

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM S-1**

**REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933**

**APTOSE BIOSCIENCES INC.**

(Exact Name of Registrant As Specified In Its Charter)

**Canada**

**2836**

**98-1136802**

(State or other jurisdiction of incorporation or organization)

(Primary Standard Industrial  
Classification Code Number)

(I.R.S. Employer  
Identification Number)

**251 Consumers Road, Suite 1105  
Toronto, Ontario, Canada M2J 4R3  
(647) 479-9828**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Aptose Biosciences U.S. Inc.  
Unit 120, 12770 High Bluff Drive  
San Diego, California 92130  
(858) 926-2730**

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

COPIES TO:

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**From time to time after the effective date of this Registration Statement  
(Approximate date of commencement of proposed sale to the public)**

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

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

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

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

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

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The information in this prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission of which this prospectus is a part becomes effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

**Subject to Completion, Dated June 16, 2023**

**PRELIMINARY PROSPECTUS**



**1,257,785 Common Shares**

This prospectus relates to the resale of up to 1,257,785 Common Shares, no par value, of Aptose Biosciences Inc. (the "Common Shares"), which may be offered by Keystone Capital Partners, LLC ("Keystone", "Keystone Capital Partners" or the "Selling Shareholder"). The Common Shares being offered by the Selling Shareholder are outstanding or issuable pursuant to the Common Share Purchase Agreement dated May 25, 2023 (the "Purchase Agreement"). See "The Keystone Capital Transaction" for a description of the Purchase Agreement. Also, please refer to "Selling Shareholder" beginning on page 16. Such registration does not mean that Keystone will actually offer or sell any of these Common Shares. We will not receive any proceeds from the sales of the above Common Shares by the Selling Shareholder; however, we will receive proceeds under the Purchase Agreement if we sell Common Shares to the Selling Shareholder.

Our Common Shares are listed on the Nasdaq Capital Market ("Nasdaq"), under the symbol "APTO" and on the Toronto Stock Exchange ("TSX") under the symbol "APS". On June 14, 2023, the last reported sale price of the Common Shares on Nasdaq was \$5.97 per Common Share and on the TSX was C\$7.94.

The Selling Shareholder is an "underwriter" within the meaning of the Securities Act of 1933. The Selling Shareholder is offering these Common Shares. The Selling Shareholder may sell all or a portion of these Common Shares from time to time in market transactions through any market on which our Common Shares is then traded, in negotiated transactions or otherwise, and at prices and on terms that will be determined by the then prevailing market price or at negotiated prices directly or through a broker or brokers, who may act as agent or as principal or by a combination of such methods of sale. The Selling Shareholder will receive all proceeds from the sale of the Common Shares. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution."

Investing in our Common Shares involves a high degree of risk. Review the risk factors beginning on page 8 of this prospectus carefully before you make an investment in our securities. You should read this prospectus, together with additional information described under the headings "Incorporation of Certain Information by Reference" and "Where You Can Find More Information," carefully before you invest in any of our securities.

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

The date of this prospectus is , 2023

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission (the “SEC”) pursuant to which the Selling Shareholder named herein may, from time to time, offer and sell or otherwise dispose of the securities covered by this prospectus. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front cover of this prospectus or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or securities are sold or otherwise disposed of on a later date. It is important for you to read and consider all information contained in this prospectus, including the Information Incorporated by Reference herein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you under the captions “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus.

Neither we nor the Selling Shareholder have authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any of our securities other than the securities covered hereby, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about, and to observe, any restrictions as to the offering and the distribution of this prospectus applicable to those jurisdictions.

We further note that the representations, warranties and covenants made in any agreement that is filed as an exhibit to any document that is incorporated by reference in 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 or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

The information in this prospectus is accurate as of the date on the front cover. Information incorporated by reference into this prospectus is accurate as of the date of the document from which the information is incorporated. You should not assume that the information contained in this prospectus is accurate as of any other 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.

As described below, in order to qualify for listing on Nasdaq, the Company has effected a Reverse Stock Split (as defined below) on a fifteen (15) to one (1) share basis, and Common Shares commenced trading on a post-Reverse Stock Split basis at market open on Tuesday, June 6, 2023. All share and per share amounts in this prospectus have been adjusted retroactively to reflect the Reverse Stock Split as if it had occurred at the beginning of the earliest period presented.

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

## CAUTIONARY STATEMENT REGARDING 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 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 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 Common 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 Common 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 “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 Common Shares;
- 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.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus or incorporated by reference. It may not contain all of the information that you should consider before investing in our securities. You should read this entire prospectus carefully, including the “Risk Factors”, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” sections, and the financial statements and related notes included or incorporated by reference herein. This prospectus includes forward-looking statements that involve risks and uncertainties. See “Cautionary Statement Regarding Forward-Looking Statements.”*

### Aptose Biosciences Inc.

#### Company Overview

Aptose Biosciences Inc. is a science-driven biotechnology company advancing targeted agents to treat life-threatening cancers, such as acute myeloid leukemia (“AML”), high-risk myelodysplastic syndromes (“MDS”), chronic lymphocytic leukemia 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: tuspentinib (HM43239) and luxepitinib (CG-806), both being evaluated for safety, tolerability, pharmacokinetics, and signals of efficacy in Phase 1 clinical trials, and a third clinical asset available for partnering (APTO-253). Each molecule is described below.

Tuspentinib is a once daily oral potent myeloid kinase inhibitor, targeting a constellation of kinases operative in myeloid malignancies and known to be involved in tumor proliferation, resistance to therapy, and differentiation but avoiding kinase that typically cause toxicities associated with other kinase inhibitors. Tuspentinib has completed the dose escalation and dose exploration stages of an international Phase 1/2 clinical trial designed to assess the safety, tolerability, pharmacokinetics, pharmacodynamic responses, and efficacy of tuspentinib as a single agent in patients with relapsed or refractory AML (“R/R AML”). Complete remissions (“CRs”) without dose limiting toxicities (“DLT”) were achieved at four dose levels across a broad diversity of mutationally-defined AML populations and with a favorable safety profile. Moreover, tuspentinib to date has caused no QTc prolongations or differentiation syndrome in treated patients and has caused no myelosuppression with continuous dosing of patients in remission. These findings led to advancement of tuspentinib into the APTIVATE expansion trial of the Phase 1/2 program to collect responses in R/R AML patient populations enriched with specific genotypic backgrounds when treated with single agent tuspentinib or when combined with the venetoclax BCL-2 inhibitor, with the intent to guide selection of mutationally-defined AML populations for single agent Phase 2 Accelerated Approval Trial(s) and to position tuspentinib for dual and triple combination studies in later and early lines of therapy. Based on the safety and efficacy profile of tuspentinib, we believe that tuspentinib, if approved, can reach greater than \$1 billion in annual sales by 2035 because we believe tuspentinib could (1) become the preferred kinase inhibitor for inclusion in triplet combination for front line AML patients with FLT3 mutations and for patients with wild type FLT3, (2) become the preferred kinase inhibitor for inclusion in doublet combination with venetoclax for second line AML patients, (3) serve as an effective agent for maintenance therapy to prevent relapse in patients who achieved a complete remission through a stem cell transplant or through drug-based therapy, and 4) serve as an effective agent for the treatment of third line FLT3 mutated patients failed by prior therapy with other FLT3 inhibitors. In addition, we plan to test tuspentinib for efficacy and safety in patients with MDS, and, if found active and safe in this population, the market potential of tuspentinib could be increased well beyond \$1 billion sales annually. However, our belief is based on management’s current assumptions and estimates, which are subject to change, and there can be no assurance that tuspentinib will ever be approved or successfully commercialized and, if approved and commercialized, that it will ever generate significant revenues. See our “Risk Factors – *“We are an early stage development company with no revenues from product sales.”* and *“We have a history of operating losses. We expect to incur net losses and we may never achieve or maintain profitability.”*” in our Annual Report on Form 10-K for the year ended December 31, 2022.”

#### 1

Luxepitinib is a novel, oral, highly potent lymphoid and myeloid kinase inhibitor that selectively targets defined clusters of kinases operative in myeloid and lymphoid hematologic malignancies. This small molecule anticancer agent has been evaluated in a Phase 1a/b study for the treatment of patients having B-cell leukemias and lymphomas that are resistant/refractory/intolerant to other therapies. Under a separate Investigational New Drug, luxepitinib has been evaluated in a Phase 1a/b study for the treatment of patients with relapsed/refractory AML or high risk MDS. These studies with the original formulation demonstrated tumor shrinkage among B-cell cancer patients, including a very recent report of a CR in a diffuse large B-cell lymphoma patient that was determined via biopsy analysis at the end of Cycle 22 with 900mg two times a day (“BID”) dosing of the original G1 formulation. Likewise, a CR in one R/R AML patient occurred with 450mg BID dosing of the original G1 formulation. While these CRs were important, poor absorption of the original G1 formulation hampered the effectiveness of luxepitinib. To address the limited absorption of the G1 formulation, a new G3 formulation was developed and demonstrated improved absorption properties. The new G3 formulation is now being tested under conditions of twice daily continuous oral dosing in R/R AML patients. It is hoped the G3 formulation of luxepitinib can serve patients across lymphoid and myeloid malignancies and combine well with other agents to extend its application to multiple lines of therapy.

APTO-253 is a small molecule MYC oncogene inhibitor at the Phase 1a/b clinical trial stage of development for the treatment of patients with relapsed or refractory blood cancers, including AML and high-risk MDS. The clinical program was discontinued effective December 20, 2021, following a prioritization of the Company’s other more advanced pipeline assets.

#### Corporate Information

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 (1) post-consolidation Common Share for each twelve (12) pre-consolidation Common Shares. On May 24, 2023, we consolidated our outstanding Common Shares on the basis of one (1) post-consolidation Common Share for each fifteen (15) pre-consolidation Common Share.

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.aptese.com](http://www.aptese.com). Information contained on our website is not part of this prospectus.

