Filed Pursuant to 424(b)(4)
Registration No. 333-275870

PROSPECTUS

4,912,280 Common Shares

4,912,280 Warrants to Purchase 4,912,280 Common Shares

Up to 4,912,280 Common Shares Underlying Warrants

Up to 343,860 Common Shares Underlying Underwriter's Warrants

We are offering 4,912,280 common shares, no par value ("Offered Shares"), together with Warrants to purchase Offered Shares ("Warrants"). Offered Shares and Warrants will be sold in combination, with one Warrant exercisable for one Offered Share. 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 January 25, 2024, the last reported sale price of the common shares on Nasdaq was $1.90 per common share and on January 25, 2024, the TSX reported C$2.55 per common share. The combined public offering price for each Offered Share and accompanying Warrant is $1.71. We have applied to the TSX for conditional approval of the offering and are relying on the exemption included in section 602.1 of the TSX Company Manual. The completion of the offering is conditional upon the approval of the TSX.

We are also registering the Offered Shares issuable upon exercise of the Warrants. We are also registering hereby the issuance of the underwriter's warrants and the common shares issuable upon exercise of such warrants.

There is no established public trading market for the Warrants and we do not expect a market to develop. We do not intend to apply for listing of the Warrants on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the will be limited.

Concurrently with this offering of Offered Shares and Warrants we intend to sell common shares ("Private Placement Shares") and warrants ("Private Placement Warrants") directly to Hanmi Pharmaceutical Co., Ltd. ("Hanmi") in a private placement offering. Private Placement Shares and Private Placement Warrants will be sold in combination, with one Private Placement Share and 1.11111106 Private Placement Warrants at an offering price of $1.90 per combined Private Placement Share and Private Placement Warrant (which represents a premium to the public offering price of the Offered Shares, Warrants) as set forth in the table below, for aggregate gross proceeds of approximately $4.0 million, without giving effect to any fees or commissions, which we refer to herein as our "concurrent private placement offering". Each whole Private Placement Warrant is exercisable for one common share (each a "Private Placement Warrant Share") at exercise price of $1.71 per Private Placement Warrant Share for a period of five years from the date of issuance of the Private Placement Warrant. The Private Placement Shares, the Private Placement Warrants and the common shares issuable upon the exercise of the Private Placement Warrants are not being registered under the United States Securities Act of 1933, as amended (the "Securities Act"), and are not being offered pursuant to this prospectus but are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder. The closing of the concurrent private placement offering and the closing of this offering are not contingent upon each other. Hanmi's participation in the concurrent private offering will satisfy its obligation to fund the remaining $4 million owed to us pursuant the Subscription Agreement between Hanmi and us, dated September 6, 2023. See "Concurrent Private Placement Offering" for more information. Newbridge Securities Corporation, the underwriter, is acting as placement agent in connection with the concurrent private placement offering and will receive (i) a placement agent fee equal to 7.0% of the total purchase price of the Private Placement Shares and Private Placement Warrants sold in the concurrent private placement offering and (ii) warrants equal to 7% of the total Private Placement Shares and Private Placement Warrants offered in the concurrent private placement (the "Agent's Warrants").

Investing in our Offered Shares, Warrants involves a high degree of risk. Review "Risk Factors" beginning on page 11 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 investing in any of our Offered Shares, Warrants.

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.

	Per Offered Share and Warrant	Total
Public offering price	$1.7100	$8,399,998.80
Underwriting discounts and commissions (1)	$0.1197	$587,999.92
Proceeds, before expenses, to us (2)(3)	$1.5903	$7,811,998.88

(1) See "Underwriting" beginning on page 38 for additional information regarding underwriting compensation. Does not include the placement agent fee and estimated issuance costs in connection with the issuance of Private Placement Shares and Private Placement Warrants in the concurrent private placement.

(2) The amount of proceeds, before expenses, to us does not give effect to any exercise of the Warrants. Does not include proceeds related to the issuance of Private Placement Shares and Private Placement Warrants in the concurrent private placement offering.

(3) The amount of offering proceeds to us presented in this table does not give effect to any exercise of the: (i) over-allotment option we have granted to the underwriter as described below (ii) the underwriter's warrants being issued to the underwriter as described below and (iii) any proceeds related to the concurrent private placement offering.

We have granted the underwriter an option for a period of 30 days to purchase up to an additional 736,842 Offered Shares and/or additional Warrants to

purchase 736,842 common shares, in any combination, at an offering price of $1.70 per additional common share and $0.01 per additional Warrant.

The underwriter expects to deliver the Offered Shares and Warrants on or about January 30, 2024.

Sole Book-Running Manager

Newbridge Securities Corporation

The date of this prospectus is January 25, 2024

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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"). 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, 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 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" in this prospectus.

Neither we nor the underwriter 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 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. You should not assume that the information contained in this prospectus is accurate as of any other date.

As used in this prospectus, 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.

In order to maintain its listing on Nasdaq, the Company effected a reverse stock split 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 common 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 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 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 ability to continue as a going concern;
- our lack of product revenues;
- 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 agencies 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 Offered Shares and Warrants
- 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.

Should one or more of these risks or uncertainties materialize, or should the assumptions described in the sections entitled "Risk Factors" in this prospectus 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". 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.

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 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. 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

We are a science-driven biotechnology company advancing targeted agents to treat life-threatening cancers, such as acute myeloid leukemia ("AML"), high-risk myelodysplastic syndromes ("MDS"), and other hematologic malignancies. Based on insights into the genetic and epigenetic profiles of certain cancers and patient populations, we are building a pipeline of novel oncology therapies directed at dysregulated processes and signaling pathways. We are 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: tuspetinib (HM43239) and luxeptinib (CG-806), both being evaluated for safety, tolerability, pharmacokinetics, and signals of efficacy in Phase 1 clinical trials. Each molecule is described below.

Tuspetinib 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 kinases that typically cause toxicities associated with other kinase inhibitors. Tuspetinib 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 tuspetinib 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, tuspetinib 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 tuspetinib into the APTIVATE expansion trial of the Phase 1/2 program to collect responses in R/R AML patient populations enriched with specific genotypic and phenotypic backgrounds when treated with single agent tuspetinib 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 tuspetinib for dual and triple combination studies in later and early lines of therapy. Based on the safety and efficacy profile of tuspetinib, we believe that tuspetinib, if approved, can reach greater than $3 billion in annual sales by 2035 because we believe tuspetinib 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 R/R AML patients, (3) serve as an effective agent for maintenance therapy to prevent relapse in patients who achieved a CR 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 tuspetinib for efficacy and safety in patients with MDS, and, if found active and safe in this population, could support the overall market potential of tuspetinib at $3 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 tuspetinib 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 Form10-K for the year ended December 31, 2022.

Luxeptinib 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, luxeptinib has been evaluated in a Phase 1a/b study for the treatment of patients with R/R 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 luxeptinib. 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 luxeptinib can serve patients across lymphoid and myeloid malignancies and combine well with other agents to extend its application to multiple lines of therapy.

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 shares.

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

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

Recent Developments

Clinical Update

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

Tuspetinib (HM43239)

As of December 26, we have dosed a total of 160 R/R AML patients.

- Completed tuspetinib dose escalation and dose exploration Phase 1/2 trial in 91 R/R AML patients. The TUS/VEN combination has dosed 69 patients:
    - Tuspetinib demonstrated a favorable safety profile.
    - As a single agent at therapeutic doses of 80-160 mg in 68 evaluable patients, TUS was more active inVEN-naïve patients, with an overall CRc rate of 29% (8/28).
        - This included a 42% CRc rate (5/12) in FLT3-mutated patients
        - And a 19% CRc rate (3/16) in FLT3-unmutated, or wildtype, AML patients
    - Responses and blood counts improved with continuous dosing.
    - Many bridged to an allogeneic stem cell transplant (HSCT).
    - Durability was observed when HSCT was not performed.
    - 80 mg was selected as the recommended phase 2 dose.
    - Tuspetinib showed a favorable safety profile with only mild adverse events (AEs) and no dose-limiting toxicities (DLTs) up to 160 mg per day, and no drug discontinuations from drug related toxicity.
    - TUS single agent showed responses and blood counts improved with continuous dosing.
    - Patients enrolled at higher dose levels above 80mg represented a different population – primarily VEN failures – more difficult-to-treat and with lower response rates to therapies. Response rates above the 80mg dose level were lower due the different patient population.
    - Tuspetinib showed a favorable safety profile with only mild adverse events (AEs) and no dose-limiting toxicities (DLTs) up to 160 mg per day, and no drug discontinuations from drug related toxicity.

- 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:
    - TUS directly targets many of the pathways involved in venetoclax (VEN) resistance, and TUS mayre-sensitize prior-VEN failure patients to VEN.
    - TUS is being administered as a combination doublet with TUS/VEN, and enrollment has been brisk.
    - Data for patients treated with the TUS/VEN doublet are available from a data cut effective 23 October 2023 with conclusions below drawn from this data cut.
    - TUS/VEN doublet study, 49 patients were dosed with 80 mg of tuspetinib and 200 mg of venetoclax, with 36 evaluable (and 13 patients too early to assess).
    - Data reflects a short median follow-up time of 1.6 months.
    - Patients were heavily exposed to Prior-VEN and Prior-FLT3 inhibitor treatment.
    - TUS/VEN was active in both VEN-naïve and prior Prior-VEN relapsed/refractory patients.
    - TUS demonstrated composite complete remission (CRc) rates:
        - Among all evaluable patients, TUS/VEN demonstrated a CRc rate of 25% (9/36); 43% (3/7) in VEN-naïve patients, and 21% (6/29) in Prior-VEN patients.
        - Among FLT3 wildtype patients, TUS/VEN demonstrated an overall CRc rate of 20% (5/25); 33% (2/6) in VEN-naïve patients, and 16% (3/19) in Prior-VEN patients.
        - Among FLT3 mutant patients, TUS/VEN demonstrated an overall CRc rate of 36% (4/11); a complete response in a VEN-naïve patient (1/1); a 30% (3/10) in Prior-VEN patients; and 44% (4/9) in patients treated prior with a FLT3 inhibitor.
- Key findings:
    - TUS/VEN is a well tolerated combination therapy.
    - TUS/VEN is active across broad populations of R/R AML.
    - TUS/VEN is active in FLT3 wildtype, representing ~70% of AML patients.
    - TUS/VEN retains activity in the difficult-to-treat Prior-VEN AML population.
    - TUS/VEN doublet has the potential to be the first-to-market in R/R prior-VEN failure setting
    - We are seeking a collaboration partner to study TUS as part of a TUS/VEN/HMA triplet in 1L newly diagnosed AML patients unfit for chemotherapy with or without FLT3 mutations

Luxeptinib (CG-806)

- 50mg G3 formulation with continuous dosing achieves roughly equivalent pharmacokinetic profile as 900mg original G1 formulation; and
- Continuous dosing of a new G3 formulation has commenced in R/R AML patients and PK data are being collected to determine if the new formulation delivers improved plasma exposures

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 January 25, 2024, we own rights in 43 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.

Luxeptinib (CG-806)

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

Notwithstanding the foregoing, we expect to revise our current development as follows. Assuming the net proceeds from this offering and our existing cash, cash equivalents and short-term investments, a net proceeds from the concurrent private placement offering, a committed equity facility, and ATM we plan to, (i) complete our ongoing APTIVATE clinical trial studying TUS and TUS/VEN, (ii) pause enrollment in the LUX G3 study and (iii) evaluate other costs reductions in general and administrative expenses. If we do not raise the net proceeds in this offering we

may conduct additional reductions in general and administrative expenses as well as seek additional financing.

As of January 25, 2024, we owned rights to 49 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 theCG-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.

As of January 25, 2024, we completed the milestones that were conditions precedent to Hanmi's funding obligation of the second tranche under the Subscription Agreement by and between us and Hanmi dated September 6, 2023. Hanmi's participation in the concurrent private offering will satisfy its obligation to fund the remaining $4 million owed to us pursuant the Subscription Agreement.

THE OFFERING

Securities offered by us	4,912,280 Offered Shares 4,912,280 Warrants to purchase 4,912,280 Offered Shares
Description of securities	Each Warrant has an exercise price of $1.71 per Offered Share, will be exercisable immediately upon issuance, subject to certain limitations based on the holder's beneficial ownership of our common shares and will expire five years from the date of issuance. The Offered Shares and Warrants are immediately separable and will be issued separately in this offering, but must be purchased together in this offering. See "Description of Our Securities We Are Offering".
Concurrent private placement offering	Concurrently with this offering of Offered Shares and Warrants we intend to sell Private Placement Shares and Private Placement Warrants directly to Hanmi in a private placement offering Private Placement Shares and Private Placement Warrants will be sold in combination, with one Private Placement Share and 1.11111106 Private Placement Warrants at an offering price of $1.90 per combined Private Placement Share and Private Placement Warrant (which represents a premium to the public offering price of the Offered Shares and Warrants), for aggregate gross proceeds of approximately $4.0 million, without giving effect to any fees or commissions. Each whole Private Placement Warrant is exercisable for one Warrant Share at has an exercise price of $1.71 per Warrant Share for a period of five years from the date of issuance. The Private Placement Shares, the Private Placement Warrants and the common shares issuable upon the exercise of the Private Placement Warrants are not being registered under the Securities Act, and are not being offered pursuant to this prospectus but are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder. The closing of the concurrent private placement offering and the closing of this offering are not contingent upon each other. Hanmi's participation in the concurrent private offering will satisfy its obligation to fund the remaining $4 million owed to us pursuant the Subscription Agreement between Hanmi and us, dated September 6, 2023. See "Concurrent Private Placement Offering" for more information. Newbridge Securities Corporation, the underwriter, is acting as placement agent in connection with the concurrent private placement offering and will receive (i) a placement agent fee equal to 7.0% of the total purchase price of the Private Placement Shares and Private Placement Warrants sold in the concurrent private placement offering and (ii) Agent's Warrants equal to 7% of the total Private Placement Shares and Private Placement Warrants offered in the concurrent private placement.
Common shares outstanding prior to this offering and the concurrent private placement offering	7,952,425 common shares
Common shares outstanding immediately after this offering and the concurrent private placement offering	14,969,968 common shares (assuming none of the Warrants issued in this offering or the Private Placement Warrants issued in the concurrent private placement offering are exercised) or 15,706,810 common shares, if the over-allotment option granted to the underwriter is exercised in full (assuming none of the Warrants issued in this offering or the Private Placement Warrants in the concurrent private placement offering are exercised).
Option to purchase additional shares	We have granted to the underwriter the option, exercisable for 30 days from the date of this prospectus, to purchase up to 736,842 additional Offered Shares and/or Warrants to purchase 736,842 additional Offered Shares. Each Offered Share and/or Warrant purchased pursuant to this option will be at an offering price of $1.70 per common share and $0.01 per additional Warrant.
Underwriter's Warrants	The registration statement of which this prospectus is a part also registers the offer and sale of warrants exercisable for an aggregate of 343,860 common shares (395,438 common shares in the event that the underwriter exercises its over-allotment option in full) and the shares issuable upon exercise thereof that we will issue to the underwriter as a portion of the underwriting compensation payable to the underwriter in connection with this offering. The warrants will be exercisable for a four year period commencing six months after the effective date of the registration statement of which this prospectus is a part at an exercise price equal to 125% of the public offering price of the common shares. Please see "Underwriting — Underwriter's Warrants" for a description of these warrants.
Stock symbol	Our common shares are listed on Nasdaq under the symbol "APTO" and on the TSX under the symbol "APS".

Use of proceeds	We estimate the net proceeds from this offering and the concurrent private placement will be approximately $11.18 million (or approximately $12.35 million if the underwriter exercises in full its over-allotment option) million (assuming none of the Warrants issued in this offering are exercised), after deducting estimated underwriting discounts and commissions with respect to this offering and the agent's fee in connection with the concurrent private placement and estimated offering expenses payable by us. We intend to use any proceeds from this offering and the concurrent private placement offering that we receive for working capital and general corporate purposes. See "Use of Proceeds" on page 35 for more information.
Risk factors	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 11.
Transfer agent	Computershare Investor Service

[1] The number of common shares to be outstanding prior to and after this offering and the concurrent private placement offering is based on 7,952,425 common shares outstanding as of January 25, 2024 and excludes:

- 343,860 common shares issuable upon the exercise by the underwriter of the underwriter's warrants (395,438 common shares in the event that the underwriter exercises its over-allotment option in full);
- 112,000 common shares issuable upon the exercise of the Agent's Warrants;
- 2,339,181 common shares issuable upon the exercise of the Private Placement Warrants;
- 1,183,947 stock options outstanding as of January 25, 2024, at a weighted average exercise price of $44.70 per common share; and
- 382,408 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: (i) no exercise of the outstanding options or warrants described above; and (ii) no exercise of the Warrants or the underwriter's warrants in this offering.

RISK FACTORS

You should carefully consider the following risk factors in addition to other information in this prospectus before purchasing our securities. 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.

