# 16,125,000 Shares


**PROSPECTUS**

**Piper Jaffray**
**Canaccord Genuity**
**Oppenheimer & Co.**
**JonesTrading**

**December 16, 2019**