#### Recent Developments

##### *Reverse Stock Split*

On May 23, 2023, our shareholders voted to approve special resolutions providing for an amendment to our articles to effect a reverse stock split of our outstanding Common Shares at a ratio in the range of 1-for-10 to 1-for-20, such amendment to become effective at an exact ratio and a date to be determined by our board of directors. Our Board of Directors then approved a ratio of 15-to-1 on May 23, 2023.

On May 24, 2023, we filed articles of amendment under the *Canada Business Corporations Act* to give effect to the reverse stock split (consolidation) of our Common Shares on the basis of one post-consolidation Common Share for each 15 pre-consolidation Common Shares (the “Reverse Stock Split”). The Common Shares commenced trading on a post-Reverse Stock Split basis at market open on Tuesday, June 6, 2023.

All share and per share amounts in this prospectus have been adjusted retroactively to reflect the Reverse Stock Split as if it had occurred at the beginning of the earliest period presented.

### ***Clinical Update***

We previously announced an up-to-date review of clinical data for Aptose’s two investigational products for hematologic malignancies: tuspetinib and luxepetinib.

#### Tuspetinib (HM43239)

- Completed tuspetinib dose escalation and dose exploration Phase 1/2 trial in 77 R/R AML patients:
  - o Tuspetinib demonstrated a favorable safety profile; and
  - o Tuspetinib delivered monotherapy responses across four dose levels with no DLT in mutationally diverse and difficult to treat R/R AML populations, including TP53-mutated patients with a complete remission or complete remission with partial hematologic recovery (“CR/CRh”) of 20% and RAS-mutated patients with a CR/CRh of 22%.
- Completed successful End of Phase 1 Meeting with the United States Food and Drug Administration for tuspetinib, and a monotherapy RP2D was selected as 80mg daily, and all development paths remain open, including the single arm accelerated path.
- Initiated tuspetinib APTIVATE expansion trial with R/R AML patients:
  - o Tuspetinib is being administered as a monotherapy and as a combination doublet with TUS/VEN, and enrollment has been brisk; and
  - o TUS/VEN doublet has been well tolerated, all patients remain on study, and preliminary CR activity has already been reported in patients previously treated with venetoclax.

#### Luxepetinib (CG-806)

- 50mg G3 formulation with continuous dosing achieves roughly equivalent pharmacokinetic profile as 900mg original G1 formulation; and
- Expect to dose escalate G3 formulation with continuous dosing in patients soon.

### ***Intellectual Property***

We believe that our issued patents and pending applications are important in establishing and maintaining a competitive position with respect to our products and technology.

#### Tuspetinib (HM43239)

In November 2021, we licensed the exclusive rights to research, develop and commercialize HM43229. Under the terms of the agreement, Hanmi has granted us exclusive worldwide rights to HM43239 for all indications. We are now the exclusive licensee of composition of matter and use patents covering HM43229, and HM43239 analogs. We believe that we now own rights to a strong and defensive intellectual property position.

As of June 1, 2023, we own rights in 41 issued patents, including 4 issued U.S. patents, and 23 patents validated in countries in Europe, that are in force and cover the HM43239 compound, or analog compounds. These patents are expected to provide protection until 2038 through 2039. Patent applications are also pending in the United States and in contracting states to the Patent Cooperation Treaty for coverage of HM43239 and analog compounds, with expected expiry dates between 2038 and 2042.

#### Luxepetinib (CG-806)

In May 2018 and June 2018, we licensed from Crystal Genomics, Inc. (“CG”) an exclusive license to research, develop and commercialize luxepetinib in all countries of the world except the Republic of Korea and China, for all fields of use (collectively, the “Rights”) to CG-806, by exercising an option we obtained through a June 2016 option-license agreement with CG that had granted us an exclusive option to research, develop and commercialize CG-806. In June 2018, we entered into a separate license agreement with CG for us to gain a license for rights to CG-806 in China (including the People’s Republic of China, Hong Kong, and Macau)(the “China Rights”). We now own worldwide Rights to CG-806, including an issued patent in China but excluding any Rights in Korea.

As of June 1, 2023, we owned rights to 47 issued patents, including 3 issued U.S. patents, and 30 patents validated in countries in Europe, that are in force and cover numerous compounds, including the CG-806 compound, pharmaceutical compositions comprising the CG-806 compound, and methods of use for treating various diseases by administering various compounds, including the CG-806 compound. These patents are expected to provide protection until 2033-2038. Patent applications are also pending in the United States and in contracting states to the Patent Cooperation Treaty for coverage of CG-806, with expected expiry dates between 2038-2039.

### The Keystone Capital Transaction

On May 25, 2023, the Company and Keystone entered into the Purchase Agreement, which provides that subject to the terms and conditions set forth therein, the Company may sell to Keystone up to the lesser of (i) \$25 million of the Common Shares and (ii) the Exchange Cap (as defined below) (subject to certain exceptions provided in the Purchase Agreement) (the “Total Commitment”), from time to time during the two year term of the Purchase Agreement.

Additionally, on May 25, 2023, the Company and Keystone entered into the Registration Rights Agreement, pursuant to which the Company agreed to file a registration statement with the SEC covering the resale of Common Shares that are issued to Keystone under the Purchase Agreement.

Under the terms and subject to the satisfaction of the conditions set forth in the Purchase Agreement, the Company has the right, but not the obligation, to sell to Keystone, and Keystone is obligated to purchase, up to the Total Commitment. Such sales of Common Shares by the Company, if any, will be subject to certain limitations as set forth in the Purchase Agreement, and may occur from time to time, at the Company’s sole discretion, over a 24-month period commencing on the date that all of the conditions to the Company’s right to commence such sales are satisfied, including that the registration statement referred to above is declared effective by the SEC. Such date is referred to hereinafter as the “Commencement Date”. Keystone has no right to require the Company to sell any Common Shares to Keystone, but Keystone is obligated to make purchases as the Company directs, subject to satisfaction of the conditions set forth in the Purchase Agreement.

Upon entering into the Purchase Agreement, the Company agreed to issue to Keystone an aggregate of 25,156 Common Shares (the “Commitment Shares”) as consideration for Keystone’s commitment to purchase Common Shares upon the Company’s direction under the Purchase Agreement. The Company issued 7,547 Common Shares, or 30% of the Commitment Shares, on the date of the Purchase Agreement (the “Initial Commitment Shares”). An additional 7,547 Common Shares, or 30% of the Commitment Shares, shall be issued to Keystone 90 days following the Commencement Date (the “First Back-End Commitment Shares”). The remaining 10,062 Common Shares, or 40% of the Commitment Shares, shall be issued to Keystone 180 days following the Commencement Date (the “Second Back-End Commitment Shares”, together with the First Back-End Commitment Shares, the “Back-End Commitment Shares”). The Company also agreed to pay Keystone up to \$25,000 for its reasonable expenses under the Purchase Agreement.

Under the Purchase Agreement, the Company may, at its discretion, from time to time from and after the Commencement Date, direct Keystone to purchase (a “Fixed Purchase”) up to 3,333 Common Shares on any trading day on which the closing sale price of the Common Shares is not below \$0.25 per Common Share on Nasdaq; provided, however that, Keystone’s committed obligation under any single Fixed Purchase shall not exceed \$50,000.

In addition to Fixed Purchases, and provided that the Company has directed Keystone to purchase the maximum allowable amount of 3,333 Common Shares in a Fixed Purchase, the Company also may, at its discretion, from time to time from and after the Commencement Date, direct Keystone to purchase additional Common Shares on the trading day immediately following the purchase date for such Fixed Purchase (each, a “VWAP Purchase”) and, under certain circumstances set forth in the Purchase Agreement, direct Keystone to purchase additional Common Shares on the same trading day as such VWAP Purchase (each, an “Additional VWAP Purchase”), in each case upon the terms and subject to the conditions set forth in the Purchase Agreement. Hereinafter the Fixed Purchase, the VWAP Purchase and the Additional VWAP Purchase are collectively referred to as a “Purchase”.

Under applicable rules of Nasdaq, in no event may the Company issue or sell to Keystone under the Purchase Agreement more than 1,257,785 Common Shares (including the Commitment Shares), which number of Common Shares is equal to 19.99% of the Common Shares outstanding immediately prior to the execution of the Purchase Agreement (the “Exchange Cap”), unless (i) the Company first obtains stockholder approval to issue Common Shares in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules, or (ii) at the time we have issued Common Shares equal to the Exchange Cap and at all times thereafter, the average price per Common Share for all Common Shares sold by us to Keystone under the Purchase Agreement equals or exceeds \$6.60 per Common Share, such that the Exchange Cap limitation would no longer apply to issuances and sales of Common Shares by us to Keystone under the Purchase Agreement under applicable Nasdaq listing rules.

The Purchase Agreement also prohibits the Company from directing Keystone to purchase any Common Shares if those Common Shares, when aggregated with all other Common Shares then beneficially owned by Keystone and its affiliates, would result in Keystone having beneficial ownership of more than 4.99% of the outstanding Common Shares or if such Common Shares proposed to be issued and sold would materially affect control of the company pursuant to the rules of the TSX.

The net proceeds under the Purchase Agreement to the Company will depend on the frequency of sales and the number of Common Shares sold to Keystone and prices at which the Company sells Common Shares to Keystone. The Company expects that any net proceeds received by the Company from such sales to Keystone will be used for working capital and general corporate purposes. Management of the Company believes that it is in the Company’s best interests to have the flexibility to sell Common Shares pursuant to the Purchase Agreement, subject to market conditions.

## The Offering

This prospectus relates to the resale by the Selling Shareholder identified in this prospectus of up to 1,257,785 Common Shares. All of the Common Shares, if and when sold, will be sold by the Selling Shareholder. The Selling Shareholder may sell the Common Shares from time to time at market prices prevailing at the time of sale, at prices related to the prevailing market price, or at negotiated prices. We will not receive any proceeds from the sale of Shares by the Selling Shareholder. On June 6, 2023, we effected the Reverse Stock Split on a fifteen (15) to one (1) share basis. All information in this section have been updated to reflect the Reverse Stock Split unless provided otherwise.