Risk Factor Summary

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:

- the substantial number of common shares that may be sold in the market following this offering and the concurrent private placement offering, may depress the market price for the Offered Shares and Warrants;
- the lack of a public market for the and Warrants;
- holders of our and Warrants will have no rights as a holder of our common shares until they acquire our common shares;
- the and Warrants offered by this prospectus and in the concurrent private placement offering may not have any value;
- investors in this offering may experience immediate dilution in the book value per share of the Offered Shares purchased in the offering;
- investors in the offering may experience future dilution;
- our management's discretion in applying the net proceeds from the offering;
- potential adverse U.S. federal income tax consequences for U.S. investors if we are a "passive investment company";
- this offering is not conditioned on the consummation of any other financing, including the concurrent private placement offering;
- proposed U.S. legislation may adversely impact the value of the securities offered in the offering;
- our ability to continue as a going concern;
- 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 FDA, or other similar foreign regulatory agencies that we are required to report to, may ultimately not approve any of our product candidates;
- our operations could be adversely affected by events outside of our control, such as natural disasters, wars or health crises such as the COVID-19 pandemic;
- our ability to comply with applicable governmental regulations and standards;
- our inability to achieve our projected development goals in the time frames we announce and expect;
- difficulties in enrolling patients for clinical trials may lead to delays or cancellations of our clinical trials;
- our reliance on third-parties to conduct and monitor our preclinical studies;
- our ability to attract and retain key personnel, including key executives and scientists;
- any misconduct or improper activities by our employees;
- our exposure to exchange rate risk;
- our ability to commercialize our business attributed to negative results from clinical trials;
- the marketplace may not accept our products or product candidates due to the intense competition and technological change in the biotechnical and pharmaceuticals industries, 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; and
- our ability to protect our intellectual property rights and not infringe on the intellectual property.

Risks Related to this Offering and the Concurrent Private Placement Offering

A substantial number of common shares may be sold in the market following this offering, which may depress the market price for our Offered Shares and Warrants.

Sales of a substantial number of our common shares in the public market following this offering could cause the market price of our common shares to decline. A substantial majority of the outstanding common shares are, and the Offered Shares offered hereby or issuable upon exercise of the Warrants offered hereby will be, freely tradable without restriction or further registration under the Securities Act. Because the Warrants are exercisable into our Offered Shares, volatility or a reduction in the market price of our common shares could have an adverse effect on the market price of the Warrants.

There is no public market for the Warrants being offered in this offering or Private Placement Warrants offered in the concurrent private placement offering.

There is no established public trading market for the Warrants being offered in this offering or the Private Placement Warrants offered in the concurrent private placement offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the Warrants and Private Placement Warrants on any national securities exchange or other nationally recognized trading system, including Nasdaq or the TSX. Without an active market, the liquidity of the Warrants and Private Placement Warrants will be extremely limited.

Holders of our Warrants and Private Placement Warrants will have no rights as a holder of our common shares until they acquire our common shares.

Until holders acquire our common shares upon exercise of the Warrants or Private Placement Warrants, holders will have no rights with respect to our common shares issuable upon exercise of the Warrants or. Upon exercise of such holder's Warrants or Private Placement Warrants, holders will be entitled to exercise the rights of a holder of our common shares only as to matters for which the record date occurs after the exercise date.

The Warrants offered by this prospectus and the Private Placement Warrants offered in the concurrent private placement offering may not have any value.

The Warrants offered by this prospectus and the Private Placement Warrants offered in the concurrent private placement offering will be exercisable for five years from the date of issuance. There can be no assurance that the market price of our common shares will ever exceed the exercise prices of the Warrants or Private Placement Warrants. In the event that the price of our common shares does not exceed the exercise price of the Warrants and/or the Private Placement Warrants during their terms, such Warrants or Private Placement Warrants may not have any value.

Investors in this offering may experience immediate dilution in the book value per share of the Offered Shares purchased in the offering.

The Offered Shares sold in this offering, if any, will be sold from time to time at various prices. However, the expected offering price of the Offered Shares may be substantially higher than the net tangible book value per share of our currently outstanding common shares. After giving effect to the sale of our Offered Shares and the Private Placement Shares in the net amount of approximately $11.18 million which assumes that the over-allotment option is not exercised and after deducting estimated commissions and estimated offering expenses, our as-adjusted net tangible book value as of September 30, 2023 would have been approximately $17.96 million, or approximately $1.20 per common share. While this represents an immediate increase in net tangible book value, future sales of Offered Shares in this offering and future sales of Private Placement Shares in the concurrent private placement offering may represent an immediate increase in net tangible book value to our existing shareholders and an immediate dilution to new investors, depending on the market value of our common shares.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional common shares or other securities convertible into or exchangeable for common shares at prices that may not be the same as the price per share in this offering. We may sell common shares or other securities convertible into or exchangeable for our shares of common shares in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares of common shares or other securities convertible into or exchangeable for our common shares in the future could have rights superior to existing shareholders. The price per share at which we sell additional shares of common shares or other securities convertible or exchangeable into our common shares, in future transactions may be higher or lower than the price per share paid by investors in this offering.

Our management might apply the net proceeds from this offering and the concurrent private placement 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 and the concurrent private placement offering for working capital and 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.

This offering is not conditioned on the consummation of any other financing, including the concurrent private placement offering.

Neither the completion of this offering nor the concurrent private placement offering is contingent on the completion of the other, so it is possible that this offering occurs and the concurrent private placement offering does not occur, and vice versa. This prospectus is not an offer to sell or a solicitation of an offer to buy any securities being offered in the concurrent private placement offering. We cannot assure you that the concurrent private placement offering will be completed on the terms described herein, or at all.

We expect to be a "passive foreign investment company", which may have adverse U.S. federal income tax consequences for U.S. investors.

We believe we were a "passive foreign investment company" (a "PFIC") within the meaning of Section 1297 of the U.S. Internal Revenue Code of 1986, as amended (the "Code") for our most recently completed taxable year and based on the nature of our business, the projected composition of our gross income and the projected composition and estimated fair market values of our assets, we expect to be a PFIC for our current taxable year and may be a PFIC in subsequent tax years. If we are a PFIC for any year during a U.S. taxpayer's holding period of Offered Shares, Warrants, or Warrant Shares (as defined below under the heading "*Certain Material U.S. Federal Income Tax Considerations*"), then such U.S. taxpayer generally will be required to treat any gain realized upon a disposition of the Offered Shares, Warrants, or Warrant Shares or any so-called ''excess distribution'' received on its Offered Shares or Warrant Shares as ordinary income, and to pay an interest charge on a portion of such gain or distribution. In certain circumstances, the sum of the tax and the interest charge may exceed the total amount of proceeds realized on the disposition, or the amount of excess distribution received, by the U.S. taxpayer. Subject to certain limitations, these tax consequences may be mitigated if a U.S. taxpayer makes a timely and effective QEF Election (as defined below) with respect to the Offered Shares and Warrant Shares or a Mark-to-Market Election (as defined below) with respect to the Offered Shares and Warrant Shares. A U.S. taxpayer generally may not make a QEF Election with respect to the Warrants or a Mark-to-Market Election with respect to the Warrants. In addition, U.S. taxpayers should be aware that there can be no assurances that we will satisfy the record keeping requirements that apply to a QEF (as defined below), or that we will supply U.S. taxpayers with information that such U.S. taxpayers are required to report under the QEF rules, in the event that we are a PFIC. Thus, U.S. Holders may not be able to make a QEF Election with respect to their Offered Shares and Warrant Shares. A U.S. taxpayer who makes a Mark-to-Market Election generally must include as ordinary income each year the excess of the fair

market value of the Offered Shares or Warrant Shares over the taxpayer's basis therein. Each potential investor who is a U.S. taxpayer should review the discussion below under the heading "*Certain Material U.S. Federal Income Tax Considerations — Passive Foreign Investment Company Rules*" in its entirety and should consult its own tax advisor regarding the tax consequences of the PFIC rules and the acquisition, ownership, and disposition of the Offered Shares, Warrants, and the Warrant Shares.

Proposed legislation in the U.S. Congress, including changes in U.S. tax law, and the Inflation Reduction Act of 2022 may adversely impact us and the value of the Offered Shares, Warrants and Warrant Shares.

Changes to U.S. tax laws (which changes may have retroactive application) could adversely affect us or holders of the Offered Shares, Warrants and Warrant Shares. In recent years, many changes to U.S. federal income tax laws have been proposed and made, and additional changes to U.S. federal income tax laws are likely to continue to occur in the future.

The U.S. Congress is currently considering numerous items of legislation which may be enacted prospectively or with retroactive effect, which legislation could adversely impact our financial performance and the value of the Offered Shares, Warrants and Warrant Shares. Additionally, states in which we operate or own assets may impose new or increased taxes. If enacted, most of the proposals would be effective for the current or later years. The proposed legislation remains subject to change, and its impact on us and purchasers of the Offered Shares, Warrants and Warrant Shares is uncertain.

In addition, the Inflation Reduction Act of 2022 includes provisions that impact the U.S. federal income taxation of corporations. Among other items, this legislation includes provisions that impose a minimum tax on the book income of certain large corporations and an excise tax on certain corporate stock repurchases that are imposed on the corporation repurchasing such stock. It is unclear how this legislation will be implemented by the U.S. Department of the Treasury and we cannot predict how this legislation or any future changes in tax laws might affect us or purchasers of the Offered Shares, Warrants and Warrant Shares.

Risks Related to our Business

There is substantial doubt that the company can remain a going concern over the next twelve months.

Management recognizes that in order for us to meet our capital requirements, and continue to operate, additional financing will be necessary. We plan to raise additional funds in order to fund our business operations. We will seek access to financing but there is no assurance that such additional funds will be available for us to finance our operations on acceptable terms, if at all. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our trial, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If necessary funds are not available, we may have to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

We are an early-stage development company with no revenues from product sales.

We are at an early stage of development. None of our potential products has obtained regulatory approval for commercial use and sale in any country and as such, no revenues have resulted from product sales. Significant additional investment will be necessary to complete the development of any of our product candidates. Preclinical and clinical trial work must be completed before our potential products could be ready for use within the markets that we have identified. We may fail to develop any products, obtain regulatory approvals, enter or complete clinical trials or commercialize any products. We do not know whether any of our potential product development efforts will prove to be effective, meet applicable regulatory standards, obtain the requisite regulatory approvals, be capable of being manufactured at a reasonable cost or be accepted in the marketplace.

The product candidates we are currently developing are not expected to be commercially viable for at least the next several years and we may encounter unforeseen difficulties or delays in commercializing our product candidates. In addition, our potential products may not be effective or may cause undesirable side effects.

Our product candidates require significant funding to reach regulatory approval assuming positive clinical results. We are currently conducting Phase 1 clinical trials with our product candidates tuspetinib and luxeptinib. Significant additional capital will be necessary to complete the Phase 1 clinical trials, and if required, Phase 2 or Phase 3 clinical trials. Such funding for our product candidates may be difficult, or impossible to raise in the public or private markets or through partnerships. If funding or partnerships are not readily attainable, the development of our product candidates may be significantly delayed or stopped altogether. The announcement of a delay or discontinuation of development of any of our product candidates could have a negative impact on our share price.

We need to raise additional capital.

We have an ongoing need to raise additional capital. To obtain the necessary capital, we must rely on some or all of the following: additional share issues, debt issuances (including promissory notes), collaboration agreements or corporate partnerships and grants and tax credits to provide full or partial funding for our activities. Additional funding may not be available on terms that are acceptable to us or in amounts that will enable us to carry out our business plan.

Our need for capital may require us to:

- engage in equity financings that could result in significant dilution to existing investors;
- delay or reduce the scope of or eliminate one or more of our development programs;
- obtain funds through arrangements with collaborators or others that may require us to relinquish rights to technologies, product candidates or products that we would otherwise seek to develop or commercialize ourselves;
- license rights to technologies, product candidates or products on terms that are less favorable to us than might otherwise be available;
- considerably reduce operations; or
- cease our operations.

In addition, sales of our common shares in the public markets, or the perception that such sales could occur, could depress the market price of our common shares and impair our ability to raise capital through the sale of additional equity securities.

Our operations could be adversely affected by events outside of our control, such as natural disasters, wars or health crises such as theCOVID-19 pandemic.

We may be impacted by business interruptions resulting from pandemics and public health emergencies, including war and terrorism or natural disasters including earthquakes, typhoons, floods and fires. Any such event, or a fear of the foregoing, could adversely impact us by causing operating, manufacturing, supply chain, clinical trial and project development delays and disruptions, labor shortages, travel and shipping disruption or shutdowns. We may incur expenses or delays relating to such events outside of our control, which could have a material adverse impact on our business, operating results and financial condition.

We have a history of operating losses. We expect to incur net losses and we may never achieve or maintain profitability.

We have not been profitable since our inception in 1986. We reported net losses of $41.8 million in the fiscal year ended December 31, 2022, $65.4 million in the fiscal year ended December 31, 2021, $55.2 million in the fiscal year ended December 31, 2020 , and as of December 31, 2022, we had an accumulated deficit of $464.3 million.

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

We currently do not earn any revenues from our drug candidates and are therefore considered to be in the development stage. The continuation of our research and development activities and the commercialization of the targeted therapeutic products are dependent upon our ability to successfully finance and complete our research and development programs through a combination of equity financing and payments from strategic partners. We have no current sources of significant payments from strategic partners.

We heavily rely on the capabilities and experience of our key executives and scientists and the loss of any of them could affect our ability to develop our products.

The loss of our executive officers could harm our operations and our ability to achieve strategic objectives. While we have employment agreements with our executive officers, such employment agreements do not guarantee their retention. We also depend on our scientific and clinical collaborators and advisors, all of whom have outside commitments that may limit their availability to us. In addition, we believe that our future success will depend in large part upon our ability to attract and retain highly skilled scientific, managerial, medical, clinical and regulatory personnel, particularly as we expand our activities and seek regulatory approvals for clinical trials. We routinely enter into consulting agreements with our scientific and clinical collaborators and advisors, key opinion leaders and academic partners in the ordinary course of our business. We also enter into contractual agreements with physicians and institutions who will recruit patients into our clinical trials on our behalf in the ordinary course of our business. Notwithstanding these arrangements, we face significant competition for these types of personnel from other companies, research and academic institutions, government entities and other organizations. We cannot predict our success in hiring or retaining the personnel we require for continued growth. The loss of the services of any of our executive officers or other key personnel could potentially harm our business, operating results or financial condition.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include failures to comply with FDA/Health Canada regulations, provide accurate information to the FDA/Health Canada, comply with manufacturing standards we have established, comply with federal, state and provincial health-care fraud and abuse laws and regulations, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a substantial impact on our business and results of operations, including the imposition of substantial fines or other sanctions.

We have no sales, marketing or distribution experience and would have to invest significant financial and management resources to establish these capabilities.

We have no sales, marketing or distribution experience. We currently expect to rely heavily on third parties to launch and market our products, if they are approved. However, if we elect to develop internal sales, distribution and marketing capabilities, we will need to invest significant financial and management resources. For products where we decide to perform sales, marketing and distribution functions ourselves, we could face a number of additional risks, including:

- we may not be able to attract and build a significant marketing or sales force;
- the cost of establishing a marketing or sales force may not be justifiable in light of the revenues generated by any particular product; and
- our direct sales and marketing efforts may not be successful.

If we are unable to develop our own sales, marketing and distribution capabilities, we will not be able to successfully commercialize our products without reliance on third parties.

We may expand our business through the acquisition of companies or businesses or by entering into collaborations or byin-licensing product candidates, each of which could disrupt our business and harm our financial condition.

We may seek to expand our pipeline and capabilities by acquiring one or more companies or businesses, entering into collaborations or in-licensing one or more product candidates. For example, in June 2016, we entered into a definitive agreement with CG, granting us an exclusive option to research, develop and commercialize CG-806 in all countries of the world except Korea, for all fields of use, and in November 2021 we entered into an agreement with Hanmi granting us exclusive worldwide rights to develop and commercialize tuspetinib.

Acquisitions, collaborations and in-licenses involve numerous risks, including, but not limited to:

- substantial cash expenditures;
- technology development risks;
- potentially dilutive issuances of equity securities;
- incurrence of debt and contingent liabilities, some of which may be difficult or impossible to identify at the time of acquisition;
- difficulties in assimilating the operations of the acquired companies;
- potential disputes regarding contingent consideration;
- diverting our management's attention away from other business concerns;
- entering markets in which we have limited or no direct experience;
- potential loss of our key employees or key employees of the acquired companies or businesses; and
- failure of the in-licenses agents or technologies to deliver the desired activities or functions.

We have experience in entering collaborations and in-licensing product candidates; however, we cannot provide assurance that any acquisition, collaboration or in-license will result in any benefit to us. We may incorrectly judge the value or worth of an acquired company or business or in-licensed product candidate. In addition, our future success could depend in part on our ability to manage the rapid growth associated with some of these acquisitions, collaborations and in-licenses. We cannot assure you that we would be able to successfully combine our business with that of acquired businesses, manage a collaboration or integrate in-licensed product candidates. Furthermore, the development or expansion of our business may require a substantial capital investment by us.

Fluctuations in exchange rates can cause us to incur losses.