<b>Issuer</b>	Aptose Biosciences Inc.
<b>Common Shares offered by the Selling Stockholder</b>	Up to 1,257,785 Common Shares, consisting of:  up to 1,232,629 Common Shares that we may sell to the Selling Shareholder, from time to time at our sole discretion, pursuant to the Purchase Agreement, described below; and  25,156 Common Shares issued or issuable to the Selling Shareholder as consideration for its commitment to purchase Common Shares under the Purchase Agreement.
<b>Common Shares outstanding prior to this offering<sup>1</sup></b>	6,299,545 Common Shares
<b>Common Shares outstanding immediately after this offering</b>	7,549,783 Common Shares, assuming the sale of 1,232,629 Common Shares to Keystone and issuance of the Back-End Commitment Shares. The actual number of Common Shares issued will vary depending on the sales prices under this offering, but will not be greater than an aggregate of 1,257,785 Common Shares (inclusive of the Commitment Shares and other Common Shares issued in connection with the Purchase Agreement), representing 19.99% of the Common Shares outstanding on the date of the Purchase Agreement, in accordance with Nasdaq rules, unless as otherwise set forth herein.
<b>Stock symbol</b>	Our Common Shares are listed on Nasdaq under the symbol “APTO” and on the TSX under the symbol “APS”.
<b>Use of proceeds</b>	The Selling Shareholder will receive all of the proceeds from the sale of the Common Shares offered for sale by it under this prospectus. We will not receive proceeds from the sale of the Common Shares by the Selling Shareholder through this prospectus. However, we may receive up to \$25 million in gross proceeds from the sale of our Common Shares to the Selling Shareholder under the Purchase Agreement.  We did not receive any cash proceeds from the issuance of the Commitment Shares to the Selling Shareholder under the Purchase Agreement. We intend to use any proceeds from the Selling Shareholder that we receive under the Purchase Agreement for working capital and general corporate purposes. See “Use of Proceeds” on page 9 for more information.
<b>Risk factors</b>	Investing in our securities involves a high degree of risk. As an investor you should be prepared to lose your entire investment See “Risk Factors” beginning on page 8.

<sup>1</sup> The number of Common Shares to be outstanding prior to and after this offering is based on 6,299,545 Common Shares outstanding as of June 12, 2023 (including the 7,547 Initial Commitment Shares (as defined below), and excludes:

- 1,293,101 stock options outstanding as of June 12, 2023, at a weighted average exercise price of \$45.68 per Common Share; and
- 270,187 Common Shares that have been reserved for issuance in connection with future grants under our security-based compensation plans.

## RISK FACTORS

*You should carefully consider the following risk factors in addition to other information in this prospectus before purchasing our Common Shares. The risks and uncertainties described below are those that we currently deem to be material and that we believe are specific to our company, our industry and this offering. These risks and uncertainties are not the only ones facing us. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations. The trading price of our Common Shares could decline due to the occurrence of any of these risks, and investors could lose all or part of their investment.*

In evaluating the Company, its business and any investment in the Company, readers should carefully consider the following factors, together with the additional risk factors incorporated by reference from Item 1A of the Company’s Annual Report on Form 10-K as filed with the SEC on March 24, 2023 (see “Incorporation of Certain Information by Reference”).

### Risks Related to this Offering

***The sale or issuance of our Common Shares to Keystone may cause dilution and the sale of the Common Shares acquired by Keystone, or the perception that such sales may occur, could cause the price of our Common Shares to fall.***

On May 25, 2023, we entered into the Purchase Agreement with Keystone, pursuant to which Keystone has committed to purchase up to \$25 million of our Common Shares. Upon the execution of the Purchase Agreement, we issued 7,547 Common Shares as the Initial Commitment Shares to Keystone as consideration for its commitment to purchase Common Shares under the Purchase Agreement. The 17,609 Back-End Commitment Shares will be issued in the future at 90 days and 180 days, respectively, following the Commencement Date. The remaining 1,232,629 Common Shares being registered for resale hereunder that may be issued under the Purchase Agreement may be sold by us to Keystone at our discretion from time to time over a 24-month period commencing after the satisfaction of certain conditions set forth in the Purchase Agreement, including that the SEC has declared effective the registration statement that includes this prospectus. The purchase price for the Common Shares that we may sell to Keystone under the Purchase Agreement will fluctuate based on the price of our Common Shares. Thus the actual gross proceeds from the sale of all Common Shares by us to Keystone may be substantially less than the \$25 million total purchase commitment available to us under the Purchase Agreement, which could materially adversely affect our liquidity. In addition, depending on market liquidity at the time, sales of such Common Shares may cause the trading price of our Common Shares to fall.

We generally have the right to control the timing and amount of any future sales of our Common Shares to Keystone. Sales of our Common Shares, if any, to Keystone



will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Keystone all, some or none of the additional Common Shares that may be available for us to sell pursuant to the Purchase Agreement. Therefore, sales to Keystone by us could result in substantial dilution to the interests of other holders of our Common Shares. Additionally, the sale of a substantial number of Common Shares to Keystone, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales. If and when we do sell Common Shares to Keystone, after Keystone has acquired the Common Shares, Keystone may resell all, some or none of those Common Shares at any time or from time to time in its discretion.

If it becomes necessary for us to issue and sell to Keystone the Common Shares in excess of the Exchange Cap under the Purchase Agreement in order to receive aggregate gross proceeds equal to \$25 million under the Purchase Agreement, then for so long as the Exchange Cap continues to apply to issuances and sales of Common Shares under the Purchase Agreement, we must first obtain shareholder approval to issue Common Shares in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules. Furthermore, if we elect to issue and sell to Keystone more than the 1,232,629 Common Shares that we may elect to issue and sell to Keystone under the Purchase Agreement that are being registered for resale by Keystone hereunder, which we have the right, but not the obligation, to do, we must first file with the SEC one or more additional registration statements to register under the Securities Act for resale by Keystone such additional Common Shares we wish to sell from time to time under the Purchase Agreement, which the SEC must declare effective, in each case before we may elect to sell any additional Common Shares to Keystone under the Purchase Agreement. Any issuance and sale by us under the Purchase Agreement of a substantial amount of Common Shares in addition to the 1,232,629 Common Shares that we may elect to issue and sell to Keystone under the Purchase Agreement that are being registered for resale by Keystone hereunder could cause additional substantial dilution to our stockholders. The number of our Common Shares ultimately offered for sale by Keystone is dependent upon the number of Common Shares, if any, we ultimately sell to Keystone under the Purchase Agreement, and the sale of Common Shares under the Purchase Agreement may cause the trading price of our Common Shares to decline.

***Our management might apply the net proceeds from this offering in ways with which you do not agree and in ways that may impair the value of your investment.***

We currently intend to use the net proceeds from this offering for general corporate purposes. Our management has broad discretion as to the use of these proceeds and you will be relying on the judgment of our management regarding the application of these proceeds. We might apply these proceeds in ways with which you do not agree, or in ways that do not yield a favorable return. If our management applies these proceeds in a manner that does not yield a significant return, if any, on our investment of these net proceeds, it could compromise our ability to pursue our growth strategy and adversely affect the market price of our Common Shares.

***It is not possible to predict the actual number of Common Shares we will sell under the Purchase Agreement to the Selling Shareholder, or the actual gross proceeds resulting from those sales.***

Subject to certain limitations in the Purchase Agreement and compliance with applicable law, we have the discretion to deliver notices to Keystone at any time throughout the term of the Purchase Agreement. The actual number of Common Shares that are sold to the Selling Shareholder may depend based on a number of factors, including the market price of the Common Shares during the sales period. Actual gross proceeds may be nominal, which may impact our future liquidity. Because the price per Common Share of each Common Share sold to Keystone will fluctuate during the sales period, it is not currently possible to predict the number of Common Shares that will be sold or the actual gross proceeds to be raised in connection with those sales.

***Investors who buy Common Shares at different times will likely pay different prices, and the sale of the Common Shares acquired by Keystone could cause the price of our Common Shares to decline.***

Pursuant to the Purchase Agreement, we will have discretion, subject to market demand, to vary the timing, prices, and numbers of Common Shares sold to Keystone. If and when we do elect to sell our Common Shares to Keystone pursuant to the Purchase Agreement, after Keystone has acquired such Common Shares, Keystone may resell all, some or none of such Common Shares at any time or from time to time in its discretion and at different prices. As a result, investors who purchase Common Shares from Keystone in this offering at different times will likely pay different prices for those Common Shares, and so may experience different levels of dilution and in some cases substantial dilution and different outcomes in their investment results. Investors may experience a decline in the value of the Common Shares they purchase from Keystone in this offering as a result of future sales made by us to Keystone at prices lower than the prices such investors paid for their Common Shares in this offering.

## USE OF PROCEEDS

This prospectus relates to our Common Shares that may be offered and sold from time to time by Keystone pursuant to the Purchase Agreement. We will not receive any proceeds from the resale of Common Shares by Keystone.

Assuming our average sales price is \$5.97 (our closing price on June 14, 2023), we will receive approximately \$7.4 million in gross proceeds pursuant to the Purchase Agreement. See “Plan of Distribution” elsewhere in this prospectus for more information.

We intend to use any proceeds from the Selling Shareholder that we receive under the Purchase Agreement for working capital and general corporate purposes. We cannot specify with certainty all of the particular uses for the net proceeds that we will have from the sale of our Common Shares pursuant to the Purchase Agreement. Therefore, our management will have broad discretion to determine the specific use for the net proceeds and we may use the proceeds for purposes that are not contemplated at the time of this offering.

We will incur all costs associated with this prospectus and the registration statement of which it is a part.

## DILUTION

The sale of Common Shares to the Selling Shareholder pursuant to the Purchase Agreement will have a dilutive impact on our shareholders. In addition, the lower the price of our Common Shares is at the time we exercise our right to issue and sell Common Shares to Selling Shareholder, the more of our Common Shares we will issue to raise our desired amount of proceeds from the sale, and the greater the dilution to our existing shareholders.