We may be exposed to fluctuations of the U.S. dollar against certain other currencies because we hold most of our cash and cash equivalents in U.S. dollars, while we incur some of our expenses in foreign currencies, primarily the Canadian dollar. Fluctuations in the value of currencies could cause us to incur currency exchange losses, and we do not currently employ a hedging strategy against exchange rate risk. As a result, changes in the exchange rate between the Canadian dollar and the U.S. dollar could materially impact our reported results of operations and distort period to period comparisons. In particular, to the extent that foreign currency-denominated (i.e., non-U.S. dollar) monetary assets do not equal the amount of our foreign currency denominated monetary liabilities, foreign currency gains or losses could arise and materially impact our financial statements. As a result of such foreign currency fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our common shares could be adversely affected.

Risks Related to Development, Clinical Testing and Regulatory Approval of Our Product Candidates

Fast Track Designation by the FDA may not lead to a faster development or regulatory review or approval process.

We have obtained Fast Track Designation for HM43239 for the treatment of patients with R/R AML and FLT3 mutation. We may seek Fast Track Designation for one or more of our other product candidates. If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the product sponsor may apply for FDA Fast Track Designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot assure you that the FDA would decide to grant it. Even if we do receive Fast Track Designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw Fast Track Designation if it believes that the designation is no longer supported by data from our clinical development program.

Clinical trials are long, expensive and uncertain processes and the FDA or Health Canada may ultimately not approve any of our product candidates. We may never develop any commercial drugs or other products that generate revenues.

None of our product candidates has received regulatory approval for commercial use and sale in North America. We cannot market a pharmaceutical product in any jurisdiction until it has completed thorough preclinical testing and clinical trials in addition to that jurisdiction's extensive regulatory approval process. Approval in one country does not assure approval in another country. In general, significant research and development and clinical studies are required to demonstrate the safety and efficacy of our product candidates before we can submit any applications for regulatory approval.

Clinical trials are long, expensive and uncertain processes. Clinical trials may not start or be on schedule and the FDA, Health Canada or any other regulatory body may not ultimately approve our product candidates for commercial sale in the relevant territory. The clinical trials of any of our drug candidates could be unsuccessful, which would prevent us from advancing, commercializing or partnering the drug.

Even if the results of our preclinical studies or clinical trials are initially positive, it is possible that we will obtain different results in the later stages of drug development or that results seen in clinical trials will not continue with longer term treatment. Positive results in Phase 1 clinical trials may not necessarily repeat in larger Phase 2 or Phase 3 clinical trials.

Our preclinical studies and clinical trials may not generate positive results that will allow us to move towards the commercial use and sale of our product candidates. Furthermore, negative preclinical or clinical trial results may cause our business, financial condition, or results of operations to be materially adversely affected. Our tuspetinib and luxeptinib product candidates are currently being evaluated in Phase 1 studies, and are expected to undergo many years of testing and regulatory examinations prior to any potential regulatory approvals.

Preparing, submitting and advancing applications for regulatory approval of products is complex, expensive and time intensive and entails significant uncertainty. A commitment of substantial resources to conduct time-consuming research, preclinical studies and clinical trials is required if we are to complete development of our products.

Clinical trials of our products require that we identify and enroll a large number of patients with the illness under investigation. We may not be able to enroll a sufficient number of appropriate patients to complete our clinical trials in a timely manner, particularly in smaller indications and indications where there is significant competition for patients. If we experience difficulty in enrolling a sufficient number of patients to conduct our clinical trials, we may need to delay or terminate ongoing clinical trials and will not accomplish objectives material to our success. Delays in planned patient enrollment or lower than anticipated event rates in our current clinical trials or future clinical trials also may result in increased costs, program delays, or both.

In addition, unacceptable toxicities or adverse side effects may occur at any time in the course of preclinical studies or human clinical trials or, if any product candidates are successfully developed and approved for marketing, during commercial use of any approved products. The appearance of any unacceptable toxicities or adverse side effects could interrupt, limit, delay or abort the development of any of our product candidates or, if previously approved, necessitate their withdrawal from the market. Furthermore, disease resistance or other unforeseen factors may limit the effectiveness of our potential products.

Our failure to develop safe and commercially viable drugs would substantially impair our ability to generate revenues and sustain our operations and would materially harm our business and adversely affect our share price.

We may choose to expend our limited resources on programs that do not yield successful product candidates as opposed to indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited resources and access to capital to fund our operations, our management must make strategic decisions as to which product candidates and indications to pursue and how much of our resources to allocate to each. Our management must also evaluate the benefits of developing in-licensed or jointly owned technologies, which in some circumstances we may be contractually obligated to pursue, relative to developing other product candidates, indications or programs. Our management has broad discretion to suspend, scale down, or discontinue any or all of these development efforts, or to initiate new programs to treat other diseases. If we select and commit resources to opportunities that we are unable to successfully develop, or we forego more promising opportunities, our business, financial condition and results of operations will be adversely affected.

We may not achieve our projected development goals in the time frames we announce and expect.

We set goals for, and make public statements regarding, the expected timing of the accomplishment of objectives material to our success, such as the commencement and completion of clinical trials, the submission of a drug-regulatory application, and the expected costs to develop our product candidates. The actual timing and costs of these events can vary dramatically due to factors within and beyond our control, such as delays or failures in our IND submissions or clinical trials, issues related to the manufacturing of drug supply, uncertainties inherent in the regulatory approval process, market conditions and interest by partners in our product candidates, among other things. Our clinical trials may not be completed, we may not make regulatory submissions or receive regulatory approvals as planned; or we may not secure partnerships for any of our product candidates. Any failure to achieve one or more of these milestones as planned would have a material adverse effect on our business, financial condition and results of operations.

Delays in clinical testing could result in delays in commercializing our product candidates and our business may be substantially harmed.

We cannot predict whether any clinical trials will begin as planned, will need to be restructured or will be completed on schedule, if at all. Our product development costs will increase if we experience delays in clinical testing. Significant clinical trial delays could shorten any periods during which we may have the exclusive right to commercialize our product candidates or allow our competitors to bring products to market before us, which would impair our ability to successfully commercialize our product candidates and may harm our financial condition, results of operations and prospects. The completion of clinical trials for our products, including the tuspetinib and luxeptinib clinical trials may be delayed for a number of reasons, including delays related, but not limited, to:

- failure by regulatory authorities to grant permission to proceed with a clinical trial;
- a regulatory decision to place or placing the clinical trial on hold;
- patients failing to enroll or remain in our trials at the rate we expect;
- suspension or termination of clinical trials by regulators for many reasons, including concerns about patient safety or failure of our contract manufacturers to comply with cGMP requirements;
- any changes to our manufacturing process that may be necessary or desired;

- delays or failure to obtain GMP-grade clinical supply from contract manufacturers of our products necessary to conduct clinical trials;
- product candidates demonstrating a lack of safety or efficacy during clinical trials;
- patients choosing an alternative treatment for the indications for which we are developing any of our product candidates or participating in competing clinical trials;
- patients failing to complete clinical trials due to dissatisfaction with the treatment, side effects or other reasons;
- reports of clinical testing on similar technologies and products raising safety and/or efficacy concerns;
- competing clinical trials and scheduling conflicts with participating clinicians;
- clinical investigators not performing our clinical trials on their anticipated schedule, dropping out of a trial, or employing methods not consistent with the clinical trial protocol, regulatory requirements or other third parties not performing data collection and analysis in a timely or accurate manner;
- failure of our contract research organizations, or CROs, to satisfy their contractual duties or meet expected deadlines;
- inspections of clinical trial sites by regulatory authorities or IRBs, or ethics committees or boards finding regulatory violations that require us to undertake corrective action, resulting in suspension or termination of one or more sites or the imposition of a clinical hold on the entire study;
- one or more IRBs or ethics committees or boards rejecting, suspending or terminating the study at an investigational site, precluding enrollment of additional subjects, or withdrawing its approval of the trial; or
- failure to reach agreement on acceptable terms with prospective clinical trial sites.

Our product development costs will increase if we experience delays in testing or approval or if we need to perform more or larger clinical trials than planned. Additionally, changes in regulatory requirements and policies may occur, and we may need to amend study protocols to reflect these changes. Amendments may require us to resubmit our study protocols to regulatory authorities or IRBs or ethics committees or boards for re-examination, which may impact the cost, timing or successful completion of a trial. Delays or increased product development costs may have a material adverse effect on our business, financial condition and prospects.

We rely on contract manufacturers over whom we have limited control. 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.

We rely on CMOs to manufacture our product candidates for some preclinical studies and clinical trials. We rely on CMOs for manufacturing, filling, packaging, storing and shipping of drug product in compliance with cGMP regulations applicable to our products. The FDA and other regulatory agencies ensure the quality of drug products by carefully monitoring drug manufacturers' compliance with cGMP regulations. The cGMP regulations for drugs contain minimum requirements for the methods, facilities and controls used in manufacturing, processing and packing of a drug product.

We contracted with multiple CMOs for the manufacture of tuspetinib and luxeptinib to supply the active ingredient and then drug product for our clinical trials. The synthesis of luxeptinib is challenging from a scale-up synthetic chemistry perspective. We pre-qualified CMOs to have the capacity, the systems and the experience to supply tuspetinib and luxeptinib for our clinical trials. We have qualified the manufacturing facilities and the FDA has also performed site audits for our selected CMOs. In spite of the efforts to prequalify CMOs, delays and errors may occur, and any such manufacturing failures, delays or compliance issues could cause delays in the completion of our clinical trial programs.

There can be no assurances that CMOs will be able to meet our timetable and requirements. We have contracted with alternate suppliers in the event our current CMOs are unable to scale up production, or if our current CMOs otherwise experience any other significant problems in the manufacture of tuspetinib and luxeptinib. However, it is possible that all third-party manufacturing sources may experience failure or delays and may demand commercially unreasonable terms, which may lead to further delays in the development of our product candidates. Further, contract manufacturers must operate in compliance with cGMP and failure to do so could result in, among other things, the disruption of product supplies. Our dependence upon third parties for the manufacture of our products may adversely affect our profit margins and our ability to develop and deliver products on a timely and competitive basis.

Some components of our products are manufactured by third parties outside of the United States, and our business may be harmed by legal, regulatory, economic, political and public health risks associated with international trade and those markets.

We have third-party manufacturing partners in South Korea, Germany and the United Kingdom; in addition, some materials used by our third-party manufacturers are supplied by companies located in other countries, including China. Our reliance on suppliers and manufacturers in foreign markets creates risks inherent in doing business in foreign jurisdictions, including: (a) the burdens of complying with a variety of foreign laws and regulations, including laws relating to the importation and taxation of goods (b) public health crises, such as pandemics and epidemics, in the countries where our suppliers and manufacturers are located; (c) transportation interruptions or increases in transportation costs; and (d) foreign intellectual property infringement risks.

If we have difficulty enrolling patients in clinical trials, the completion of the trials may be delayed or canceled.

As our product candidates advance from preclinical testing to clinical testing, and then through progressively larger and more complex clinical trials, we will need to enroll an increasing number of patients that meet our eligibility criteria. There is significant competition for recruiting cancer patients in clinical trials, and we may be unable to enroll the patients we need to complete clinical trials for cancer indications on a timely basis or at all. Certain factors that affect enrollment of patients in our clinical trials are impacted by external forces that may be beyond our control. Such factors include, but are not limited to, the following:

- size and nature of the patient population;
- eligibility and exclusion criteria for the trial;
- design of the study protocol;
- competition with other companies for clinical sites or patients;
- the perceived risks and benefits of the product candidate under study;
- the patient referral practices of physicians; and
- the number, availability, location and accessibility of clinical trial sites.

Although, as of the date of this report, we do not foresee material delays to the enrollment of patients or timelines for our trials due to COVID-19, the extent to which COVID-19 will impact the projected development goals will depend on future developments, which are highly uncertain and cannot be predicted.

If we are unable to successfully develop companion diagnostics for our therapeutic product candidates, or experience significant delays in doing so, we may not achieve marketing approval or realize the full commercial potential of our therapeutic product candidates.

We plan to develop companion diagnostics for our therapeutic product candidates. We expect that, at least in some cases, regulatory authorities may require the development and regulatory approval of a companion diagnostic as a condition to approving our therapeutic product candidates. We have limited experience and capabilities in developing or commercializing diagnostics and plan to rely in large part on third parties to perform these functions. We do not currently have any agreement in place with any third party to develop or commercialize companion diagnostics for any of our therapeutic product candidates.

Companion diagnostics are subject to regulation by the FDA, Health Canada and comparable foreign regulatory authorities as medical devices and may require separate regulatory approval or clearance prior to commercialization. If we, or any third parties that we engage to assist us, are unable to successfully develop companion diagnostics for our therapeutic product candidates, or experience delays in doing so, our business may be substantially harmed.

We rely and will continue to rely on third parties to conduct and monitor many of our preclinical studies and our clinical trials, and their failure to perform as required could cause substantial harm to our business.

We rely and will continue to rely on third parties to conduct a significant portion of our preclinical and clinical development activities. Preclinical activities include *in vivo* studies providing access to specific disease models, pharmacology and toxicology studies, and assay development. Clinical development activities include trial design, regulatory submissions, clinical patient recruitment, clinical trial monitoring, clinical data management and analysis, safety monitoring and project management, contract manufacturing and quality assurance. If there is any dispute or disruption in our relationship with third parties, or if they are unable to provide quality services in a timely manner and at a feasible cost, our active development programs will face delays. Further, if any of these third parties fails to perform as we expect or if their work fails to meet regulatory requirements, our testing could be delayed, canceled or rendered ineffective.

Negative results from clinical trials or studies of others and adverse safety events involving the targets of our products may have an adverse impact on our future commercialization efforts.

From time to time, studies or clinical trials on various aspects of biopharmaceutical products are conducted by academic researchers, competitors or others. The results of these studies or trials, when published, may have a significant effect on the market for the biopharmaceutical product that is the subject of the study. The publication of negative results of studies or clinical trials or adverse safety events related to our product candidates, or the therapeutic areas in which our product candidates compete, could adversely affect our share price and our ability to finance future development of our product candidates, and our business and financial results could be materially and adversely affected.

The design or our execution of clinical trials may not support regulatory approval.

The design or execution of a clinical trial can determine whether its results will support regulatory approval and flaws in the design or execution of a clinical trial may not become apparent until the clinical trial is well advanced. In some instances, there can be significant variability in safety or efficacy results between different trials of the same product candidate due to numerous factors, including changes in trial protocols, differences in size and type of the patient populations, adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical trial participants. We do not know whether any Phase 2, Phase 3 or other clinical trials that we may conduct will demonstrate consistent or adequate efficacy and safety to obtain regulatory approval to market our product candidates.

Further, the FDA, Health Canada and comparable foreign regulatory authorities will have some discretion in the approval process and in determining when or whether regulatory approval will be obtained for any of our product candidates. Our product candidates may not be approved even if they achieve their primary endpoints in future Phase 3 clinical trials or registration trials. The FDA, Health Canada or other regulatory authorities may disagree with our trial design and our interpretation of data from preclinical studies and clinical trials. In addition, any of these regulatory authorities may change requirements for the approval of a product candidate even after reviewing and providing comments or advice on a protocol for a pivotal Phase 3 clinical trial that has the potential to result in approval by the FDA, Health Canada or another regulatory agency. In addition, any of these regulatory authorities may also approve a product candidate for fewer or more limited indications than we request or may grant approval contingent on the performance of costly post-marketing clinical trials. The FDA, Health Canada or other regulatory authorities may not approve the labeling claims that we believe would be necessary or desirable for the successful commercialization of our product candidates.

As a result of intense competition and technological change in the biotechnical and pharmaceutical industries, the marketplace may not accept our products or product candidates, and we may not be able to compete successfully against other companies in our industry and achieve profitability.

Many of our competitors have:

- drug products that have already been approved or are in development;
- large, well-funded research and development programs in the biotechnical and pharmaceutical fields;
- substantially greater financial, technical and management resources, stronger intellectual property positions and greater manufacturing, marketing and sales capabilities, areas in which we have limited or no experience; and / or
- significantly greater experience than we do in undertaking preclinical testing and clinical trials of new or improved pharmaceutical products and obtaining required regulatory approvals.

Consequently, our competitors may obtain FDA, Health Canada and other regulatory approvals for product candidates sooner and may be more successful in manufacturing and marketing their products than we or our collaborators are.

Our competitors' existing and future products, therapies and technological approaches will compete directly with the products we seek to develop. Current and prospective competing products may be more effective than our existing and future products insofar as they may provide greater therapeutic benefits for a specific problem or may offer easier delivery or comparable performance at a lower cost.

For tuspetinib and luxeptinib in AML, examples of companies that have developed or are pursuing different therapies include Jazz (VYXEOS), Pfizer (MYLOTARG), Novartis (RYDAPT), Astellas (XOSPATA), AbbVie (VENCLEXTA), Daiichi Sankyo (quizartinib), Arog (crenolanib), Agios/Servier (TIBSOVO), Rigel (REZLIDHA), Celgene/BMS (IDHIFA), Kronos Bio (lanraplenib), Curis (emavusertib), Syndax (revumenib, SNDX-5613), and Kura (KO-539), among others.

For luxeptinib in B cell malignancies, examples of companies that have developed or are pursuing different approaches to BTK inhibition, both for the wild type and to the C481S-mutant forms, include AbbVie (IMBRUVICA), AstraZeneca (CALQUENCE), Beigene Co., Ltd. (Zanubrutinib), Merck (nemtabrutinib), and Eli Lilly (pirtobrutinib), among others.

Any product candidate that we develop and that obtains regulatory approval must then compete for market acceptance and market share. Our products may not gain market acceptance among physicians, patients, healthcare payers, insurers, the medical community and other stakeholders. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and potential advantages compared to alternative treatments;
- the ability to offer our product candidates for sale at competitive prices;
- convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- sufficient third-party coverage or reimbursement; and
- the prevalence and severity of any side effects.

Further, any products we develop may become obsolete or face generic entry before we recover any expenses we incurred in connection with the development of these products. As a result, we may never achieve profitability.

Risks Related to our Intellectual Property

We may be unable to obtain patents to protect our technologies from other companies with competitive products, and patents of other companies could prevent us from manufacturing, developing or marketing our products.

Patent Protection

The patent positions of pharmaceutical and biotechnology companies are uncertain and involve complex legal and factual questions. The United States Patent and Trademark Office ("USPTO") and many other patent offices in the world have not established a consistent policy regarding the breadth of claims that they will allow in biotechnology patents.

Our pending patent applications may not result in issued patents and our issued patents may not be held valid and enforceable if challenged. Competitors may be able to circumvent any such issued patents by adoption of a competitive, though non-infringing product or process. Interpretation and evaluation of pharmaceutical or biotechnology patent claims present complex and often novel legal and factual questions. Our business could be adversely affected by increased competition in the event that any patent granted to it is held to be invalid or unenforceable or is inadequate in scope to protect our operations.

Allowable patentable subject matter and the scope of patent protection obtainable may differ between jurisdictions. If a patent office allows broad claims, the number and cost of patent interference proceedings in the United States, or analogous proceedings in other jurisdictions and the risk of infringement litigation may increase. If it allows narrow claims, the risk of infringement may decrease, but the value of our rights under our patents, licenses and patent applications may also decrease.

The scope of the claims in a patent application can be significantly modified during prosecution before the patent is issued. Consequently, we cannot know whether our pending applications will result in the issuance of patents or, if any patents are issued, whether they will provide us with significant proprietary protection or will be circumvented, invalidated or found to be unenforceable.

Publication of discoveries in scientific or patent literature often lags behind actual discoveries. Patent applications filed in the United States generally will be published 18 months after the filing date unless the applicant certifies that the invention will not be the subject of a foreign patent application. In many other jurisdictions, such as Canada, patent applications are published 18 months from the priority date. We may not be aware of such literature. Accordingly, we cannot be certain that the named inventors of our products and processes were the first to invent that product or process or that we were the first to pursue patent coverage for our inventions.

In addition, United States patent laws may change which could prevent or limit us from filing patent applications or patent claims in the United States to protect our products and technologies or limit the exclusivity periods that are available to patent holders for United States patents. For example, the Leahy-Smith America Invents Act, (the "Leahy-Smith Act") was signed into law in 2011 and includes a number of significant changes to United States patent law. These include changes to transition from a "first-to-invent" system to a "first-to-file" system and to the way issued patents are challenged. These changes may favor larger and more established companies that have more resources to devote to patent application filing and prosecution. It is not clear what, if any, impact the Leahy-Smith Act will ultimately have on the cost of prosecuting our patent applications in the United States, our ability to obtain patents in the United States based on our discoveries and our ability to enforce or defend our United States issued patents.

Until such time, if ever, that further patents are issued to us, we will rely upon the law of trade secrets to the extent possible given the publication requirements under international patent treaty laws and/or requirements under foreign patent laws to protect our technology and our products incorporating the technology. In this regard, we have adopted certain confidentiality procedures. These include: limiting access to confidential information to certain key personnel; requiring all directors, officers, employees and consultants and others who may have access to our intellectual property to enter into confidentiality agreements which prohibit the use of or disclosure of confidential information to third parties; and implementing physical security measures designed to restrict access to such confidential information and products. Our ability to maintain the confidentiality of our technology is crucial to our ultimate possible commercial success. The procedures adopted by us to protect the confidentiality of our technology may not be effective, third parties may gain access to our trade secrets or our trade secrets or those of our collaborators may be independently discovered by others. Our collaborators, employees and consultants and other parties may not comply with the terms of their agreements with us, and we might be unable to adequately enforce our rights or obtain adequate compensation for the damages caused by unauthorized disclosure or use of our trade secrets or know how. Further, by seeking patent protection in various countries, it is inevitable that a substantial portion of our technology will become available to our competitors, through publication of such patent applications.

Enforcement of Intellectual Property Rights

Protection of the rights revealed in published patent applications can be complex, costly and uncertain. Our commercial success depends in part on our ability to maintain and enforce our proprietary rights. If third parties engage in activities that infringe our proprietary rights, our management's focus will be diverted and we may incur significant costs in asserting our rights. We may not be successful in asserting our proprietary rights, which could result in our patents being held invalid or a court holding that the third party is not infringing, either of which would harm our competitive position.

Others may design around our patented technology. We may have to participate in interference proceedings declared by the USPTO, European opposition proceedings, or other analogous proceedings in other parts of the world to determine priority of invention and the validity of patent rights granted or applied for, which could result in substantial cost and delay, even if the eventual outcome is favorable to us. Our pending patent applications, even if issued, may not be held valid or enforceable.

Our products and product candidates may infringe the intellectual property rights of others, or others may infringe on our intellectual property rights which could increase our costs.

Our success also depends on avoiding infringement of the proprietary technologies of others. In particular, there may be certain issued patents and patent applications claiming subject matter which we or our collaborators may be required to license in order to research, develop or commercialize tuspetinib or luxeptinib. In addition, third parties may assert infringement or other intellectual property claims against us. An adverse outcome in these proceedings could subject us to significant liabilities to third-parties, require disputed rights to be licensed from third-parties or require us to cease or modify our use of the technology. If we are required to license third-party technology, a license under such patents and patent applications may not be available on acceptable terms or at all. Further, we may incur substantial costs defending ourselves in lawsuits against charges of patent infringement or other unlawful use of another's proprietary technology. We may also need to bring claims against others who we believe are infringing our rights in order to become or remain competitive and successful. Any such claims can be time consuming and expensive to pursue.

We may incur substantial cost in defending our intellectual property.

While we believe that our products and technology do not infringe proprietary rights of others, third parties may assert infringement claims in the future and such claims could be successful. Even if challenges are unsuccessful, we could incur substantial costs in defending ourselves against patent infringement claims brought by others or in prosecuting suits against others. In addition, others may obtain patents that we would need to license, which may not be available to us on reasonable terms. Whether we are able to obtain a necessary license would depend on the terms offered, the degree of risk of infringement and the need for the patent.

We have licensed important portions of our intellectual property from Hanmi and CG, and are subject to significant obligations under those license agreements.

The rights we hold under our license agreement with Hanmi and CG are critical to our business.

Our tuspetinib program is built around patents exclusively in-licensed from Hanmi, which permit us to research, develop and commercialize tuspetinib worldwide. Under our agreement with Hanmi, we are subject to significant obligations, including diligence obligations with respect to development and commercialization activities, payment obligations upon achievement of certain milestones and royalties on product sales, as well as other material obligations. Hanmi is eligible for payments upon the achievement of developmental, regulatory and commercial-based milestones, as well as tiered royalties on product sales.

Our luxeptinib program is built around patents exclusively in-licensed from CG, which permit us to research, develop and commercialize luxeptinib worldwide except for the Republic of Korea. Under our agreement with CG, we are subject to significant obligations, including diligence obligations with respect to development and commercialization activities, payment obligations upon achievement of certain milestones and royalties on product sales, as well as other material obligations. CG is eligible for payments upon the achievement of developmental, regulatory and commercial-based milestones, as well as low single-digit royalties on product sales.

If there is any conflict, dispute, disagreement or issue of non-performance between us and Hanmi or CG regarding our rights or obligations under the respective license agreements, including any conflict, dispute or disagreement arising from our failure to satisfy diligence or payment obligations under such agreements, Hanmi or CG may have a right to terminate the respective license. The loss of this license agreement could materially and adversely affect our ability to use intellectual property that could be critical to our drug discovery and development efforts, as well as our ability to enter into future collaboration, licensing and/or marketing agreements for one or more affected drug candidates or development programs.

Our business depends, in part, on our ability to use technology that we have licensed or will in the future license from third parties, including CG, and, if these licenses were terminated or if we were unable to license additional technology we may need in the future, our business will be adversely affected.

We currently hold licenses for certain technologies that are or may be critical to our current and subsequent product candidates. These include our exclusive license to research, develop and commercialize luxeptinib worldwide except for the Republic of Korea, and our exclusive license to develop and commercialize tuspetinib worldwide. Both licenses are subject to termination in the event of a breach by us of the license, if we fail to cure the breach following notice and the passage of a cure period. We may need to acquire additional licenses in the future to technologies developed by others. Furthermore, future license agreements may require us to make substantial milestone payments. We may also be obligated to make royalty payments on the sales, if any, of products resulting from the license. The termination of a license or the inability to license future technologies on acceptable terms may adversely affect our ability to develop or sell our products.

Legal and Regulatory Risk

Our ability to develop, produce and market our products is subject to extensive government regulation.

Government regulation is a significant factor in the development, production and marketing of our products. Research and development, testing, manufacture, marketing and sales of pharmaceutical products or related products are subject to extensive regulatory oversight, often in multiple jurisdictions, which may cause significant additional costs and/or delays in bringing products to market, and in turn, may cause significant losses to investors. The regulations applicable to our product candidates in a given jurisdiction may change. Even if granted, regulatory approvals may include significant limitations on the uses for which products can be marketed or may be conditioned on the conduct of post-marketing surveillance studies. Failure to comply with applicable regulatory requirements can, among other things, result in delay in approving or refusal to approve a product candidate, interruptions of clinical trials or manufacturing, suspension or withdrawal of regulatory approval, warning letters, the imposition of civil penalties or other monetary payments, product recall or seizure, operating restrictions, injunctions or criminal prosecution. In addition, regulatory agencies many not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates.

Requirements for regulatory approval vary widely from country to country. Whether or not approved in Canada or the United States, regulatory authorities in other countries must approve a product prior to the commencement of marketing the product in those countries. The time required to obtain any such approval may be longer or shorter than in Canada or the United States. Approved drugs, as well as their manufacturers, are subject to continuing and ongoing review, and discovery of problems with these products or the failure to adhere to manufacturing or quality control requirements may result in regulatory restrictions being imposed.

Current and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and may adversely affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of our product candidates, restrict or regulate post approval activities and affect our ability to profitably sell any products for which we obtain marketing approval.

For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, or collectively the Affordable Care Act, was enacted to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Additionally, the Drug Supply Chain Security Act, enacted in 2013, imposed new obligations on manufacturers of pharmaceutical products related to product tracking and tracing.

Since its enactment, there have been judicial, executive and Congressional challenges to certain aspects of the Affordable Care Act, and we expect there will be additional challenges and amendments to the Affordable Care Act in the future. On June 17, 2021, the United States Supreme Court dismissed the most recent judicial challenge to the Affordable Care Act without specifically ruling on the constitutionality of the Affordable Care Act. Prior to the Supreme Court's decision, President Biden issued an executive order initiating a special enrollment period from February 15, 2021 through August 15, 2021 for purposes of obtaining health insurance coverage through the Affordable Care Act marketplace. The executive order also instructed certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the Affordable Care Act. It is possible that the Affordable Care Act will be subject to judicial or Congressional challenges in the future. It is unclear how any such challenges and the healthcare reform measures of the Biden administration will impact the Affordable Care Act and our business.

We expect ongoing initiatives in the United States and internationally to increase pressure on drug pricing. Regulations that mandate price controls and limitations on patient access to products or establish prices paid by government entities or programs may impact product candidates that we may successfully develop. Pharmaceutical product pricing is subject to enhanced government and public scrutiny and calls for reform. Some U.S. states have implemented, and other U.S. states are considering, pharmaceutical price controls or patient access constraints under the Medicaid program, and some U.S. states are considering price-control regimes that would apply to broader segments of their populations that are not Medicaid eligible. Efforts by government officials or legislators to implement measures to regulate prices or payments for pharmaceutical products, including legislation on drug importation, could have an adverse effect on anticipated revenues from product candidates that we may successfully develop and for which we may obtain regulatory approval and may affect our overall financial condition and ability to develop drug candidates.

Legislative and regulatory proposals have also been made to expand post approval requirements and restrict sales and promotional activities for pharmaceutical products in the US. Any healthcare reforms enacted in the future may, like the Affordable Care Act, be phased in over a number of years but, if enacted, could reduce our revenue, increase our costs, or require us to revise the ways in which we conduct business or put us at risk for loss of business. We are not sure whether additional legislative changes will be enacted, or whether the current regulations, guidance or interpretations will be changed, or what the impact of such changes on our business, if any, may be.

In Canada, the Patented Medicine Prices Review Board ("PMPRB") has jurisdiction to control prices of patented medicines that are considered excessive. Recent changes to the regulations governing the PMPRB are intended to lower the prices of patented medicines even further. The PMPRB's jurisdiction could extend to any of our drug products that are approved in Canada and protected under Canadian patents, with an adverse effect on the prices that we would otherwise obtain for these drugs in the relevant market.

Coverage and adequate reimbursement may not be available for our product candidates, which could make it difficult for us to sell our products profitably.

Market acceptance and sales of any drug candidates that we develop will depend in part on the extent to which reimbursement for these products and related treatments will be available from third party payors, including government health administration authorities and private health insurers. Third party payors decide which drugs they will pay for and establish reimbursement levels. Third party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. However, decisions regarding the extent of coverage and amount of reimbursement to be provided for each of our drug candidates will be made on a plan by plan basis. One payor's determination to provide coverage for a product does not assure that other payors will also provide coverage, and adequate reimbursement, for the product. Additionally, a third-party payor's decision to provide coverage for a drug does not imply that an adequate reimbursement rate will be approved. Each plan determines whether or not it will provide coverage for a drug, what amount it will pay the manufacturer for the drug, and on what tier of its formulary the drug will be placed. The position of a drug on a formulary generally determines the copayment that a patient will need to make to obtain the drug and can strongly influence the adoption of a drug by patients and physicians. Patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that coverage and reimbursement will be available for any product that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Inadequate coverage and reimbursement may impact the demand for, or the price of, any product for which we obtain marketing approval. If coverage and adequate reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize any drug candidates that we develop.

Additionally, there have been a number of legislative and regulatory proposals to change the healthcare system in the United States and in some foreign jurisdictions, including Canada, that could affect our ability to sell any future drugs profitably. These legislative and regulatory changes may negatively impact the reimbursement for any future drugs, following approval.

We are subject to U.S. and Canadian healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, fines, disgorgement, exclusion from participation in government healthcare programs, curtailment or restricting of our operations and diminished profits and future earnings.

Healthcare providers, physicians and others will play a primary role in the recommendation and prescription of any products for which we obtain marketing approval. Our future arrangements with healthcare providers, patients and third-party payors could expose us to broadly applicable U.S. and Canadian laws and regulations relating to fraud abuse and healthcare more generally that may constrain the business or financial arrangements and collaborative partners through which we market, sell and distribute any products for which we obtain marketing approval.

Efforts to ensure that our collaborations with third parties, and our business generally, will comply with applicable U.S. and Canadian healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental laws and regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of products from government funded healthcare programs, contractual damages, reputational harm, disgorgement, curtailment or restricting of our operations, any of which could substantially disrupt our operations and diminish our profits and future earnings. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations.

If product liability, clinical trial liability or environmental liability claims are brought against us or we are unable to obtain or maintain product liability, clinical trial or environmental liability insurance, we may incur substantial liabilities that could reduce our financial resources.

The clinical testing and commercial use of pharmaceutical products involves significant exposure to product liability, clinical trial liability, environmental liability and other risks that are inherent in the testing, manufacturing and marketing of our products. These liabilities, if realized, could have a material adverse effect on our business, results of operations and financial condition.

We have obtained limited product liability insurance coverage for our clinical trials on humans; however, our insurance coverage may be insufficient to protect us against all product liability damages. Regardless of merit or eventual outcome, liability claims may result in decreased demand for a future product, injury to reputation, withdrawal of clinical trial volunteers, loss of revenue, costs of litigation, distraction of management and substantial monetary awards to plaintiffs. Additionally, if we are required to pay a product liability claim, we may not have sufficient financial resources to complete development or commercialization of any of our product candidates and our business and results of operations will be adversely affected. In general, insurance will not protect us against some of our own actions, such as negligence.