The price that the Selling Shareholder will receive for our Common Shares when resold pursuant to this prospectus will depend upon the timing of sales and will fluctuate based on the trading price of our Common Shares.

We calculate net tangible book value per Common Share by dividing our net tangible book value, which is tangible assets less total liabilities, by the number of our outstanding Common Shares. Dilution represents the difference between the portion of the amount per Common Share paid by purchasers of Common Shares in this offering and the as adjusted net tangible book value per Common Share immediately after giving effect to this offering. As of March 31, 2023, we had a net tangible book value of \$24,775,000, or \$4.00 per Common Share.

After giving effect to (i) the sale of 1,232,629 Common Shares to the Selling Shareholder for which we will receive cash proceeds pursuant to the Purchase Agreement at an assumed price of \$5.97 per Common Share, the closing price of our Common Shares on Nasdaq on June 14, 2023, (ii) the issuance of 25,156 Commitment Shares, and (iii) deducting estimated offering expenses of approximately \$150,000 payable by us, and without giving effect to the Beneficial Ownership Cap under the Purchase Agreement, our as adjusted net tangible book value (deficit) as of March 31, 2023, would have been approximately \$31,984,000, or \$4.29 per Common Share. This represents an immediate decrease in net tangible book value of \$0.29 per Common Share to existing stockholders and an immediate dilution of \$1.68 per Common Share to new investors.

The following table illustrates this dilution on a per Common Share basis:

Assumed public offering price per Common Share	\$	5.97
Net tangible book value per Common Share as of March 31, 2023	\$	4.00
Decrease in net tangible book value per Common Share attributable to new investors	\$	0.29
As adjusted net tangible book value per Common Share as of March 31, 2023, after giving effect to this offering	\$	4.29
Dilution per Common Share to new investors purchasing Common Shares in this offering	\$	1.68

The number of our Common Shares outstanding referenced above is based on 6,200,352 Common Shares outstanding as of March 31, 2023, and excludes the following as of March 31, 2023:

- 1,293,101 stock options outstanding as of March 31, 2023, at a weighted average exercise price of \$45.68 per Common Share; and
- 270,187 Common Shares that have been reserved for issuance in connection with future grants under our security-based compensation plans.

Unless otherwise indicated, all information contained in this prospectus assumes or gives effect to no exercise of the outstanding options described above.

## THE KEYSTONE CAPITAL TRANSACTION

### General

On May 25, 2023, the Company and Keystone entered into the Purchase Agreement, which provides that subject to the terms and conditions set forth therein, the Company may sell to Keystone up to the Total Commitment, which is equal to the lesser of (i) \$25 million of the Common Shares and (ii) the Exchange Cap (subject to certain exceptions provided in the Purchase Agreement), from time to time during the term of the Purchase Agreement.

Additionally, on May 25, 2023, the Company and Keystone entered into the Registration Rights Agreement, pursuant to which the Company agreed to file a registration statement with the SEC covering the resale of Common Shares that are issued to Keystone under the Purchase Agreement.

Under the terms and subject to the satisfaction of the conditions set forth in the Purchase Agreement, the Company has the right, but not the obligation, to sell to Keystone, and Keystone is obligated to purchase, up to Total Commitment. Such sales of Common Shares by the Company, if any, will be subject to certain limitations as set forth in the Purchase Agreement, and may occur from time to time, at the Company's sole discretion, over a 24-month period commencing on the date that all of the conditions to the Company's right to commence such sales are satisfied, including that the registration statement referred to above is declared effective by the SEC. Keystone has no right to require the Company to sell any Common Shares to Keystone, but Keystone is obligated to make purchases as the Company directs, subject to satisfaction of the conditions set forth in the Purchase Agreement.

Upon entering into the Purchase Agreement, the Company agreed to issue to Keystone an aggregate of 25,156 Commitment Shares as consideration for Keystone's commitment to purchase Common Shares upon the Company's direction under the Purchase Agreement. The Company issued 7,547 Common Shares, or 30% of the Commitment Shares, on the date of the Purchase Agreement as the Initial Commitment Shares. An additional 7,547 Common Shares, or 30% of the Commitment Shares, shall be issued to Keystone 90 days following the Commencement Date as the First Back-End Commitment Shares. The remaining 10,062 Common Shares, or 40% of the Commitment Shares, shall be issued to Keystone 180 days following the Commencement Date as the Second Back-End Commitment Shares. The Company also agreed to pay Keystone up to \$25,000 for its reasonable expenses under the Purchase Agreement.

Under the Purchase Agreement, the Company may, at its discretion, from time to time from and after the Commencement Date, direct Keystone to purchase a Fixed Purchase of up to 3,333 Common Shares on any trading day on which the closing sale price of the Common Shares is not below \$0.25 per Common Share on Nasdaq; provided, however that, Keystone's committed obligation under any single Fixed Purchase shall not exceed \$50,000.

In addition to Fixed Purchases, and provided that the Company has directed Keystone to purchase the maximum allowable amount of 3,333 Common Shares in a Fixed Purchase, the Company also may, at its discretion, from time to time from and after the Commencement Date, direct Keystone to purchase additional Common Shares on the trading day immediately following the purchase date for such Fixed Purchase in a VWAP Purchase and, under certain circumstances set forth in the Purchase Agreement, direct Keystone to purchase additional Common Shares on the same trading day as such VWAP Purchase in an Additional VWAP Purchase, in each case upon the terms and subject to the conditions set forth in the Purchase Agreement.

### Purchase Price for Each Purchase

There is no upper limit on the price per Common Share that Keystone may be obligated to pay for the Common Shares in any of the Purchases. The purchase price per Common Share for each Purchase is as follows:

- Fixed Purchase - the lesser of (i) 95% of the daily volume weighted average price of Common Shares on Nasdaq, as reported by Bloomberg Financial LP using the AQR function for the five trading days immediately preceding the applicable date for such Fixed Purchase and (ii) the closing sale price of a Common Share on the applicable date for such Fixed Purchase during the full trading day on Nasdaq on such applicable purchase date.
- VWAP Purchase - the lesser of (i) 95% of the closing sale price of the Common Shares on the date of the applicable VWAP Purchase and (ii) the VWAP during the applicable VWAP Purchase Period (as defined under the Purchase Agreement).
- Additional VWAP Purchase - lower of (i) 95% of the VWAP for the applicable Additional VWAP Purchase Period (as defined under the Purchase Agreement) during the applicable Additional VWAP purchase date for such Additional VWAP Purchase, and (ii) the closing sale price of the Common Shares on such applicable date of Additional VWAP Purchase for such Additional VWAP Purchase.

### Maximum Number of Common Shares to be Purchased under each Applicable Purchase

Each Purchase has a maximum number of Common Shares or dollar amount that may be purchased by Keystone for each applicable Purchase. The maximum number of Common Shares, purchase prices and the closing sale prices will be adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction occurring after the date of the Purchase Agreement, such as the Reverse Stock Split mentioned above.

- Fixed Purchase - may not exceed \$50,000.
- VWAP Purchase - lesser of (i) 300% of the number of Common Shares directed by the Company to be purchased by Keystone pursuant to the corresponding Fixed Purchase and (ii) 30% of the trading volume in the Common Shares on Nasdaq during the applicable VWAP Purchase Period.

- **Additional VWAP Purchase** - lesser of (i) 300% of the number of Common Shares directed by the Company to be purchased by Keystone pursuant to the corresponding Fixed Purchase and (ii) a number of Common Shares equal to (A) 30% multiplied by (B) the trading volume of the Common Shares on Nasdaq during the applicable Additional VWAP Purchase Period.

Provided, however that, Keystone's maximum purchase commitment in any single VWAP Purchase, together with any one or more Additional VWAP Purchases that are effected on the same trading day as such VWAP Purchase, may not exceed \$1,000,000 in the aggregate for such VWAP Purchase and Additional VWAP Purchases.

Under applicable rules of Nasdaq, in no event may the Company issue or sell to Keystone under the Purchase Agreement more than the Exchange Cap, or 1,257,785 Common Shares (including the Commitment Shares), which number of Common Shares is equal to 19.99% of the Common Shares outstanding immediately prior to the execution of the Purchase Agreement, unless (i) the Company first obtains stockholder approval to issue Common Shares in excess of the Exchange Cap in accordance with applicable Nasdaq listing rules, or (ii) at the time we have issued Common Shares equal to the Exchange Cap and at all times thereafter, the average price per Common Share for all Common Shares sold by us to Keystone under the Purchase Agreement equals or exceeds \$6.60 per Common Share, such that the Exchange Cap limitation would no longer apply to issuances and sales of Common Shares by us to Keystone under the Purchase Agreement under applicable Nasdaq listing rules.

The Purchase Agreement also prohibits the Company from directing Keystone to purchase any Common Shares if those Common Shares, when aggregated with all other Common Shares then beneficially owned by Keystone and its affiliates, would result in Keystone having beneficial ownership of more than 4.99% of the outstanding Common Shares or if such Common Shares proposed to be issued and sold would materially affect control of the company pursuant to the rules of the TSX.

The Purchase Agreement contains customary representations, warranties, covenants, indemnification and termination provisions. Keystone has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Common Shares. There are no limitations on use of proceeds, financial or business covenants, restrictions on future financings (other than restrictions on the Company's ability to enter into additional "variable rate transactions" or substantially similar transactions as the transactions contemplated by the Purchase Agreement, subject to certain exceptions, during certain periods beginning prior to the applicable purchase dates for any Fixed Purchase, VWAP Purchase and Additional VWAP Purchase and ending after the dates on which such purchases are fully settled, as set forth in the Purchase Agreement), rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement. The Purchase Agreement may be terminated by the Company at any time, at the Company's sole discretion, without any cost or penalty (subject to the Company issuing the Commitment Shares), on one (1) trading day prior written notice to Keystone. Neither the Company, nor Keystone, may assign or transfer its rights and obligations under the Purchase Agreement, and no provision of the Purchase Agreement or the Registration Rights Agreement may be modified or waived by the parties from and after the date that is one (1) trading day immediately preceding the date on which a registration statement is initially filed with the SEC pursuant to the Registration Rights Agreement.