As our development activities progress towards the commercialization of product candidates, our liability coverage may not be adequate, and we may not be able to obtain adequate product liability insurance coverage at a reasonable cost, if at all. Even if we obtain product liability insurance, our financial position may be materially adversely affected by a product liability claim. A product liability claim could also significantly harm our reputation and delay market acceptance of our product candidates. Additionally, product recalls may be issued at the direction of the FDA, other government agencies or other companies having regulatory control for pharmaceutical sales. If a product recall occurs in the future, such a recall could adversely affect our business, financial condition or reputation.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and radioactive and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

We may be unable to obtain partnerships for our product candidates, which could curtail future development and negatively affect our share price. In addition, our partners might not satisfy their contractual responsibilities or devote sufficient resources to our partnership.

Our strategy for the research, development and commercialization of our products requires entering into various arrangements with corporate collaborators, licensors, licensees and others, and our commercial success is dependent upon these outside parties performing their respective contractual responsibilities. The amount and timing of resources that such third parties will devote to these activities may not be within our control. These third parties may not perform their obligations as expected and our collaborators may not devote adequate resources to our programs. In addition, we could become involved in disputes with our collaborators, which could result in a delay or termination of the related development programs or result in litigation. We intend to seek additional collaborative arrangements to develop and commercialize some of our products. We may not be able to negotiate collaborative arrangements on favorable terms, or at all, in the future, and our current or future collaborative arrangements may not be successful.

If we cannot negotiate collaboration, license or partnering agreements, we may never achieve profitability and we may not be able to continue to develop our product candidates. Continuing Phase 1, and commencing Phase 2 and Phase 3 clinical trials for tuspetinib and luxeptinib would require significant amounts of funding and such funding may not be available to us.

Risks Related to Our Common Shares

Our share price has been and is likely to continue to be volatile and an investment in our common shares could suffer a decline in value.

You should consider an investment in our common shares as risky and invest only if you can withstand a significant loss and wide fluctuations in the market value of your investment. The market price of our common shares has been highly volatile and is likely to continue to be volatile. This leads to a heightened risk of securities litigation pertaining to such volatility. Factors affecting our common share price include but are not limited to:

- the progress of our pre-clinical and clinical trials;
- our ability to obtain partners and collaborators to assist with the future development of our products;
- general market conditions;
- announcements of technological innovations or new product candidates by us, our collaborators or our competitors;
- published reports by securities analysts;
- developments in patent or other intellectual property rights;
- the cash and investments held by us and our ability to secure future financing;
- our ability to raise additional capital;
- public concern as to the safety and efficacy of drugs that we and our competitors develop;
- shareholder interest in our common shares;
- low liquidity in the daily trading volume of our common shares; and
- our ability to continue as a going concern.

Future sales of our common shares by us or by our existing shareholders could cause our share price to fall.

The issuance of common shares by us could result in significant dilution in the equity interest of existing shareholders and adversely affect the market price of our common shares. Sales by existing shareholders of a large number of our common shares in the public market and the issuance of common shares in connection with strategic alliances, or the perception that such additional sales could occur, could cause the market price of our common shares to decline and have an undesirable impact on our ability to raise capital.

We are susceptible to stress in the global economy and therefore, our business may be affected by the current and future global financial conditions.

If the increased level of volatility and market turmoil that have marked recent years continue, our operations, business, financial condition and the trading price of our common shares could be materially adversely affected. Furthermore, general economic conditions may have a great impact on us, including our ability to raise capital, our commercialization opportunities and our ability to establish and maintain arrangements with others for research, manufacturing, product development and sales.

Failure to meet Nasdaq's continued listing requirements could result in the delisting of our common shares, negatively impact the price of our Common Shares and negatively impact our ability to raise additional capital.

If we fail to satisfy the continued listing requirements of the Nasdaq, such as the corporate governance requirements or the minimum closing bid price requirement, the exchange may take steps to delist our common shares. Such a delisting would likely have a negative effect on the price of our common shares and would impair your ability to sell or purchase our common shares when you wish to do so. In the event of a delisting notification, we anticipate that we would take actions to restore our compliance with applicable exchange requirements, such as stabilize our market price, improve the liquidity of our common shares, prevent our common shares from dropping below such exchange's minimum bid price requirement, or prevent future non-compliance with such exchange's listing requirements.

On July 18, 2022, we received a letter from Nasdaq indicating that, for the last 30 consecutive business days, the bid price for our common shares had closed below the minimum $1.00 per share required for continued inclusion on the Nasdaq Capital Market under the Nasdaq Listing Rules. The notice had no effect on the listing of our common shares.

Under Nasdaq Listing Rule 5810(c)(3)(A), if during the 180 calendar day period following the date of the notice the closing bid price of our common shares is at or above $1.00 for a minimum of 10 consecutive business days, we would regain compliance with the minimum bid price requirement and our common shares would continue to be eligible for listing on the Nasdaq Capital Market, absent noncompliance with any other requirement for continued listing.

On January 18, 2023, we qualified for a 180-day extension to July 18, 2023.

On June 26, 2023, we regained compliance with Listing Rule 5550(a)(2).

Certain Canadian laws could delay or deter a change of control.

Limitations on the ability to acquire and hold our common shares may be imposed by the *Competition Act* in Canada. This legislation permits the Commissioner of Competition of Canada to review any acquisition of a significant interest in us. This legislation grants the Commissioner jurisdiction to challenge such an acquisition before the Canadian Competition Tribunal if the Commissioner believes that it would, or would be likely to, result in a substantial lessening or prevention of competition in any market in Canada. The *Investment Canada Act* subjects an acquisition of control of a company by a non-Canadian to government review if the value of our assets, as calculated pursuant to the legislation, exceeds a threshold amount. A reviewable acquisition may not proceed unless the relevant minister is satisfied that the investment is likely to result in a net benefit to Canada. Any of the foregoing could prevent or delay a change of control and may deprive or limit strategic opportunities for our shareholders to sell their shares.

The exercise of all or any number of outstanding stock options, the award of any additional options, restricted stock units or other stock-based awards or any issuance of shares to raise funds or acquire a business may dilute your common shares.

We have in the past and may in the future grant to some or all of our directors, officers and employees options to purchase our common shares and other stock-based awards as non-cash incentives to those persons. The issuance of any equity securities could, and the issuance of any additional shares will, cause our existing shareholders to experience dilution of their ownership interests.

Any additional issuance of shares or a decision to acquire other businesses through the sale of equity securities may dilute our investors' interests, and investors may suffer dilution in their net book value per share depending on the price at which such securities are sold. Such issuance may cause a reduction in the proportionate ownership and voting power of all other shareholders. The dilution may result in a decline in the price of our common shares or a change in control.

We do not expect to pay dividends for the foreseeable future.

We have not paid any cash dividends to date and we do not intend to declare dividends for the foreseeable future, as we anticipate that we will reinvest future earnings, if any, in the development and growth of our business. Therefore, investors will not receive any funds unless they sell their common shares and shareholders may be unable to sell their shares on favorable terms or at all. We cannot assure you of a positive return on investment or that you will not lose the entire amount of your investment in our common shares. Prospective investors seeking or needing dividend income or liquidity should not purchase our common shares.

General Risks

It may be difficult for non-Canadian investors to obtain and enforce judgments against us because of our Canadian incorporation and presence.

We are a corporation existing under the laws of Canada. Some of our directors and some of the experts named or unnamed in this Registration Statement on Form S-1, are residents of Canada, and all or a substantial portion of their assets, and a substantial portion of our assets, are located outside the United States. Consequently, although we have appointed an agent for service of process in the United States, it may be difficult for holders of our shares who reside in the United States to effect service within the United States upon our directors and officers and experts who are not residents of the United States. It may also be difficult for holders of our shares who reside in the United States to realize in the United States upon judgments of courts of the United States predicated upon our civil liability and the civil liability of our directors, officers and experts under the United States federal securities laws. Investors should not assume that Canadian courts (i) would enforce judgments of United States courts obtained in actions against us or our directors, officers or experts predicated upon the civil liability provisions of the United States federal securities laws or the securities or "blue sky" laws of any state within the United States or (ii) would enforce, in original actions, liabilities against us or our directors, officers or experts predicated upon the United States federal securities laws or any such state securities or "blue sky" laws. In addition, we have been advised by our Canadian counsel that in normal circumstances, only civil judgments and not other rights arising from United States securities legislation are enforceable in Canada and that the protections afforded by Canadian securities laws may not be available to investors in the United States.

Any failure to maintain an effective system of internal controls may result in material misstatements of our consolidated financial statements or cause us to fail to meet our reporting obligations or fail to prevent fraud; and in that case, our shareholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our common shares.

Section 404(a) of the Sarbanes-Oxley Act of 2002 requires that our management assess and report annually on the effectiveness of our internal control over financial reporting and identify any material weaknesses in our internal control over financial reporting.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. If we fail to maintain an effective system of internal controls, we might not be able to report our financial results accurately or prevent fraud; and in that case, our shareholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our common shares. While we believe that we have sufficient personnel and review procedures to allow us to maintain an effective system of internal controls, we cannot assure you that we will not experience potential material weaknesses in our internal control. Even if we conclude that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with US GAAP, because of its inherent limitations, internal control over financial reporting may not prevent or detect fraud or misstatements. Failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our results of operations or cause us to fail to meet our future reporting obligations.

If we fail to timely achieve and maintain the adequacy of our internal control over financial reporting, we may not be able to produce reliable financial reports or help prevent fraud. Our failure to achieve and maintain effective internal control over financial reporting could prevent us from complying with our reporting obligations on a timely basis, which could result in the loss of investor confidence in the reliability of our consolidated financial statements, harm our business and negatively impact the trading price of our common shares.

Data security incidents and privacy breaches could result in important remediation costs, increased cyber security costs, litigation and reputational harm.

Cyber security incidents can result from deliberate attacks or unintentional events. Cyber-attacks and security breaches could include unauthorized attempts to access, disable, improperly modify or degrade the Company's information, systems and networks, the introduction of computer viruses and other malicious codes and fraudulent "phishing" emails that seek to misappropriate data and information or install malware onto users' computers. Cyber-attacks in particular vary in technique and sources, are persistent, frequently change and are increasingly more targeted and difficult to detect and prevent against. Our network security and data recovery measures and those of third parties with which we contract, may not be adequate to protect against cyber-attacks.

Disruptions due to cyber security incidents could adversely affect our business. In particular, a cyber security incident could result in the loss or corruption of data from our research and development activities, including clinical trials, which may cause significant delays to some or all of our clinical programs. Also, our trade secrets, including unpatented know how, technology and other proprietary information could be disclosed to competitors further to a breach, which would harm our business and competitive position. We expect that risks and exposures related to cyber security attacks will remain high for the foreseeable future due to the rapidly evolving nature and sophistication of these threats. While we have invested in the protection of data and information technology, there can be no assurance that our efforts to implement adequate security measures would be sufficient to protect us against cyber-attacks.

We must successfully upgrade and maintain our information technology systems.

We rely on various information technology systems to manage our operations. There are inherent costs and risks associated with maintaining, modifying and/or changing these systems and implementing new systems, including potential disruption of our internal control structure, substantial capital expenditures, additional administration and operating expenses, retention of sufficiently skilled personnel to implement and operate its systems, demands on management time and other risks and costs of delays or difficulties in transitioning to new systems or of integrating new systems into our current systems. In addition, our information technology system implementations may not result in productivity improvements at a level that outweighs the costs of implementation, or at all. The implementation of new information technology systems may also cause disruptions in our business operations and have an adverse effect on our business, prospects, financial condition and operating results.

USE OF PROCEEDS

We estimate that the net proceeds from this offering and the concurrent private placement offering will be approximately $11.8 million (or approximately $12.35 million if the underwriter exercises in full its over-allotment option), with a public offering price of $1.71 per Offered Share and accompanying Warrant, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us and the placement agent fee and estimated issuance costs in connection with the concurrent private placement offering assuming no exercise of the Warrants being issued in this offering and no exercise of the Private Placement Warrants being issued in the concurrent private placement offering.

We intend to use any proceeds from this offering and the concurrent private placement 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 this offering and the concurrent private placement. 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 and the concurrent private placement offering.

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

Based on our planned use of the net proceeds from this offering and the concurrent private placement offering and our existing cash, cash equivalents and short-term investments, committed equity facility, and ATM, we estimate that such funds will be sufficient to enable us to fund our operating expenses and capital expenditure requirements for at least the next 10 months from the date of this prospectus. We have based this estimate on assumptions that may prove to be incorrect, and we could use our available capital resources sooner than we currently expect. In any event, we will require additional funding to complete the clinical development of, and commercialize, our product candidates. We may satisfy our future cash needs through the sale of equity securities, debt financings, working capital lines of credit, corporate collaborations or license agreements, grant funding, interest income earned on invested cash balances or a combination of one or more of these sources.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. We may also use a portion of the net proceeds to fund our clinical plans. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds received by us in this offering and the concurrent private placement offering. Predicting the cost necessary to develop product candidates can be difficult and we anticipate that we will need additional funds to complete the development of our existing product candidates and to develop any future product candidates. The amounts and timing of our actual expenditures and the extent of clinical development may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from preclinical studies and any ongoing clinical trials or clinical trials we may commence in the future, as well as any collaborations that we may enter into with third parties for our product candidates and any unforeseen cash needs. This may result in us having to curb our development plans and staffing levels. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering. Notwithstanding the foregoing, we expect to revise our current development as follows. Assuming the net proceeds from this offering, the concurrent private placement offering and our existing cash, cash equivalents and short-term investments, a committed equity facility, and ATM we plan to, (i) complete our ongoing APTIVATE clinical trial studying TUS and TUS/VEN, (ii) pause enrollment in the LUX G3 study and (iii) evaluate other costs reductions in general and administrative expenses. If we do not raise the net proceeds in this offering we may conduct additional reductions in general and administrative expenses as well as seek additional financing.

DILUTION

If you invest in our securities, your ownership interest will be diluted to the extent of the difference between the public offering price per Offered Share and the as adjusted net tangible book value per common share immediately after the closing of this offering and the concurrent private placement offering.

Our historical net tangible book value as of September 30, 2023 was $6.7 million, or $0.89 per common share. Our historical net tangible book value is the amount of our total tangible assets less our liabilities. Historical net tangible book value per common share is our historical net tangible book value divided by the number of common shares outstanding as of September 30, 2023.

After giving effect to (i) the sale of Offered Shares and the Warrants in this offering at combined public offering price of $1.71 per Offered Share and Warrant, and (ii) the sale and the sale of Private Placement Shares and Private Placement warrants in the concurrent private placement offering after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, and the placement agent fee and estimated issuance costs in connection with the concurrent private placement offering assuming no exercise of the Private Placement Warrants in the concurrent private placement offering and excluding the proceeds, if any, from the exercise of the Warrants issued in this offering, our as adjusted net tangible book value as of September 30, 2023 would be approximately $17.96 million, or $1.20 per common share. This amount represents an immediate increase in as adjusted net tangible book value of $0.31 per common share to our existing stockholders and an immediate dilution of $0.51 per common share to investors participating in this offering. We determine dilution per Offered Share to investors participating in this offering by subtracting as adjusted net tangible book value per common share after this offering from the public offering price per Offered Share paid by investors participating in this offering.

The following table illustrates this dilution on a per Offered Share basis to new investors:

Combined public offering price per Offered Share and Warrant		$1.71
Historical net tangible book value per common share as of September 30, 2023	$ 0.89	
Increase in as adjusted net tangible book value per common share attributable to this offering and the concurrent private placement offering	$ 0.31	
As adjusted net tangible book value per common share after giving effect to this offering and the concurrent private placement offering		$1.20
Dilution per Offered Share to new investors in this offering and the concurrent private placement offering		$0.51

If the underwriter exercises its option to purchase additional Offered Shares and the Warrants in full, the adjusted tangible book value after this offering would be $1.21 per share, the increase in net tangible book value would be $0.32 per common share and the dilution to new investors would be $0.50 per common share.

The discussion and table above assume no exercise of Warrants, Private Placement Warrants (sold in the concurrent private placement offering), Agent's Warrants or underwriter's warrants sold in this offering.

UNDERWRITING

We entered into an underwriting agreement with the underwriter named below on January 25, 2024.

The underwriting agreement provides for the purchase of a specific number of Offered Shares and Warrants to purchase Offered Shares. Subject to the terms and conditions of the underwriting agreement, each underwriter has severally agreed to purchase the number of Offered shares and Warrants set forth opposite its name below:

Underwriters	Number of Offered Shares	Number of Warrants
Newbridge Securities Corporation	4,912,280	4,912,280
Total	4,912,280	4,912,280

The underwriter has agreed to purchase all of the Offered Shares and Warrants offered by this prospectus, if any are purchased.

The Offered Shares and accompanying Warrants offered hereby are expected to be ready for delivery on or about January 30, 2024 against payment in immediately available funds. The Offered Shares and the accompanying Warrants are immediately separable and will be issued separately in this offering, but must be purchased together in this offering.

The underwriter is offering the Offered Shares and Warrants subject to various conditions and may reject all or part of any order. The underwriter has advised us that it proposes to offer the Offered Shares and Warrants to the public at the public offering price set forth on the cover page of this prospectus and to dealers at a price less a concession not in excess of $0.07182 per Offered Share and accompanying Warrant. After the Offered Shares and Warrants are released for sale to the public, the representative may change the offering price, the concession, and other selling terms at various times.