The net proceeds under the Purchase Agreement to the Company will depend on the frequency of sales and the number of Common Shares sold to Keystone and prices at which the Company sells Common Shares to Keystone. The Company expects that any net proceeds received by the Company from such sales to Keystone will be used for working capital and general corporate purposes. Management of the Company believes that it is in the Company's best interests to have the flexibility to sell Common Shares pursuant to the Purchase Agreement, subject to market conditions.

#### **Conditions to Commencement and for Delivery of Fixed Purchase Notices, VWAP Purchase Notices and Additional VWAP Purchase Notices**

The Company's ability to deliver Fixed Purchase notices, VWAP Purchase notices, and Additional VWAP Purchase Notices to Keystone under the Purchase Agreement are subject to the satisfaction, both at the time of Commencement and at the time of delivery by the Company of any Fixed Purchase notice, VWAP Purchase notice or Additional VWAP Purchase Notice to Keystone, of certain conditions, all of which are entirely outside of Keystone's control, including the following:

- the accuracy in all material respects of the representations and warranties of the Company included in the Purchase Agreement;
- the Company having performed, satisfied and complied in all material respects with all covenants, agreements and conditions required by the Purchase Agreement to be performed, satisfied or complied with by the Company;
- the registration statement that includes this prospectus (and any one or more additional registration statements filed with the SEC that include Common Shares that may be issued and sold by the Company to Keystone under the Purchase Agreement) having been declared effective under the Securities Act by the SEC, and Keystone being able to utilize this prospectus (and the prospectus included in any one or more additional registration statements filed with the SEC under the Registration Rights Agreement) to resell all of the Common Shares included in this prospectus (and included in any such additional prospectuses);
- the SEC shall not have issued any stop order suspending the effectiveness of the registration statement that includes this prospectus (or any one or more additional registration statements filed with the SEC that include Common Shares that may be issued and sold by the Company to Keystone under the Purchase Agreement) or prohibiting or suspending the use of this prospectus (or the prospectus included in any one or more additional registration statements filed with the SEC under the Registration Rights Agreement), and the absence of any suspension of qualification or exemption from qualification of the Common Shares for offering or sale in any jurisdiction;

- there shall not have occurred any event and there shall not exist any condition or state of facts, which makes any statement of a material fact made in the registration statement that includes this prospectus (or in any one or more additional registration statements filed with the SEC that include Common Shares that may be issued and sold by the Company to Keystone under the Purchase Agreement) untrue or which requires the making of any additions to or changes to the statements contained therein in order to state a material fact required by the Securities Act to be stated therein or necessary in order to make the statements then made therein (in the case of this prospectus or the prospectus included in any one or more additional registration statements filed with the SEC under the Registration Rights Agreement, in light of the circumstances under which they were made) not misleading;
- this prospectus, in final form, shall have been filed with the SEC under the Securities Act prior to Commencement, and all reports, schedules, registrations, forms, statements, information and other documents required to have been filed by the Company with the SEC pursuant to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), shall have been filed with the SEC;
- trading in the Common Shares shall not have been suspended by the SEC or Nasdaq, the Company shall not have received any final and non-appealable notice that the listing or quotation of the Common Shares on Nasdaq shall be terminated on a date certain (unless, prior to such date, the Common Shares is listed or quoted on any other Eligible Market, as such term is defined in the Purchase Agreement), and there shall be no suspension of, or restriction on, accepting additional deposits of the Common Shares, electronic trading or book-entry services by DTC with respect to the Common Shares;
- the Company shall have complied with all applicable federal, state and local governmental laws, rules, regulations and ordinances in connection with the execution, delivery and performance of the Purchase Agreement and the Registration Rights Agreement;
- the absence of any statute, regulation, order, decree, writ, ruling or injunction by any court or governmental authority of competent jurisdiction which prohibits the consummation of or that would materially modify or delay any of the transactions contemplated by the Purchase Agreement or the Registration Rights Agreement;

- the absence of any action, suit or proceeding before any arbitrator or any court or governmental authority seeking to restrain, prevent or change the transactions contemplated by the Purchase Agreement or the Registration Rights Agreement, or seeking material damages in connection with such transactions;
- all of the Common Shares that may be issued pursuant to the Purchase Agreement shall have been approved for listing or quotation on Nasdaq (or any Eligible Market as defined in the Purchase Agreement), subject only to notice of issuance;
- no condition, occurrence, state of facts or event constituting a material adverse effect shall have occurred and be continuing;
- the absence of any bankruptcy proceeding against the Company commenced by a third party, and the Company shall not have commenced a voluntary bankruptcy proceeding, consented to the entry of an order for relief against it in an involuntary bankruptcy case, consented to the appointment of a custodian of the Company or for all or substantially all of its property in any bankruptcy proceeding, or made a general assignment for the benefit of its creditors; and
- the receipt by Keystone of the opinions, bring-down opinions and negative assurances from outside counsel to the Company in the forms mutually agreed to by the Company and Keystone prior to the date of the Purchase Agreement.

#### Termination of the Purchase Agreement

Unless earlier terminated as provided in the Purchase Agreement, the Purchase Agreement will terminate automatically on the earliest to occur of:

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- the first day of the month next following the 24-month anniversary of the Commencement Date;
- the date on which Keystone shall have purchased the Total Commitment pursuant to the Purchase Agreement;
- the date on which the Common Shares shall have failed to be listed or quoted on Nasdaq or any other Eligible Market; and
- thirtieth (30<sup>th</sup>) trading day next following the date on which the Company commences a voluntary bankruptcy case or any third party commences a bankruptcy proceeding against the Company, a custodian is appointed for the Company in a bankruptcy proceeding for all or substantially all of its property, or the Company makes a general assignment for the benefit of its creditors.

We have the right to terminate the Purchase Agreement at any time after Commencement, at no cost or penalty (subject to the issuance of the Commitment Shares), upon one trading day's prior written notice to Keystone.

#### No Short-Selling or Hedging by Keystone

Keystone has agreed that neither it nor any of its affiliates shall engage in any direct or indirect short-selling or hedging of our Common Shares during any time prior to the termination of the Purchase Agreement.

#### Prohibition on Variable Rate Transactions

Subject to specified exceptions included in the Purchase Agreement, we are limited in our ability to enter into specified variable rate transactions during the term of the Purchase Agreement. Such transactions include, among others, the issuance of convertible securities with a conversion or exercise price that is based upon or varies with the trading price of our Common Shares after the date of issuance.

#### Effect of Performance of the Purchase Agreement on our Stockholders

All Common Shares registered in this offering that may be issued or sold by us to Keystone under the Purchase Agreement are expected to be freely tradable. Common Shares registered in this offering may be sold by us to Keystone over a period of up to 24 months commencing on the date of this registration statement of which this prospectus is a part becomes effective. The resale by Keystone of a significant amount of Common Shares registered in this offering at any given time, or the perception that these sales may occur, could cause the market price of our Common Shares to decline and to be highly volatile. Sales of our Common Shares to Keystone, if any, will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Keystone all, some or none of the additional Common Shares that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell Common Shares to Keystone, after Keystone has acquired the Common Shares, Keystone may resell all, some or none of those Common Shares at any time or from time to time in its discretion. Therefore, sales to Keystone by us under the Purchase Agreement may result in substantial dilution to the interests of other holders of our Common Shares. In addition, if we sell a substantial number of Common Shares to Keystone under the Purchase Agreement, or if investors expect that we will do so, the actual sales of Common Shares or the mere existence of our arrangement with Keystone may make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect such sales. However, we have the right to control the timing and amount of any additional sales of our Common Shares to Keystone and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

Pursuant to the terms of the Purchase Agreement, we have the right, but not the obligation, to direct Keystone to purchase up to 1,232,629 Common Shares, subject to certain limitations. We have registered only a portion of the Common Shares issuable under the Purchase Agreement and, therefore, we may seek to issue and sell to Keystone under the Purchase Agreement more Common Shares than are offered under this prospectus. If we choose to do so, we must first register for resale under the Securities Act any such additional Common Shares, which could cause additional substantial dilution to our stockholders. The number of Common Shares ultimately offered for resale under this prospectus is dependent upon the number of Common Shares we direct Keystone to purchase under the Purchase Agreement.

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The following table sets forth the amount of gross proceeds we would receive from Keystone from our sale of Common Shares to Keystone under the Purchase Agreement at varying purchase prices:

Assumed Purchase Price Per Share (\$) (4)	Number of Registered Shares to be Purchased if Full Purchase (1)(4)	Percentage of Outstanding Shares After Giving Effect to the Issuance to Keystone (2)	Gross Proceeds from the Sale of Shares to Keystone Under the Purchase Agreement (\$)
4.00	1,232,629	16.4%	4,930,516
5.00	1,232,629	16.4%	6,163,145
5.97 (3)	1,232,629	16.4%	7,358,795

7.00	1,232,629	16.4%	8,628,403
8.00	1,232,629	16.4%	9,861,032
9.00	1,232,629	16.4%	11,093,661

- (1) Although the Purchase Agreement provides that we may sell up to \$25 million of our Common Shares to Keystone, we are only registering 1,257,785 Common Shares for resale under the registration statement of which this prospectus forms a part, including the 25,156 Commitment Shares issued or issuable to Keystone on in consideration of Keystone's commitment to purchase our Common Shares at our direction under the Purchase Agreement, for which we will receive no cash proceeds. Therefore, only 1,232,629 of such Common Shares represent Common Shares that we may issue and sell to Keystone for cash consideration in purchases under the Purchase Agreement from time to time, at our sole discretion, during the 24-month period commencing on the Commencement Date, which may or may not cover all the Common Shares we ultimately sell to Keystone under the Purchase Agreement, if any, depending on the purchase price per Common Share. We have included in this column only the 1,232,629 Common Shares that we may issue and sell to Keystone for cash consideration in purchases under the Purchase Agreement that are being registered for resale in the offering made by this prospectus (excluding the 25,156 Commitment Shares), without regard for the Beneficial Ownership Cap.
- (2) The denominator is based on 6,299,545 Common Shares outstanding as of June 12, 2023 (including the 7,547 Initial Common Shares issued to Keystone on May 25, 2023, but excluding the 17,609 Back End Commitment Shares to be issued under the Purchase Agreement), adjusted to include the issuance of the number of Common Shares set forth in the adjacent column that we would have sold to Keystone, assuming the average purchase price in the first column. The numerator is based on the number of Common Shares issuable under the Purchase Agreement at the corresponding assumed average purchase price set forth in the first column.
- (3) The closing sale price of our Common Shares on June 14, 2023.
- (4) We effected a reverse stock split of our Common Shares on a fifteen (15) to one (1) basis, and the Common Shares commenced trading on a post-reverse stock split basis at market open on Tuesday, June 6, 2023. All information in this table have been updated to reflect the reverse stock split unless provided otherwise.

### SELLING SHAREHOLDER

This prospectus relates to the possible resale from time to time by Keystone Capital Partners of any or all of the Common Shares that may be issued by us to Keystone Capital Partners under the Purchase Agreement. For additional information regarding the issuance of Common Shares covered by this prospectus, see the section entitled "The Keystone Capital Transaction" above. We are registering the Common Shares pursuant to the provisions of the Registration Rights Agreement we entered into with Keystone Capital Partners on May 25, 2023 in order to permit the Selling Shareholder to offer the Common Shares for resale from time to time. Except for the transactions contemplated by the Purchase Agreement and the Registration Rights Agreement, Keystone Capital Partners has not had any material relationship with us within the past three years. As used in this prospectus, the term "Selling Shareholder" means Keystone Capital Partners, LLC.

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The table below presents information regarding the Selling Shareholder and the Common Shares that it may offer from time to time under this prospectus. This table is prepared based on information supplied to us by the Selling Shareholder, and reflects holdings as of June 12, 2023. The number of Common Shares in the column "Maximum Number of Common Shares to be Offered Pursuant to this Prospectus" represents all of the Common Shares that the Selling Shareholder may offer under this prospectus. The Selling Shareholder may sell some, all or none of its Common Shares in this offering. We do not know how long the Selling Shareholder will hold the Common Shares before selling them, and we currently have no agreements, arrangements or understandings with the Selling Shareholder regarding the sale of any of the Common Shares.

Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Exchange Act, and includes Common Shares with respect to which the Selling Shareholder has voting and investment power. The percentage of Common Shares beneficially owned by the Selling Shareholder prior to the offering shown in the table below is based on an aggregate of 6,299,545 Common Shares outstanding on June 12, 2023. Because the purchase price of the Common Shares issuable under the Purchase Agreement is determined on each Fixed Purchase Date, with respect to a Fixed Purchase, on the applicable VWAP Purchase Date, with respect to a VWAP Purchase, and on the applicable Additional VWAP Purchase Date, with respect to an Additional VWAP Purchase, the number of Common Shares that may actually be sold by the Company to Keystone Capital under the Purchase Agreement may be fewer than the number of Common Shares being offered by this prospectus. The fourth column assumes the sale of all of the Common Shares offered by the Selling Shareholder pursuant to this prospectus.

Name of Selling Shareholder	Number of Common Shares Owned Prior to Offering		Maximum Number of Common Shares to be Offered Pursuant to this Prospectus Number	Number of Common Shares Owned After Offering	
	Number(1)	Percent(2)		Number(3)	Percent(2)
Keystone Capital Partners, LLC(4)	7,457	*	1,257,785	0	--

\* Represents beneficial ownership of less than 1% of the outstanding Common Shares.

- (1) This number represents the 7,457 Common Shares we issued to Keystone Capital Partners on May 25, 2023 as the Initial Commitment Shares in consideration for entering into the Purchase Agreement with us. In addition, we have agreed to issue to Keystone Capital Partners an additional 17,609 Common Shares as the Back-End Commitment Shares. In accordance with Rule 13d-3(d) under the Exchange Act, we have excluded from the number of Common Shares beneficially owned prior to the offering all of the Common Shares that Keystone Capital may be required to purchase under the Purchase Agreement, because the issuance of such Common Shares is solely at our discretion and is subject to conditions contained in the Purchase Agreement, the satisfaction of which are entirely outside of Keystone Capital's control, including the registration statement that includes this prospectus becoming and remaining effective. Furthermore, the Fixed Purchases, VWAP Purchase, or Additional VWAP Purchase, as applicable, of Common Shares are subject to certain agreed upon maximum amount limitations set forth in the Purchase Agreement. Also, the Purchase Agreement prohibits us from issuing and selling any of our Common Shares to Keystone Capital to the extent such Common Shares, when aggregated with all other Common Shares then beneficially owned by Keystone Capital, would cause Keystone Capital's beneficial ownership of our Common Shares to exceed the 4.99% Beneficial Ownership Cap.
- (2) Applicable percentage ownership is based on 6,299,545 Common Shares outstanding as of June 12, 2023.
- (3) Assumes the sale of all Common Shares being offered pursuant to this prospectus.

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- (4) The business address of Keystone Capital Partners, LLC is 139 Fulton Street, Suite 412, New York, NY 10038. Keystone Capital Partners, LLC's principal business is that of a private investor. Ranz Group, LLC, a Delaware limited liability company, is the managing member of Keystone Capital Partners, LLC and the beneficial owner of 97% of the membership interests in Keystone Capital Partners, LLC. Fredric G. Zaino is the managing member of Ranz Group, LLC and has sole voting control and investment discretion over securities beneficially owned directly by Keystone Capital, LLC and indirectly by Ranz Group, LLC. We have been advised that none of Mr. Zaino, Ranz Group, LLC or Keystone Capital Partners, LLC is a member of the Financial Industry Regulatory Authority, or FINRA, or an independent broker-dealer, or an affiliate or associated person of a FINRA member or independent broker-dealer. The foregoing should not be construed in and of itself as an admission by Mr. Zaino as to beneficial ownership of the securities beneficially owned directly by Keystone Capital Partners, LLC and indirectly by Ranz Group, LLC.
- (5) We effected a reverse stock split of our Common Shares on a fifteen (15) to one (1) basis, and the Common Shares commenced trading on a post-reverse stock split basis at market open on Tuesday, June 6, 2023. All information in this table have been updated to reflect the reverse stock split unless provided otherwise.

#### PLAN OF DISTRIBUTION

The Common Shares offered by this prospectus are being offered by the Selling Shareholder, Keystone Capital Partners, LLC. The Common Shares may be sold or distributed from time to time by the Selling Shareholder directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of our Common Shares offered by this prospectus could be effected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents;
- "at the market" into an existing market for our Common Shares;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

In order to comply with the securities laws of certain states, if applicable, the Common Shares may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the Common Shares may not be sold unless they have been registered or qualified for sale in the state or an exemption from the state's registration or qualification requirement is available and complied with.

None of our Common Shares issued pursuant to the Purchase Agreement will be offered for sale or sold by us or the Selling Shareholder on the TSX or to purchasers resident in Canada.

Keystone Capital Partners, LLC is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act.

Keystone Capital Partners has informed us that it intends to use one or more registered broker-dealers to effectuate all sales, if any, of our Common Shares that it has acquired and may in the future acquire from us pursuant to the Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such registered broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Keystone Capital Partners has informed us that each such broker-dealer will receive commissions from Keystone Capital Partners that will not exceed customary brokerage commissions.

Brokers, dealers, underwriters or agents participating in the distribution of our Common Shares offered by this prospectus may receive compensation in the form of commissions, discounts, or concessions from the purchasers, for whom the broker-dealers may act as agent, of the Common Shares sold by the Selling Shareholder through this prospectus. The compensation paid to any such particular broker-dealer by any such purchasers of our Common Shares sold by the Selling Shareholder may be less than or in excess of customary commissions. Neither we nor the Selling Shareholder can presently estimate the amount of compensation that any agent will receive from any purchasers of our Common Shares sold by the Selling Shareholder.

We know of no existing arrangements between the Selling Shareholder or any other shareholder, broker, dealer, underwriter or agent relating to the sale or distribution of our Common Shares offered by this prospectus.

We may from time to time file with the SEC one or more supplements to this prospectus or amendments to the registration statement of which this prospectus forms a part to amend, supplement or update information contained in this prospectus, including, if and when required under the Securities Act, to disclose certain information relating to a particular sale of Common Shares offered by this prospectus by the Selling Shareholder, including the names of any brokers, dealers, underwriters or agents participating in the distribution of such Common Shares by the Selling Shareholder, any compensation paid by the Selling Shareholder to any such brokers, dealers, underwriters or agents, and any other required information.

We will pay the expenses incident to the registration under the Securities Act of the offer and sale of our Common Shares covered by this prospectus by the Selling Shareholder. As consideration for its irrevocable commitment to purchase our Common Shares under the Purchase Agreement, we have issued to Keystone Capital Partners 7,547 Common Shares as the Initial Commitment Shares in accordance with the Purchase Agreement and have agreed to issue to Keystone Capital Partners an additional 17,609 Common Shares as the Back-End Commitment Shares. We have also paid to Keystone Capital Partners \$25,000 in cash as reimbursement for the reasonable, out-of-pocket expenses incurred by Keystone Capital Partners, including the legal fees and disbursements of Keystone Capital Partners' legal counsel, in connection with its due diligence investigation of the Company and in connection with the preparation, negotiation and execution of the Purchase Agreement.

We also have agreed to indemnify Keystone Capital Partners and certain other persons against certain liabilities in connection with the offering of our Common Shares offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Keystone Capital Partners has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Keystone Capital Partners specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers, and controlling persons, we have been advised that in the opinion of the SEC this indemnification is against public policy as expressed in the Securities Act and is therefore, unenforceable.