The following table provides information regarding the amount of the discounts and commissions to be paid to the underwriter by us, before expenses:

	Total Per Offered Share and Warrant	Total Without Option(2)	Total With Option
Public offering price	$ 1.7100	$ 8,399,998.80	$ 9,659,998.62
Underwriting discounts and commissions(1)	$ 0.1197	$ 587,999.92	$ 676,199.90
Proceeds, before expenses, to us	$ 1.5903	$ 7,811,998.88	$ 8,983.798.72

(1) We have agreed to pay the underwriter a commission of 7.0% of the gross proceeds of this offering.

We estimate that our total expenses of the offering, excluding the estimated underwriting discounts and commissions, will be approximately $350,000. We have agreed to reimburse the underwriter for certain of their expenses in an amount up to $125,000.

We have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act.

Rules of the SEC may limit the ability of the underwriter to bid for or purchase Offered Shares before the distribution of the Offered Shares pursuant to the offering is completed. However, the underwriter may engage in the following activities in accordance with the rules:

- Stabilizing transactions – The representative may make bids or purchases for the purpose of pegging, fixing or maintaining the price of the Offered Shares, so long as stabilizing bids do not exceed a specified maximum.
- Penalty bids – If the representative purchases Offered Shares in the open market in a stabilizing transaction or syndicate covering transaction, it may reclaim a selling concession from the underwriter and selling group members who sold those Offered Shares as part of the offering.
- Passive market making – Market makers in the Offered Shares who are underwriter or prospective underwriters may make bids for or purchases of Offered Shares, subject to limitations, until the time, if ever, at which a stabilizing bid is made.

Similar to other purchase transactions, the underwriter's purchases to cover the syndicate short sales or to stabilize the market price of the Offered Shares may have the effect of raising or maintaining the market price of the Offered Shares or preventing or mitigating a decline in the market price of the Offered Shares. As a result, the price of the Offered Shares may be higher than the price that might otherwise exist in the open market. The imposition of a penalty bid might also have an effect on the price of the Offered Shares if it discourages resales of the Offered Shares.

Neither we nor the underwriter make any representation or prediction as to the effect that the transactions described above may have on the price of the Offered Shares. These transactions may occur on Nasdaq or otherwise. If such transactions are commenced, they may be discontinued without notice at any time.

Advisory Agreement

On December 8, 2023, we entered into an advisory agreement with Newbridge Securities Corporation whereby Newbridge Securities Corporation agreed to provide certain investment advisory services in connection with this offering for an amount equal to $50,000. On December 23, 2023, we and Newbridge Securities Corporation terminated the advisory agreement with no fees paid or owed.

Over-Allotment Option

In addition to the discount set forth in the above table, we have granted the underwriter a 30-day option to purchase from us up to an additional 736,842 common shares and/or additional Warrants to purchase 736,842 common shares at an offering price of $1.70 per common share and $0.01 per additional Warrant, less the underwriting discount and commissions. If the underwriter exercises this option in full, the total underwriting discounts and commissions payable will be $676,199.90 and the total proceeds to us, before expenses, will be approximately $8.98 million. The underwriter may exercise the option solely to cover over-allotments, if any, made in connection with this offering.

Underwriter's Warrants

Upon the closing of this offering, we have agreed to issue to Newbridge Securities Corporation, or its designees, warrants (the "underwriter's warrants") to purchase a number of common shares equal to an aggregate of 7% of the total securities sold in this public offering. The underwriter's warrants will be exercisable at a per share exercise price equal to 125% of the public offering price per security sold in this offering. The underwriter's warrants are exercisable at any time and from time to time, in whole or in part, during the four year period commencing six months after the effective date of the registration statement related to this offering.

We are registering hereby the issuance of the underwriter's warrants and the common shares issuable upon exercise of such warrants. The underwriter's warrants and the common shares underlying the underwriter's warrants have been deemed compensation by the Financial Industry Regulatory Authority, or FINRA, and are therefore subject to a 180-day lock-up pursuant to Rule 5110(g)(1) of FINRA. Neither Newbridge Securities Corporation or its permitted assignees under such rule, may sell, transfer, assign, pledge, or hypothecate the underwriter's warrants or the securities underlying the underwriter's warrants, nor will Newbridge Securities Corporation engage in any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the underwriter's warrants or the underlying shares for a period of 180 days from the effective date of the registration statement.

Additionally, the underwriter's warrants may not be sold, transferred, assigned, pledged or hypothecated for a 180-day period following the effective date of the registration statement except to any underwriter and selected dealer participating in this offering and their bona fide officers or partners. The underwriter's warrants will provide for adjustment in the number and price of the underwriter's warrants and the common shares underlying such underwriter's warrants in the event of recapitalization, merger, stock split or other structural transaction, or a future financing undertaken by us.

Lock-Ups

Our officers, directors and holders of more than 5.0% of our outstanding common shares have agreed that, for a period of 90 days from the date of this prospectus, they will not, subject to certain exceptions, offer, pledge, sell, contract to sell, sell any option, right or warrant to purchase, lend or otherwise transfer or dispose, directly or indirectly, any common shares or any securities convertible into or exercisable or exchangeable for shares of capital stock without the prior written consent of the underwriter. Additionally, we have also agreed that, for a period of 90 days from the date of this prospectus, we will not, subject to certain exceptions (including sales of common shares in certain instances where the sales price equals or exceeds the public offering price), offer, pledge, sell, contract to sell, sell any option, right or warrant to purchase, lend or otherwise transfer or dispose, directly or indirectly, any shares of our capital stock or any securities convertible into or exercisable or exchangeable for shares of capital stock without the prior written consent of the underwriter. The underwriter, in its sole discretion, may release any of the securities subject to these lock-up agreements at any time without notice.

Electronic Delivery of Preliminary Prospectus

A prospectus in electronic format may be delivered to potential investors by one or more of the underwriters participating in the offering. The prospectus in electronic format will be identical to the paper version of such prospectus. Other than the prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of this prospectus or the registration statement of which this prospectus forms a part.

Notice to Non-U.S. Investors

Belgium

The offering is exclusively conducted under applicable private placement exemptions and therefore it has not been and will not be notified

to, and this document or any other offering material relating to the Offered Shares and Warrants has not been and will not be approved by, the Belgian Banking, Finance and Insurance Commission ("Commission bancaire, financière et des assurances/Commissie voor het Bank, Financie en Assurantiewezen"). Any representation to the contrary is unlawful.

Each underwriter has undertaken not to offer sell, resell, transfer or deliver directly or indirectly, any Offered Shares and Warrants or to take any steps relating/ancillary thereto, and not to distribute or publish this document or any other material relating to the Offered Shares and Warrants or to the offering in a manner which would be construed as: (a) a public offering under the Belgian Royal Decree of 7 July 1999 on the public character of financial transactions; or (b) an offering of securities to the public under Directive 2003/71/EC which triggers an obligation to publish a prospectus in Belgium. Any action contrary to these restrictions will cause the recipient and the company to be in violation of the Belgian securities laws.

Canada

Any distribution of securities in Canada will be made only on a private placement basis exempt from the requirement that we prepare and file a prospectus with the securities regulatory authorities in any province where distributions of the securities are made. Any offering in Canada will be done by way of a separate Canadian offering memorandum that will be attached to and incorporate this prospectus supplement.

France

Neither this prospectus nor any other offering material relating to the Offered Shares and Warrants has been submitted to the clearance procedures of the Autorité des marchés financiers in France. The Offered Shares and Warrants have not been offered or sold and will not be offered or sold, directly or indirectly, to the public in France. Neither this prospectus nor any other offering material relating to the Offered Shares and Warrants has been or will be: (a) released, issued, distributed or caused to be released, issued or distributed to the public in France; or (b) used in connection with any offer for subscription or sale of the Offered Shares and Warrants to the public in France. Such offers, sales and distributions will be made in France only: (i) to qualified investors (*investisseurs qualifiés*) and/or to a restricted circle of investors (*cercle restreint d'investisseurs*), in each case investing for their own account, all as defined in and in accordance with Articles L.411-2, D.411-1, D.411-2, D.734-1, D.744-1, D.754-1 and D.764-1 of the French Code monétaire et financier; (ii) to investment services providers authorised to engage in portfolio management on behalf of third parties; or (iii) in a transaction that, in accordance with article L.411-2-II-1°-or-2°-or 3° of the French Code monétaire et financier and article 211-2 of the General Regulations (*Règlement Général*) *of the Autorité des marchés financiers*, does not constitute a public offer (appel public à l'épargne). Such Offered Shares and Warrants may be resold only in compliance with Articles L.411-1, L.411-2, L.412-1 and L.621-8 through L.621-8-3 of the French Code *monétaire et financier*.

Israel

This prospectus does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this document is being distributed only to, and is directed only at, and any offer of the Offered Shares and Warrants is directed only at, investors listed in the first addendum to the Israeli Securities Law, or the Addendum, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals", each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

Italy

The offering of the Offered Shares and Warrants offered hereby in Italy has not been registered with the *Commissione Nazionale per la Società e la Borsa*, or CONSOB, pursuant to Italian securities legislation and, accordingly, the Offered Shares and Warrants offered hereby cannot be offered, sold or delivered in the Republic of Italy, or Italy, nor may any copy of this prospectus or any other document relating to the Offered Shares and Warrants offered hereby be distributed in Italy other than to professional investors (*operatori qualificati*) as defined in Article 31, second paragraph, of CONSOB Regulation No. 11522 of 1 July, 1998 as subsequently amended. Any offer, sale or delivery of the Offered Shares and Warrants offered hereby or distribution of copies of this prospectus or any other document relating to the Offered Shares and Warrants offered hereby in Italy must be made:

(a) by an investment firm, bank or intermediary permitted to conduct such activities in Italy in accordance with Legislative Decree No. 58 of 24 February 1998 and Legislative Decree No. 385 of 1 September 1993, or the Banking Act;

(b) in compliance with Article 129 of the Banking Act and the implementing guidelines of the Bank of Italy; and

(c) in compliance with any other applicable laws and regulations and other possible requirements or limitations which may be imposed by Italian authorities.

Sweden

This prospectus has not been nor will it be registered with or approved by Finansinspektionen (the Swedish Financial Supervisory Authority). Accordingly, this prospectus may not be made available, nor may the Offered Shares and Warrants offered hereunder be marketed and offered for sale in Sweden, other than under circumstances which are deemed not to require a prospectus under the Financial Instruments Trading Act (1991: 980).

Switzerland

The Offered Shares and Warrants offered pursuant to this prospectus will not be offered, directly or indirectly, to the public in Switzerland and this prospectus does not constitute a public offering prospectus as that term is understood pursuant to art. 652a or art. 1156 of the Swiss Federal Code of Obligations. The company has not applied for a listing of the Offered Shares and Warrants being offered pursuant to this prospectus on the SWX Swiss Exchange or on any other regulated securities market, and consequently, the information presented in this prospectus does not necessarily comply with the information standards set out in the relevant listing rules. The Offered Shares and Warrants being offered pursuant to this prospectus have not been registered with the Swiss Federal Banking Commission as foreign investment funds, and the investor protection afforded to acquirers of investment fund certificates does not extend to acquirers of Offered Shares and Warrants.

Investors are advised to contact their legal, financial or tax advisers to obtain an independent assessment of the financial and tax consequences of an investment in Offered Shares and Warrants.

European Economic Area and the United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom, each referred to as a Relevant State, no Offered Shares or Warrants have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the Offered Shares and Warrants which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation), except that offers of Offered Shares and Warrants may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

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

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the underwriter for any such offer; or

(c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of Offered Shares or Warrants shall require us or any of underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any Offered Shares or Warrants or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with us and the underwriter that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any Offered Shares or Warrants being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Offered Shares or Warrants acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the underwriter has been obtained to each such proposed offer or resale.

We, the underwriter and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any Offered Shares or Warrants in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any Offered Shares or Warrants to be offered so as to enable an investor to decide to purchase or subscribe for any Offered Share or Warrants, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

References to the Prospectus Regulation includes, in relation to the United Kingdom, the Prospectus Regulation as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018.

The above selling restriction is in addition to any other selling restrictions set out below.

United Kingdom

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the Financial Promotion Order), (ii) are persons falling within Article 49(2)(a) to (d), or high net worth companies, unincorporated associations etc., of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000, as amended, or FSMA,) in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

CONCURRENT PRIVATE PLACEMENT OFFERING

Concurrently with this offering of Offered Shares and Warrants we intend to sell Private Placement Shares and Private Placement Warrants directly to Hanmi in a private placement offering (subject to completion of definitive documentation). Private Placement Shares and Private Placement Warrants will be sold in combination, with one Private Placement Share and 1.11111106 Private Placement Warrants at an offering price of $1.90 per combined Private Placement Share and Private Placement Warrant (which represents a premium to the public offering price of the Offered Shares and Warrants), for aggregate gross proceeds of approximately $4.0 million, without giving effect to any fees or commissions. Each whole Private Placement Warrant is exercisable for one Warrant Share at has an exercise price of $1.71 per Warrant Share for a period of five years from the issuance of the Private Placement Warrants. The Private Placement Shares, the Private Placement Warrants and the common shares issuable upon the exercise of the Private Placement Warrants are not being registered under the Securities Act, and are not being offered pursuant to this prospectus but are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder. The closing of the concurrent private placement offering and the closing of this offering are not contingent upon each other. Hanmi's participation in the concurrent private offering will satisfy its obligation to fund the remaining $4 million owed to us pursuant the Subscription Agreement between Hanmi and us, dated September 6, 2023. Newbridge Securities Corporation, the underwriter, is acting as placement agent in connection with the concurrent private placement offering and will receive (i) a placement agent fee equal to 7.0% of the total purchase price of the Private Placement Shares and Private Placement Warrants sold in the concurrent private placement offering and (ii) Agent's Warrants equal to 7% of the total Private Placement Shares and Private Placement Warrants offered in the concurrent private placement.

BUSINESS

Overview

We are a science-driven clinical-stage biotechnology company committed to the development and commercialization of precision medicines addressing the unmet clinical needs in hematologic malignancies. Our small molecule cancer therapeutics pipeline includes products designed to provide safe agents with single agent efficacy and to enhance the efficacy of other anti-cancer therapies and regimens without overlapping toxicities. Our executive offices are located in San Diego, California, and our head office is located in Toronto, Canada.

Our Programs

We are advancing oral targeted agents to treat life-threatening hematologic cancers that require immediate treatment. We have two clinical-stage investigational products under active development for the treatment of hematologic malignancies: tuspetinib (HM43239), an oral, potent myeloid kinase inhibitor, and luxeptinib (CG-806), an oral, dual lymphoid and myeloid kinase inhibitor. Tuspetinib and luxeptinib are being evaluated for safety, tolerability, pharmacokinetics and efficacy in Phase 1 clinical trials, while a third clinical asset not under active development is available for partnering (APTO-253). Each molecule is described below.

Tuspetinib is a once-daily oral potent myeloid kinase inhibitor, targeting a select group of kinases operative in myeloid malignancies, such as acute myeloid leukemia (AML) and the higher risk myelodysplastic syndromes (hr-MDS), and known to be involved in tumor proliferation, resistance to therapy, and differentiation. However, tuspetinib avoids kinases that typically cause toxicities associated with other kinase inhibitors. Tuspetinib 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 as a single agent in patients with relapsed or refractory ("R/R") acute myeloid leukemia ("AML"). Complete responses ("CRs") without dose limiting toxicities were achieved at four dose levels across a broad diversity of mutationally-defined AML populations and with a highly favorable safety profile. Moreover, tuspetinib to date has caused no QTc prolongations, liver or kidney toxicities, muscle damage, or differentiation syndrome in treated patients and has caused no myelosuppression with continuous dosing of patients in remission. A recommended phase 2 dose (RP2D) of 80 mg tuspetinib once daily as an oral tablet was selected and approved by the U.S. FDA for use as a single agent in patients with R/R AML, and at the RP2D tuspetinib demonstrated a response rate CR/CRh=36% among all-comers, CR/CRh=50% among patients with mutated FLT3, and CR/CRh=25% in patients with wildtype FLT3 in R/R AML that had never been treated with the agent venetoclax (VEN-naïve AML). However, the vast majority of R/R AML patients now entering clinical trials in the U.S. will have failed venetoclax (Prior-VEN failures) and this newly emerging patient population is far less responsive to any single agent therapy. As a result, we advanced tuspetinib into a drug combination trial.