We estimate that the total expenses for the offering will be approximately \$150,000.

Keystone Capital Partners has represented to us that at no time prior to the date of the Purchase Agreement has Keystone Capital Partners or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our Common Shares or any hedging transaction, which establishes a net short position with respect to our Common Shares. Keystone Capital Partners has agreed that during the term of the Purchase Agreement, neither Keystone Capital Partners, nor any of its agents, representatives or affiliates will enter into or effect, directly or indirectly, any of

the foregoing transactions.

We have advised the Selling Shareholder that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the Selling Shareholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the date that all of our Common Shares offered by this prospectus have been sold by the Selling Shareholder.

Our Common Shares are currently listed on Nasdaq under the symbol “APTO” and on the TSX under the symbol “APS”.

## **MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

Our discussion and analysis of financial condition and results of operations is incorporated by reference from Part II, Item 7 of the Company’s Annual Report on Form 10-K as filed with the SEC on March 24, 2023 and from Part II, Item 2 of the Company’s Quarterly Report on Form 10-Q as filed with the SEC on May 8, 2023 (see “Incorporation of Certain Information by Reference”).

## **BUSINESS**

The description of our business is incorporated by reference from Part I, Item 1 of the Company’s Annual Report on Form 10-K as filed with the SEC on March 24, 2023 (see “Incorporation of Certain Information by Reference”).

## **DESCRIPTION OF OUR COMMON SHARES**

We are offering our Common Shares. The following description of the Common Shares summarizes the material terms and provisions thereof, including the material terms of the Common Shares we are offering under this prospectus supplement and the accompanying prospectus.

### **Authorized Capital**

Our authorized share capital consists of an unlimited number of Common Shares, no par value, of which 6,299,545 were issued and outstanding as at June 12, 2023. 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.

### **Listings**

Our Common Shares are listed on Nasdaq under the symbol “APTO” and on the TSX under the symbol “APS”.

## **DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES**

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

## **PROPERTIES**

The description of our properties is incorporated by reference from Part I, Item 2 of the Company’s Annual Report on Form 10-K as filed with the SEC on March 24, 2023 (see “Incorporation of Certain Information by Reference”).

## **LEGAL PROCEEDINGS**

The description of our legal proceedings is incorporated by reference from Part I, Item 3 of the Company’s Annual Report on Form 10-K as filed with the SEC on March 24, 2023 (see “Incorporation of Certain Information by Reference”).

## **DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

The description of directors, executive officers and corporate governance is incorporated by reference from the Company’s definitive proxy statement on Schedule 14A filed with the SEC on April 19, 2023 (see “Incorporation of Certain Information by Reference”).

## **EXECUTIVE COMPENSATION**

The description of our executive compensation is incorporated by reference from the Company’s definitive proxy statement on Schedule 14A filed with the SEC on April 19, 2023 (see “Incorporation of Certain Information by Reference”).



## SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The description of our security ownership of beneficial owners and management is incorporated by reference from the Company's definitive proxy statement on Schedule 14A filed with the SEC on April 19, 2023 (see "Incorporation of Certain Information by Reference").

## CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The description of certain relationships and related transactions and director independence is incorporated by reference from the Company's definitive proxy statement on Schedule 14A filed with the SEC on April 19, 2023 (see "Incorporation of Certain Information by Reference").

## LEGAL MATTERS

The validity of the securities being offered hereby is being passed upon for us by McCarthy Tétrault LLP, Toronto, Ontario, with respect to matters of Canadian law.

## EXPERTS

The consolidated financial statements of Aptose Biosciences Inc. as of December 31, 2022 and 2021, and for each of the years then ended, have been incorporated by reference from our Annual Report on Form 10-K as filed with the SEC on March 24, 2023, in reliance upon the report of KPMG LLP, an independent registered public accounting firm. Such report is incorporated by reference upon the authority of said firm as an expert in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information requirements of the Securities Exchange Act of 1934 and, accordingly, we file reports with and furnish other information to the SEC. This prospectus forms part of a registration statement we have filed with the SEC relating to, among other things, the Common Shares. As permitted by SEC rules, 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 OF CERTAIN INFORMATION 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:

- Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2022 filed with the SEC on March 24, 2023;
- Quarterly Report on [Form 10-Q](#) filed with the SEC on May 8, 2023;
- Our definitive proxy statement on [Schedule 14A](#) filed on April 19, 2023; and
- Our Current Reports on Form 8-K filed with the SEC on [January 6, 2023](#), [May 23, 2023](#), [May 26, 2023](#), and [June 5, 2023](#) (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits that are related to such item).

In addition, all documents filed by us under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, 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



**PROSPECTUS**

**Aptose Biosciences Inc.**

**Offering of 1,257,785 Common Shares**

, 2023

**PART II**

**INFORMATION NOT REQUIRED IN THE PROSPECTUS**

**Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth all expenses to be paid by the Company, other than underwriting discounts and commissions, upon the completion of this offering. All amounts shown are estimates except for the SEC filing fee.

	<b>Approximate Amount</b>
SEC registration fee	\$ 839.27
Legal fees and expenses	100,000
Accounting fees and expenses	30,000
Transfer agent and registrar fees	6,000
Miscellaneous	13,000
<b>Total</b>	<b>\$ 149,839.27</b>

**Item 14. Indemnification of Directors and Officers.**

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

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

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

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

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

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

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## II-1

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

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

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

### Item 15. Recent Sales of Unregistered Securities.

We sold the securities described below within the past three years which were not registered under the Securities Act.

On May 25, 2023, we entered into Purchase Agreement with Keystone, pursuant to which Keystone has committed to purchase from us, at our direction, up to \$25 million Common Shares, subject to the terms and conditions specified in such purchase agreement. Pursuant to the Purchase Agreement, we issued to Lincoln Park 7,547 Initial Commitment Shares concurrently with our execution of the Purchase Agreement as consideration for its irrevocable commitment to purchase the Common Shares thereunder, subject the terms and conditions contained therein. As of the date hereof, other than the Commitment Shares, we have not issued and sold any Common Shares under such the Purchase Agreement. The securities were issued pursuant to an exemption from registration provided for under Section 4(a)(2) of the Securities Act. We relied on this exemption from registration based in part on representations made by the investor.

### Item 16. Exhibits and Financial Statement Schedules.

(a) See the Exhibit Index on the page immediately preceding the signature page hereto for a list of exhibits filed as part of this registration statement on Form S-1, which Exhibit Index is incorporated herein by reference.

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(b) No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or the notes thereto.

### Item 17. Undertakings.

The undersigned registrant hereby undertakes:

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

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

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

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the Company pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

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

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

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

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

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

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

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

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### EXHIBIT INDEX

The following documents are being filed with the Commission as exhibits to this registration statement on Form S-1.

Exhibit Number	Description of Document
3.1	<a href="#">Articles of Incorporation, Arrangement and Amendment (incorporated herein by reference to Exhibit 99.3 to the Company's Current Report on Form 6-K filed with the SEC on June 12, 2015)</a>
3.2	<a href="#">Certificate of Amendment (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on June 5, 2023)</a>
3.3	<a href="#">By-law #2 of the Company (incorporated herein by reference to Exhibit 99.2 to the Company's Current Report on Form 6-K filed with the SEC on June 12, 2015)</a>
4.1	<a href="#">Description of Securities (incorporated by reference to Exhibit 4.1 to the Company's Annual report on Form 10-K filed with the SEC on March 22, 2022)</a>
5.1*	<a href="#">Opinion of McCarthy Tétrault LLP</a>
10.1	<a href="#">Indemnification Agreement dated July 10, 2007 between Lorus Therapeutics Inc. and the Company (incorporated herein by reference to Exhibit 99.1 to the Company's Current Report on Form 6-K filed with the SEC on September 4, 2007)</a>

- 10.2+ [Amended and Restated Executive Employment Agreement between the Company and Dr. William G. Rice dated August 19, 2014 \(incorporated herein by reference to Exhibit 4.9A to the Company's Annual Report on Form 20-F filed with the SEC on March 4, 2015\)](#)
- 10.3+ [Share Option Plan as amended May 5, 2015 \(incorporated herein by reference to Exhibit 99.2 to the Company's Current Report on Form 6-K filed with the SEC on June 12, 2015\)](#)
- 10.4+ [Stock Incentive Plan as adopted May 5, 2015 \(incorporated herein by reference to Exhibit 99.1 to the Company's Current Report on Form 6-K filed with the SEC on June 12, 2015\)](#)
- 10.5+ [Form of Executive Employment Agreement, dated December 4, 2019, between the Company and Dr. Rafael Bejar \(incorporated herein by reference to Exhibit 10.7 to the Company's Annual Report filed on Form 10-K filed with the SEC on March 10, 2020\)](#)
- 10.6 [License agreement dated June 13, 2018 by and between the Company and CrystalGenomics, Inc. \(incorporated herein by reference to Exhibit 1.1 to the Company's Current Report on Form 6-K filed with the SEC filed on June 22, 2018\)](#)
- 10.7 [Option and License Agreement between the Company and CrystalGenomics, Inc. dated March 21, 2016 \(incorporated herein by reference on Form 10-KA/3 filed with the SEC on April 22, 2019\)](#)
- 10.8 [Amendment to Option and License Agreement between the Company and CrystalGenomics, Inc., dated April 26, 2016 \(incorporated herein by reference to Exhibit 99.2 to the Company's Current Report on Form 6-K filed with the SEC on June 8, 2016\)](#)

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- 10.9 [Second Amendment to Option and License Agreement between the Company and CrystalGenomics, Inc., dated May 13, 2016 \(incorporated herein by reference to Exhibit 99.3 to the Company's Current Report on Form 6-K filed with the SEC on June 8, 2016\)](#)
- 10.10 [Third Amendment to Option and License Agreement between the Company and CrystalGenomics, Inc., dated May 19, 2016 \(incorporated herein by reference to Exhibit 99.4 to the Company's Current Report on Form 6-K filed with the SEC on June 8, 2016\)](#)
- 10.11 [Fourth Amendment to Option and License Agreement between the Company and CrystalGenomics, Inc., dated June 1, 2016 \(incorporated herein by reference to Exhibit 99.5 to the Company's Current Report on Form 6-K filed with the SEC on June 8, 2016\)](#)
- 10.12 [License Agreement dated as of March 6, 2018 by and between the Company and Ohm Oncology Inc. \(incorporated herein by reference to Exhibit 99.2 on Form 6-K filed with the SEC filed on March 8, 2018\)](#)
- 10.13+ [Aptose Biosciences Inc. 2021 Employee Stock Purchase Plan \(incorporated by reference to the Definitive Proxy statement on Schedule 14A filed with the SEC on April 1, 2021\)](#)
- 10.14+ [Aptose Biosciences Inc. 2021 Employee Stock Incentive Plan \(incorporated by reference to the Definitive Proxy statement on Schedule 14A filed with the SEC on April 1, 2021\)](#)
- 10.15 [Exclusive License Agreement, dated November 4, 2021, by and between Hanmi Pharmaceutical Co. Ltd. and Aptose Biosciences Inc. \(incorporated herein by reference to Exhibit 10.1 to the Company's Current Report filed on Form 8-K on November 4, 2021\)](#)
- 10.16 [Employment Agreement dated June 3, 2019 between Aptose Biosciences Inc. and Philippe Ledru \(incorporated herein by reference to Exhibit 10.1 to the Company's Current Report filed on Form 8-K on April 11, 2022\)](#)
- 10.17 [Employment Agreement, dated June 27, 2022, between Aptose Biosciences Inc. and Fletcher Payne \(incorporated herein by reference to Exhibit 10.1 to the Company's Current Report filed on Form 8-K on June 28, 2022\)](#)
- 10.18 [Equity Distribution Agreement, dated December 9, 2022, among Aptose Biosciences Inc. and JonesTrading Institutional Services LLC \(incorporated herein by reference to Exhibit 10.1 to the Company's Current Report filed on Form 8-K on December 12, 2022\)](#)
- 21.1 [List of Subsidiaries \(incorporated herein by reference to Exhibit 21.1 to the Company's Current Report filed on Form 10-K on March 24, 2023\)](#)
- 23.1\* [Consent of Independent Registered Public Accounting Firm \(KPMG\)](#)
- 23.2\* [Consent of McCarthy Tétrault LLP \(included in Exhibit 5.1\)](#)
- 24.1\* [Powers of Attorney \(included on signature page\)](#)
- 107\* [Filing Fees](#)

+ Indicates management contract or compensatory plan.

\* Filed herewith.

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### SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Company certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Toronto, Ontario, Canada on June 16, 2023.

Aptose Biosciences Inc.

By: /s/ Fletcher Payne  
Fletcher Payne

**POWER OF ATTORNEY**

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below hereby constitutes and appoints William G. Rice and Fletcher Payne, and each of them, either of whom may act without the joinder of the other, as his or her true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

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<b>Name</b>	<b>Positions</b>	<b>Date</b>
<u>/s/ William G. Rice</u> William G. Rice	President, Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)	June 16, 2023
<u>/s/ Fletcher Payne</u> Fletcher Payne	Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	June 16, 2023
<u>/s/ Denis Burger</u> Denis Burger	Director	June 16, 2023
<u>/s/ Carol Ashe</u> Carol Ashe	Director	June 16, 2023
<u>/s/ Dr. Erich M. Platzer</u> Dr. Erich M. Platzer	Director	June 16, 2023
<u>/s/ Dr. Bernd R. Seizenger</u> Dr. Bernd R. Seizenger	Director	June 16, 2023
<u>/s/ Dr. Mark Vincent</u> Dr. Mark Vincent	Director	June 16, 2023
<u>/s/ Warren Whitehead</u> Warren Whitehead	Director	June 16, 2023

**AUTHORIZED REPRESENTATIVE**

Pursuant to the requirements of Section 6(a) of the Securities Act of 1933, the undersigned has signed this registration statement, solely in the capacity of the duly authorized representative of Aptose Biosciences Inc. in the United States, on this 16th day of June, 2023.

**APTOSE BIOSCIENCES U.S. INC.**By: /s/ Fletcher Payne

Name: Fletcher Payne  
Title: Senior Vice President and  
Chief Financial Officer

McCarthy Tétrault LLP  
 Suite 5300, TD Bank Tower  
 Box 48, 66 Wellington Street West  
 Toronto (Ontario) M5K 1E6  
 Canada  
 Tel: 416-362-1812  
 Fax: 416-868-0673



June 16, 2023

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

Dear Sir/Mesdames:

We have acted as Canadian counsel to Aptose Biosciences Inc. (the “**Company**”) in connection with the preparation and filing with the United States Securities and Exchange Commission (the “**Commission**”) under the United States Securities Act of 1933, as amended (the “**Securities Act**”), of the Company’s Registration Statement on Form S-1 dated June 16, 2023 (the “**Registration Statement**”), relating to the resale from time to time by Keystone Capital Partners, LLC (the “**Selling Shareholder**”) of up to an aggregate of 1,257,785 common shares of the Company (the “**Common Shares**”) pursuant to a common share purchase agreement entered into between the Company and the Selling Shareholder dated as of May 25, 2023 (the “**Purchase Agreement**”), which includes (i) 1,232,629 Common Shares that the Company may sell to the Selling Shareholder, from time to time, at the Company’s sole discretion, pursuant to the Purchase Agreement (the “**Placement Shares**”), (ii) 7,547 Common Shares issued to the Selling Shareholder on May 25, 2023 as consideration for its commitment to purchase Common Shares under the Purchase Agreement (the “**Initial Commitment Shares**”), and (iii) 17,609 Common Shares to be issued to the Selling Shareholder as consideration for its commitment to purchase Common Shares under the Purchase Agreement (the “**Back End Commitment Shares**”).

#### Scope of Review, Assumptions and Qualifications

As counsel, we have made such investigations and examined the originals, or duplicate, certified, conformed, facsimiled or photostatic copies of such corporate records, agreements, documents and other instruments and have made such other investigations as we have considered necessary or relevant for the purposes of this opinion, including:

- (a) the Registration Statement, including the prospectus contained therein;
- (b) the Purchase Agreement;
- (c) the registration rights agreement dated as of May 25, 2023 between the Company and the Selling Shareholder (the “**Registration Rights Agreement**”);
- (d) the articles and by-laws of the Company;
- (e) a certificate of compliance dated June 16, 2023 issued in respect of the Company pursuant to the *Canada Business Corporations Act* (the “**Certificate of Compliance**”); and



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- (f) a certificate of Fletcher Payne, the Senior Vice President, Chief Financial Officer and Secretary of the Company, as to certain factual matters dated the date hereof.

The Purchase Agreement and the Registration Rights Agreement are collectively referred to herein as the “**Transaction Documents**”.

We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates of public officials, certificates of officers, or other representatives of the Company, and such other documents as we have deemed necessary or appropriate as a basis for the opinion set forth herein.

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

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

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

#### Opinion

Based upon and subject to the foregoing, we are of the opinion that:

1. The Initial Commitment Shares have been validly issued as fully paid and non-assessable common shares of the Company.
  2. The Back End Commitment Shares, when issued and delivered in the manner stated in, and in accordance with the terms of, the Purchase Agreement, will be validly issued as fully paid and non-assessable common shares of the Company.
- 

**mccarthy  
tétrault**

page 3

3. The Placement Shares, when issued, sold and delivered in the manner and for the consideration stated in the Purchase Agreement, and upon payment of the consideration provided therein to the Company, will be validly issued as fully paid and non-assessable common shares of the Company.

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

Yours truly,

*(s) McCarthy Tétrault LLP*



KPMG LLP  
100 New Park Place, Suite 1400  
Vaughan, ON L4K 0J3  
Tel 905-265 5900  
Fax 905-265 6390  
www.kpmg.ca

### **Consent of Independent Registered Public Accounting Firm**

The Board of Directors

Aptose Biosciences Inc.

We, consent to use of our report dated March 23, 2023, on the consolidated financial statements of Aptose Biosciences Inc., which comprise the consolidated statements of financial position as at December 31, 2022 and December 31, 2021, the related consolidated statements of loss and comprehensive loss, changes in shareholders' equity and cash flows for the years then ended, and the related notes, which is incorporated by reference and to the reference to our firm under the heading "Experts" in the prospectus included in the registration statement (No. 333-[ ]) dated June 16, 2023 on Form S-1 of Aptose Biosciences Inc..

/s/ KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants  
June 16, 2023  
Vaughan, Canada

KPMG LLP, an Ontario limited liability partnership and member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. KPMG Canada provides services to KPMG LLP.  
Document classification: KPMG Confidential



## Calculation of Filing Fee Table

**Form S-1**  
(Form Type)

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

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered(1)(2)	Proposed Maximum Offering Price Per Unit(3)	Maximum Aggregate Offering Price(3)	Fee Rate	Amount of Registration Fee
Equity	Common Share, no par value per share	Other(3)	1,257,785	\$6.055	\$7,615,888	0.00011020	\$839.27
<b>Total Offering Amounts</b>					\$7,615,888		—
<b>Total Fee Offsets</b>							—
<b>Net Fee Due</b>							\$839.27

(1) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the “**Securities Act**”), this registration statement includes such indeterminable number of additional shares of the registrant’s common share, no par per share (the “**Common Share**”), as may be issued as a result of an adjustment to the shares by reason of a share split, share dividend or similar capital adjustment, as required by the plans.

(2) Represents 7,547 Common Shares previously issued to the selling shareholder on May 25, 2023, 17,609 Common Shares to be issued pursuant to the purchase agreement with the selling shareholder, and up to 1,232,629 Common Shares that are issuable at the option of the registrant pursuant to a purchase agreement with the selling shareholder.

(3) Pursuant to Rule 457(c) under the Securities Act, calculated on the basis of the average of the high and low prices per share of the Common Shares reported on the Nasdaq Capital Market on June 14, 2023.