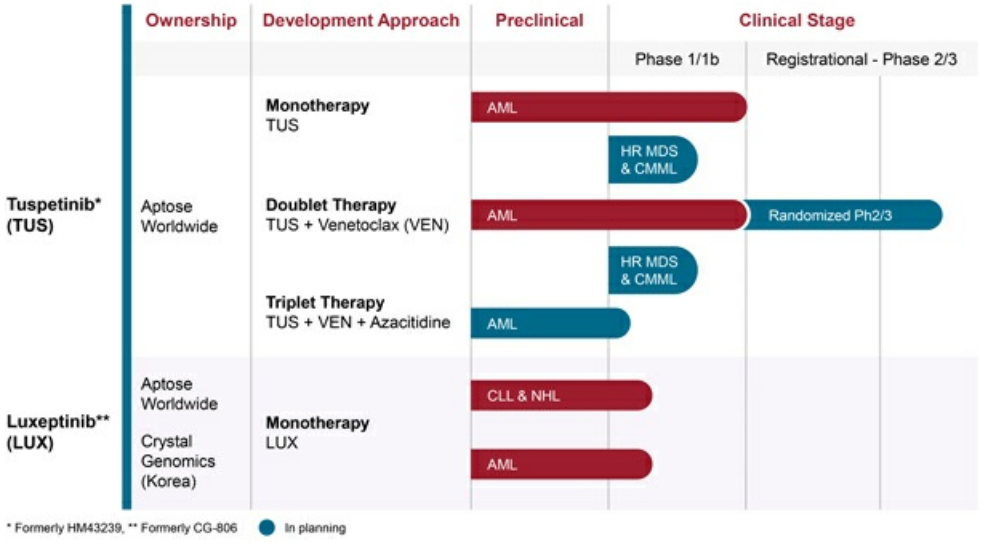
Following completion of the single agent dose escalation and exploration trial, tuspetinib was advanced into the APTIVATE expansion trial of the Phase 1/2 program in R/R AML patient populations treated with tuspetinib when combined with the venetoclax BCL-2 inhibitor, with the intent to position tuspetinib for dual and triple combination studies in later and early lines of therapy. Based on the safety and efficacy profile of tuspetinib, we believe that tuspetinib, if approved, can reach annual sales greater than $3 billion by 2035 because we believe tuspetinib 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, 4) serve as an effective agent for the treatment of third line FLT3 mutated patients failed by prior therapy with other FLT3 inhibitors and 5) serve in front line triplet combinations, second line doublet combinations, and maintenance therapy for hr-MDS patients. However, our belief is based on management's current assumptions and estimates, which are subject to change, and there can be no assurance that tuspetinib 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 this Registration Statement on Form S-1.

Luxeptinib 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, Luxeptinib has been evaluated in a Phase 1a/b study for the treatment of patients with R/R AML or hr-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 DLBCL patient that was determined via biopsy analysis at the end of Cycle 22 with 900mg 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 response findings were important, absorption of the original G1 formulation hampered

effectiveness of luxeptinib. 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 luxeptinib 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.

The following table sets the product candidates in our pipeline and their respective stages of development.



Tuspetinib Program

Inlicensing Overview

On November 4, 2021, we entered a licensing agreement with the South Korean company Hanmi Pharmaceutical Co Ltd. ("Hanmi") for the clinical and commercial development of tuspetinib (formerly HM43239). Under the terms of the agreement, Hanmi granted us an exclusive worldwide rights to tuspetinib for all indications. Hanmi received an upfront payment of $12.5 million, including $5 million in cash and $7.5 million in Common Shares. Hanmi will also receive up to $407.5 million in future milestone payments contingent upon achieving certain clinical, regulatory and sales milestones across several potential indications, as well as tiered royalties on net sales. The term of the agreement will continue on a product-by-product and country-by-country basis until the expiration of the royalty period for such product in such country. The licenses to us will survive and become non-exclusive, perpetual, irrevocable and fully paid-up on a product-by-product and country-by-country basis, upon their natural expiration under the terms of the agreement.

Preclinical Profile

Tuspetinib is an oral, once-daily, highly potent myeloid kinome inhibitor designed to target key kinases operative in myeloid malignancies. In preclinical studies, tuspetinib demonstrated potent *in vitro* and *in vivo* activity against FLT3 ITD mutated as well as D835 and gatekeeper (F691) tyrosine kinase domain ("TKD") mutated AML that confer resistance to other agents. Additionally, tuspetinib inhibited phosphorylation of the SYK kinase, known to be highly activated in

AML and associated with resistance to FLT3 targeted therapy. Tuspetinib also was designed to inhibit several kinases involved in tumor cell proliferation and/or differentiation, including mutant forms of c-KIT, JAK1, JAK2, and RSK, all with IC50 values < 10 nM.

Tuspetinib induced *in vitro* cytotoxicity in AML and Ba/F3 cell lines expressing FLT3 WT, ITD, and/or TKD point mutations. Tuspetinib showed greater inhibitory activity compared to quizartinib on Ba/F3 cells expressing resistance-conferring ITD/TKD double mutations (ITD/F691L and ITD/D835Y). Thus, Tuspetinib may overcome clinically relevant ITD/TKD double mutations, which may result from sustained FLT3 inhibition. Moreover, target modulation was shown as tuspetinib inhibited FLT3 phosphorylation and downstream signaling molecules such as phospho-ERK and phospho-STAT5.

The *in vivo* anti-tumor efficacy of tuspetinib was demonstrated in murine xenograft models usingMV-4-11 and MOLM-13 human AML cells having the ITD mutant form of FLT3 and using the MOLM-14 model having the ITD and F691L dual mutations of FLT3 with dosing regimens that match those currently under investigation. Tuspetinib exhibited dose-dependent tumor growth inhibition of models of FLT3 ITD mutant AML with complete tumor regression observed in some groups, and no change in body weight. Of note, tuspetinib produced greater tumor growth inhibition in the MOLM-14 FLT3-ITD/F691L model compared to gilteritinib, or entospletinib (SYK inhibitor) as single agents, and comparable activity to the gilteritinib plus entospletinib combination.

Latest Clinical Update and Program Status

Tuspetinib has completed the dose escalation and dose exploration phases of an international Phase 1/2 study in patients with relapsed or refractory AML across clinical centers in the United States and South Korea. Clinical data from tuspetinib in AML were presented at the American Society of Hematology (ASH) Annual Meeting in December 2022 and presented during a Corporate Comprehensive Clinical Update Call held December 11, 2022. Data presented demonstrated that tuspetinib delivers single agent responses without prolonged myelosuppression or life-threatening toxicities in these very ill and heavily pretreated relapsed or refractory AML patients. Responses were observed in a broad range of mutationally-defined populations, including those with mutated forms of NPM1, MLL, TP53, NRAS, KRAS, DNMT3A, RUNX1, wild-type FLT3, ITD or TKD mutated FLT3, various splicing factors, and other genes As of October 6, 2022, 60 heavily pretreated R/R AML patients were enrolled at multiple centers and treated at doses escalating from 20 mg to 200 mg, with further dose exploration at the 40 mg, 80 mg, 120 mg and 160 mg dose levels. Tuspetinib delivered multiple CRs at 40 mg, 80 mg, 120 mg and 160 mg dose levels in which no dose limiting toxicities (“DLT”) were observed. Tuspetinib demonstrated clinically meaningful benefit in all responders, by either bridging successfully to hematopoietic stem cell transplant (HSCT) or leading to a durable response, as well as a favorable safety profile. In addition to 5 CRc and 1 PR reported at ASH 2021, 4 new CRc and 3 new PR had been generated during 2022. New responses during 2022 were achieved with 160 mg, 120 mg, 80 mg, and 40 mg. Among efficacy evaluable patients treated with 80 mg, 120 mg, or 160mg, response rates ranging from 19% to 75% were achieved in specific genotypic subpopulations of R/R AML patients. Significant bone marrow leukemic blast reductions were observed broadly in FLT3+ and FLT3 wildtype patients across multiple dose levels, comparable to reported gilteritinib data, except that the patients treated with tuspetinib were more heavily pre-treated relapsed and refractory AML patients than those treated with gilteritinib. Vignettes of patient experiences highlight the potency and breadth of tuspetinib to deliver complete remissions among several mutationally-defined populations with a diversity of adverse mutations. Tuspetinib continued to show a favorable safety profile with only mild AEs and no DLTs up to 160 mg per day, and no drug discontinuations from drug related toxicity. No drug related SAE, drug related deaths, differentiation syndrome, AE of QT prolongation or DLT were observed through the 160 mg level. Tuspetinib avoids many of the typical toxicities observed with other tyrosine kinase inhibitors. We identified a safe therapeutic range with a broad therapeutic window, spanning the dose levels of 40, 80, 120 and 160 milligrams. We also announced that enrollment had been initiate in the APTIVATE expansion trial for monotherapy and drug combination therapy with tuspetinib. For the APTIVATE expansion trial, we selected 120 mg as the initiating single agent expansion dose and 80 mg as the initiating dose selected for combination with venetoclax.

As of January 30, 2023, we announced the dosing of patients in the APTIVATE Phase 1/2 clinical trial of tuspetinib, and that another clinical response has been achieved by a R/R AML patient receiving 40 mg tuspetinib once daily orally in the original dose exploration trial, the second response at the recently launched low-dose 40 mg cohort. In addition, we elucidated a rationale for the superior safety profile of tuspetinib. While several kinase inhibitors require high exposures that exert near complete suppression of a single target to elicit responses, those

agents often cause additional toxicity because they also cause extensive inhibition of that target in normal cells. In contrast, tuspetinib simultaneously suppresses a small suite of kinase-driven pathways critical for leukemogenesis. Consequently, tuspetinib achieves clinical responses at lower exposures with less overall suppression of each pathway, thereby avoiding many toxicities observed with competing agents.

Concurrent with the European Hematology Association (EHA) Annual Congress held June 8-11, 2023, Aptose held an interim clinical update webcast on June 10, 2023, to present highlights from the ongoing clinical development of tuspetinib. Aptose reported completion of the tuspetinib dose escalation and dose exploration Phase 1/2 trial in 77 R/R AML patients, tuspetinib demonstrated a favorable safety profile, and tuspetinib delivered monotherapy responses across four dose levels with no dose-limiting toxicity in mutationally diverse and difficult to treat R/R AML populations, including patients with highly adverse mutations that typically do not respond to monotherapy or combination therapy: TP53-mutated patients with a CR/CRh = 20% and RAS-mutated patients with a CR/CRh = 22%. Aptose also reported completion of a successful End of Phase 1 (EOP1) Meeting with the US FDA for tuspetinib, that a monotherapy recommended phase 2 dose (RP2D) was selected as 80mg daily, and that all development paths remain open, including the single arm accelerated path. Following completion of the dose escalation and dose exploration phases of the Phase 1/2 clinical program, Aptose focused attention on the tuspetinib APTIVATE expansion trial. The APTIVATE trial sought to identify patient populations that may serve as development paths for in R/R AML patients sensitive to tuspetinib in combination with venetoclax (VEN) as a TUS/VEN doublet and can serve as development paths for accelerated and full approvals. We reported that patient enrollment in the APTIVATE expansion trial has been brisk and preliminary CR activity had already been reported in patients receiving the TUS/VEN doublet who previously failed therapy with venetoclax.

On October 29, 2023, Aptose presented two posters related to the clinical and preclinical activity of tuspetinib at the European School of Haematology (ESH) 6th International Conference: Acute Myeloid Leukemia “Molecular and Translational”: Advances in Biology and Treatment, held October 29-31, 2023, in Estoril, Portugal. Clinical findings included 1) data from the APTO-TUS-HV01 clinical trial (Food Effect Study) evaluating the pharmacokinetic (PK) properties of tuspetinib in healthy human volunteers in which tuspetinib was administered with our without food, and 2) from an international Phase 1/2 study of tuspetinib as a single agent (TUS) and in combination with venetoclax (TUS/VEN combination) in patients with R/R AML from across clinical centers in the United States, South Korea, Spain, Australia and other sites. Data from the Fed vs Fasted Food Effect Study in healthy human volunteers demonstrated tuspetinib can be administered with or without food and foresee no clinically meaningful difference in exposure. This is an important finding for patient convenience, as venetoclax is dosed with food and now we can co-administer tuspetinib simultaneously with the venetoclax rather than require staggered dosing. Findings from the Phase 1/2 clinical trial demonstrated tuspetinib as a single agent (TUS) was well-tolerated and highly active among R/R AML patients with a diversity of adverse genotypes and delivered a 42% CR/CRh cross-evaluable venetoclax (VEN) naive patients at the 80mg daily RP2D. Tuspetinib in combination with venetoclax (TUS/VEN) in the APTIVATE international Phase 1/2 expansion trial in R/R AML patients has been well tolerated and achieved multiple responses in patients who previously failed venetoclax (Prior-VEN failure AML), including Prior-VEN failure patients who also previously failed FLT3 inhibitors, all of whom represent emerging populations of high unmet medical need. Notably, tuspetinib targets venetoclax resistance mechanisms that may re-sensitize Prior-VEN failure patients to venetoclax.

Separate from the clinical studies, the preclinical study (entitled: “Tuspetinib Oral Myeloid Kinase Inhibitor Creates Synthetic Lethal Vulnerability to Venetoclax”) presented by Aptose during the ESH Conference investigated the effects of tuspetinib on key elements of the phosphokinome and apoptotic proteome in both parental and TUS-resistant AML cells. In parental cells, tuspetinib inhibits key oncogenic signaling pathways and shifts the balance of pro- and anti-apoptotic proteins in favor of apoptosis, suggesting that it may generate vulnerability to venetoclax. Indeed, acquired resistance in the AML cells to tuspetinib generated a synthetic lethal vulnerability to venetoclax of unusually high magnitude. Concurrent administration of TUS/VEN therefore may discourage the emergence of resistance to tuspetinib during treatment. In conjunction with poster presentations at the ESH Conference, on October 30, 2023, Aptose held a “Clinical Update and KOL Data Review of AML Drug Tuspetinib” that was webcast and featured Dr. Naval Daver, MD, Professor, Director Leukemia Research Alliance Program, Department of Leukemia, The University of Texas MD Anderson Cancer Center, Houston, Texas. Dr. Daver is the lead investigator on Aptose’s APTIVATE trial and is recognized for significant achievements in the development of novel AML treatments, including several combination therapies. Aptose presented data in 49 patients who received the TUS/VEN doublet, showing an overall response rate (ORR) of 48% among all patients that had achieved an evaluable stage, as well as a 44% ORR among Prior-VEN failure AML patients, including FLT3-unmutated (wildtype) patients (43% ORR) and FLT3-mutated patients (60% ORR), some of whom also had failed prior therapy with FLT3 inhibitors. The TUS/VEN doublet was well tolerated with no unexpected safety signals. The TUS/VEN doublet may serve the Prior-VEN failure R/R AML patients that represent a rapidly growing population that is highly refractory to any salvage therapy with response rates in the 4-15% range. The compelling data with the TUS/VEN doublet in R/R AML patients suggest a TUS/VEN/HMA triplet may serve the needs of frontline (1L) newly diagnosed AML patients.

On December 9, 2023, Aptose featured tuspetinib in an oral presentation at the 65th American Society of Hematology (ASH) Annual Meeting and Exposition and announced that a growing body of clinical data for Aptose’s lead compound tuspetinib (TUS), demonstrates significant benefit as a single agent and in combination with venetoclax (VEN) in patients with relapsed or refractory acute myeloid leukemia (R/R AML) in the ongoing APTIVATE Phase 1/2 study. Data were presented in an oral presentation by lead investigator Naval G. Daver, M.D., Professor, Director Leukemia Research Alliance Program, Department of Leukemia, The University of Texas MD Anderson Cancer Center, Houston, TX.

Dr. Daver reported data from more than 100 relapsed/refractory patients from multiple international clinical sites, who had failed prior therapy and then were treated with tuspetinib (TUS) as a single agent or tuspetinib in combination with venetoclax (TUS/VEN). TUS and TUS/VEN delivered multiple composite complete remissions (CRcs) in this very ill AML population, while maintaining a favorable safety profile across all treated patients. The data demonstrated tuspetinib is active and well tolerated in one of the most challenging and heterogeneous disease settings in oncology – relapsed and refractory AML. Tuspetinib demonstrated broad activity, including activity in patients with FLT3 wild-type AML (accounting for more than 70% of the AML population), FLT3 mutated AML, NPM1 mutated AML, as well as in patients with mutations historically associated with resistance to targeted therapy. Most notably, TUS targets VEN resistance mechanisms, enabling TUS/VEN uniquely to treat the very ill prior-VEN AML population, including both FLT3 mutant and FLT3 wildtype disease. From a broader perspective, the growing body of antileukemic activity, and continued favorable safety profile, support advancement of tuspetinib in a TUS/VEN/HMA triplet for the treatment of frontline newly diagnosed AML patients.”

Dr. Daver also pointed out that while patients on the TUS/VEN therapy are early in their treatment cycles, most achieving a response remained on treatment and that responses have begun to mature as dosing continues. Highlights of Dr. Daver’s ASH oral presentation include:

- As a single agent at therapeutic doses of 80-160 mg in 68 evaluable patients, TUS was more active in VEN-naïve patients, with an overall CRc rate of 29% (8/28). This included a 42% CRc rate (5/12) in FLT3-mutated patients and a 19% CRc rate (3/16) in FLT3-unmutated, or wildtype, AML patients. Responses and blood counts improved with continuous dosing, many patients bridged to an allogeneic stem cell transplant (HSCT), durability was observed when HSCT was not performed, and 80 mg was selected as the RP2D. Overall, tuspetinib showed a favorable safety profile with only mild adverse events (AEs) and no dose-limiting toxicities (DLTs) up to 160 mg per day, and no drug discontinuations from drug related toxicity.

- In the TUS/VEN doublet study, 49 patients were dosed with 80 mg of tuspetinib and 200 mg of venetoclax, with 36 evaluable (and 13 patients too early to assess). Patients were heavily exposed to Prior-VEN and Prior-FLT3 inhibitor treatment. TUS/VEN was active in both VEN-naïve and prior Prior-VEN R/R AML patients. TUS demonstrated compelling composite complete remission (CRc) rates. Among all evaluable patients, TUS/VEN demonstrated a CRc rate of 25% (9/36); 43% (3/7) in VEN-naïve patients, and 21% (6/29) in Prior-VEN patients. Among FLT3 wildtype patients, TUS/VEN demonstrated an overall CRc rate of 20% (5/25); 33% (2/6) in VEN-naïve patients, and 16% (3/19) in Prior-VEN patients. Among FLT3 mutant patients, TUS/VEN demonstrated an overall CRc rate of 36% (4/11); a complete response in a VEN-naïve patient (1/1); a 30% (3/10) in Prior-VEN patients; and 44% (4/9) in patients treated prior with a FLT3 inhibitor.

Luxeptinib Program

Inlicensing Overview

On May 7, 2018, we exercised an option by paying $2.0 million in cash to the South Korean company Crystal Genomics, Inc. (“CG”) to purchase an exclusive license to research, develop and commercialize luxeptinib in all countries of the world except the Republic of Korea and China, for all fields of use (collectively, the “Rights”). Subsequently, on June 14, 2018, we announced that we entered into a 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”). Under the license agreement, we made an upfront payment to CG of $3.0 million for the China rights. CG is eligible for development, regulatory and commercial-based milestones, as well as single-digit royalties on product sales in China. The total deal value for the China Rights, including the upfront payment, is up to $125 million. Aptose now own worldwide (excluding Korea) rights to luxeptinib, a first-in-class, highly potent oral small molecule being developed for AML, B-cell malignancies, and other hematologic malignancies. Future possible royalties that might be paid under these agreements are determined on a country-by-country and product-by-product basis, on net sales during the period of time beginning on the first commercial sale of such product in such country and continuing until the later of: (i) the expiration of the last-to-expire valid claim of the CG Patents in such country covering such product; and (ii) ten (10) years after the first commercial sale of such product in such country.

Preclinical Profile

Luxeptinib exhibits a picomolar half maximal inhibitory concentration (“IC50”) toward FLT3 with the Internal Tandem Duplication (“FLT3-ITD”), potency against the wild type FLT3 and a host of mutant forms of FLT3, as well as single-digit nanomolar IC50’s against BTK and its C481S mutant (“BTK-C481S”). Further, luxeptinib suppresses a small group of other relevant oncogenic kinases/pathways (including CSF1R, PDGFRα, TRK, and the ERK, MYC, AKT/mTOR/S6K and AURK/H3S10 pathways) that are operative in AML and certain B cell malignancies, but does not inhibit the TEC, epidermal growth factor receptor (EGFR) and ErbB2/4 kinases that are responsible for safety concerns with certain other kinase inhibitors.

As a potent inhibitor of FLT3-ITD, luxeptinib may become an effective therapy in a high-risk subset of AML patients. This is because the FLT3-ITD mutation occurs in approximately 30% of patients with AML and is associated with a poor prognosis. In murine xenograft studies of human AML (FLT3-ITD), CG-806 administered orally resulted in tumor elimination (“cures”) without measurable toxicity. Importantly, luxeptinib targets other oncogenic kinases which may also be operative in FLT3-ITD AML, thereby potentially allowing the agent to become an important therapeutic option for a broader group of this difficult-to-treat AML patient population. The findings that luxeptinib targets all forms of FLT3 and several other key oncogenic pathways, and that luxeptinib was well tolerated from a safety perspective during efficacy and formal Good Laboratory Practice (“GLP”) toxicology studies, suggest that luxeptinib may also have applicability in treating patients, particularly those over the age of 65, who cannot tolerate other therapies.

Separate from the AML and FLT3 story, luxeptinib may be a therapeutic option for patients with B cell malignancies. Overexpression of the BTK enzyme can drive oncogenic signaling of certain B cell malignancies, including CLL and certain NHL such as mantle cell lymphoma (“MCL”), follicular lymphoma (“FL”), diffuse large cell B cell lymphoma (“DLBCL”) and others. Therapy of these patients with covalent, irreversible BTK inhibitors, such as ibrutinib, that target the active site cysteine (“Cys”) residue of BTK can be beneficial in many patients. However, therapy with covalent BTK inhibitors can select for BTK with a C481S mutation, thereby conferring resistance to covalent BTK inhibitors. Furthermore, approximately half of CLL patients have discontinued treatment with ibrutinib after 3.4 years of therapy. Discontinuation of ibrutinib is due to the development of drug resistance (in particular, patients have malignancies that developed the BTK-C481S mutation), or due to refractory disease (patient tumors did not respond to ibrutinib) or intolerance (side effects led to discontinuation of ibrutinib), according to a study performed at The Ohio State University. The C481S mutation is observed in 5-10% of the patients, while

40-45% of the patients were intolerant or refractory to ibrutinib. As a non-covalent, reversible inhibitor of BTK, luxeptinib does not rely on the Cysteine 481 residue ("C481") for inhibition of the BTK enzyme. Indeed, recent X-ray crystallographic studies (with wild type and C481S BTK) demonstrated that luxeptinib binds productively to the BTK active site in a manner that is indifferent to the presence or absence of mutations at the 481 residue. Moreover, *in vitro* studies demonstrated that luxeptinib kills B cell malignancy cell lines on average approximately 1000 times more potently than ibrutinib and kills ibrutinib-resistance cancer cells, and that luxeptinib more potently killed primary malignant cells taken from the bone marrow of CLL and ALL B-cell cancer patients. Yet, luxeptinib demonstrated a high degree of safety in animal efficacy and GLP toxicology studies. Consequently, patients who are resistant, refractory or intolerant to ibrutinib or other commercially approved or development-stage BTK inhibitors with B cell malignancies may continue to be sensitive to luxeptinib therapy. This is particularly true since luxeptinib inhibits the wild type and mutant forms of BTK, as well as other kinases/pathways that drive the survival and proliferation of B cell malignancies.

Latest Clinical Update and Program Status

Luxeptinib is currently being evaluated in a Phase 1 a/b trial in patients with relapsed or refractory B cell malignancies who have failed or are intolerant to standard therapies, and in a separate Phase 1 a/b trial in patients with relapsed or refractory AML or high-risk MDS. During 2022, a new G3 formulation was tested as a single dose in 20 patients during the ongoing Phase 1 a/b clinical program. Modeling of the pharmacokinetic (PK) properties of G3 predicted steady-state plasma exposure from continuous dosing with 50 mg of G3 (every 12 hours, Q12h) should be comparable to that of 900 mg of the original G1 formulation Q12h, representing a significant improvement in bioavailability with G3. On November 14, 2022, we announced dosing of the first AML patient to receive a continuous dosing regimen of the G3 formulation (50 mg G3 Q12h), with the protocol allowing for further dose escalation of G3 in subsequent patients. Clinical data from both studies were presented during a Corporate Comprehensive Clinical Update Call held December 11, 2022. During the Corporate Update Call, we announced a CR was achieved with a diffuse large B-cell lymphoma (DLBCL) patient at the end of Cycle 22 with 900mg BID of the original G1 formulation. Previously, an MRD-negative CR was reported with a R/R AML patient receiving 450mg BID of the original G1 formulation. We expect that dosing 9-15 patients will determine if G3 is safe and achieves desired exposures to deliver clinical responses.

Concurrent with the EHA Annual Congress held June 8-11, 2023, Aptose held an interim clinical update webcast on June 10, 2023. During the update, Aptose reviewed clinical findings with the new G3 formulation of luxeptinib. Aptose confirmed that continuous dosing with 50mg Q12h of the G3 formulation in multiple patients achieves roughly an equivalent pharmacokinetic profile as 900mg original G1 formulation, and that dose escalation with the G3 formulation was anticipated. Since completion of the 50mg G3 Q12h dose exploration, R/R AML patients have been dosed with 100mg Q12h and 200mg Q12h G3. Safety and PK data with all doses of G3, when available, will be presented and will determine the next steps with luxeptinib.

APTO-253 Program

APTO-253 is a novel small molecule therapeutic agent that inhibits expression of the MYC oncogene, leading to cell cycle arrest and programmed cell death (apoptosis) in human-derived solid tumor and hematologic cancer cells, without causing general myelosuppression of the healthy bone marrow. MYC is a transcription factor that regulates cell growth, proliferation, differentiation and apoptosis, and overexpression amplifies new sets of genes to promote oncogenesis.

The clinical development of APTO-253 began in January 2011, with a Phase 1 dose-escalation study in patients with advanced or metastatic solid tumors. The clinical program of APTO-253 more recently also included a Phase 1a/b dose escalation study in patients with relapsed or refractory AML or high risk MDS, during which no objective responses were observed.

On December 20, 2021, we announced the decision to discontinue further clinical development ofAPTO-253. The decision resulted from a strategic prioritization of the company's resources to focus on more advanced pipeline candidates, as well as an internal review of the product profile and performance to date of APTO-253, including a clinical hold placed by the U.S. Food & Drug Administration ("FDA").

Competitive Conditions

The biotechnology and pharmaceutical industries are characterized by rapidly evolving technology and intense competition. There are numerous companies in these industries that are focusing their efforts on activities similar to ours. Some of these are companies with established positions in the pharmaceutical industry and may have substantially more financial and technical resources, more extensive research and development capabilities, and greater marketing, distribution, production, and human resources than us. In addition, we face competition from other companies for opportunities to enter partnerships with biotechnology and pharmaceutical companies and academic institutions.

Competition with our potential products may include chemotherapeutic agents, monoclonal antibodies, antisense therapies, small molecules, immunotherapies, vaccines, and other biologics with novel mechanisms of action. These drugs may kill cancer cells indiscriminately, or through a targeted approach, and some have the potential to be used in non-cancer indications. We also expect that we will experience competition from established and emerging pharmaceutical and biotechnology companies that have other forms of treatment for the cancers that we target, including drugs currently in development for the treatment of cancer that employ a number of novel approaches for attacking these cancer targets. Cancer is a complex disease with more than 100 indications requiring drugs for treatment. The drugs in competition with our potential drugs have specific targets for attacking the disease, targets which are not necessarily the same as ours. These competitive drugs, however, could potentially also be used together in combination therapies with our drugs to manage the disease. Other factors that could render our potential products less competitive may include the stage of development, where competitors' products may achieve earlier commercialization, as well as superior patent protection, better safety profiles, or a preferred cost-benefit profile.

Tuspetinib and Luxeptinib for AML

We also face intense competition in AML as there is a wide range of therapies that have been approved and are under development for the treatment of AML. Companies that have developed approved therapies include Jazz (VYXEOS), Pfizer (MYLOTARG), Novartis (RYDAPT), Astellas (XOSPATA), Servier (TIBSOVO), Rigel (REZLIDHA), and AbbVie (VENCLEXTA), among others. Others are currently developing targeted therapies such as FLT3 inhibitors which include Daiichi Sankyo (quizartinib), Arog (crenolanib), IDH1/2 inhibitors which include Celgene/BMS (IDHIFA), SYK inhibitors which include Kronos Bio (lanraplenib), IRAK4 inhibitors which include Curis (emavusertib), and menin inhibitors which include Syndax (revumenib, SNDX-5613) and Kura (KO-539), among others.

Luxeptinib for B Cell Malignancies

We are aware of a number of companies that have developed and are pursuing different approaches to BTK inhibition, both for the wild type and to the C481S-mutant forms. Companies that have developed approved or are currently developing inhibitors that directly target the wild type include AbbVie (IMBRUVICA), AstraZeneca (CALQUENCE), and Beigene Co., Ltd. (Zanubrutinib). Others that are developing inhibitors that target the C481S-mutant BTK include Merck (nemtabrutinib), and Eli Lilly (pirtobrutinib), among others.

Manufacturers, Suppliers and Other Third-Party Contractors

Contract manufacturing organizations ("CMOs") manufacture our product candidates for all preclinical studies and clinical trials. We rely on CMOs for manufacturing, filling, packaging, storing and shipping of drug product in compliance with Current Good Manufacturing Practice ("cGMP") regulations applicable to our products. The FDA ensures the quality of drug products by carefully monitoring drug manufacturers' compliance with cGMP regulations. The cGMP regulations for drugs contain minimum requirements for the methods, facilities and controls used in manufacturing, processing and packing of a drug product. These CMOs are reputable companies active in the biotechnology industry. Pricing is predictable as there are many alternatives for such supplies that are readily available.

We rely and will continue to rely on third party contract research organizations ("CROs") to conduct a significant portion of our preclinical and clinical development activities. Preclinical activities include *in vivo* studies providing access to specific disease models, pharmacology and toxicology studies, and assay development. Clinical development activities include trial design, regulatory submissions, clinical patient recruitment, clinical trial monitoring, clinical data management and analysis, safety monitoring and project management, contract manufacturing and quality assurance.

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 tuspetinib. Under the terms of the agreement, Hanmi has granted us exclusive worldwide rights to tuspetinib for all indications. We are now the exclusive licensee of composition of matter and use patents covering tuspetinib, and tuspetinib analogs. We believe that we now own rights to a strong and defensive intellectual property position.

As of January 25, 2024, we own rights in 43 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.

Luxeptinib (CG-806)

In May 2018 and June 2018, we licensed the Rights to CG-806, for all fields of use, in all territories outside of the Republic of Korea and China, by exercising an option we obtained through a June 2016 option-license agreement with 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 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 January 25, 2024, we owned rights to 49 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.

Environmental Protection

Our research and development activities involve the controlled use of hazardous and radioactive materials and, accordingly, the Company is subject to federal, provincial and local laws and regulations in the United States and Canada governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. To the knowledge of the Company, compliance with such environmental laws and regulations does not and will not have any significant impact on its capital spending, profits or competitive position within the normal course of its operating activities. There can be no assurance, however, that the Company will not be required to incur significant costs to comply with environmental laws and regulations in the future or that its operations, business or assets will not be materially adversely affected by current or future environmental laws or regulations.

Employees

As of January 25, 2024, we employed 35 full-time persons and one part-time person in research and drug development and administration activities. Eleven of our employees hold Ph.D.s, two hold M.D.s, and numerous others hold degrees and designations such as M.Sc., B.Sc., C.P.A., C.M.A., M.Acc. and M.B.A. To encourage a focus on achieving long-term performance, employees and members of our board of directors have the ability to acquire an ownership interest in the us through our share option and alternate compensation plans.

Our business requires personnel with specialized skills and knowledge in oncology. Researchers must be able to design and implement studies to assess the efficacy of anticancer drugs. Specialized knowledge and skills relating to chemistry and formulation process development are also needed. Such knowledge and skills are needed to develop product specific analytical methods and formulation processes. Our business also requires clinical and regulatory expertise and knowledge. The Company has trained scientists and personnel with broad experience in these fields.

None of our employees are unionized, and we consider our relations with our employees to be good.

Government Regulation

Overview

Our overall regulatory strategy is to work with the appropriate government departments which regulate the use and sale of therapeutic drug products. This includes the FDA in the United States, Health Canada in Canada, the European Medicines Agency ("EMA") in Europe, and other local regulatory agencies with oversight of preclinical studies, clinical trials and marketing of therapeutic products. Where possible, we intend to take advantage of opportunities for accelerated development of drugs designed to treat rare and serious or life-threatening diseases. We also intend to pursue priority evaluation of any application for marketing approval filed in Canada, the United States or the European Union and to file additional drug applications in other markets where commercial opportunities exist. We may not be able to pursue these opportunities successfully.

Regulation(s) by government authorities in the United States, Canada, and the European Union are significant factors in guiding our current research and drug development activities. To clinically test, manufacture and market drug products for therapeutic use, we must be in compliance with guidance and regulations established by the regulatory agencies in the countries in which we currently operate or intend to operate.

The laws of most of these countries require the licensing of manufacturing facilities, carefully controlled research and the extensive testing of products. Biotechnology companies must establish the safety and efficacy of their new products in clinical trials; they must establish and comply with cGMPs for the manufacturing of the product and control over marketing activities before being allowed to market a product. The safety and efficacy of a new drug must be shown through human clinical trials of the drug carried out in accordance with the guidance and regulations established by local and federal regulatory agencies.

The process of completing clinical trials and obtaining regulatory approval for a new drug takes a number of years and requires the expenditure of substantial resources. Once a new drug or product license application is submitted, regulatory agencies may not review the application in a timely manner and may not approve the product. Even after a New Drug Application ("NDA") submission has occurred and/or approval has been obtained, further studies, including post-marketing studies, may be required to provide additional data on the efficacy and safety necessary to confirm the approved indication or to gain approval for the use of the new drug as a treatment for clinical indications other than those for which the new drug was initially tested. Also, regulatory agencies require post-marketing surveillance programs to monitor a new drug's side effects, safety and long-term effects of the product. A serious safety or effectiveness problem involving an approved new drug may result in a regulatory agency mandating a withdrawal of the new drug from the market and possible civil action. It is possible that we could encounter such difficulties or excessive costs in our efforts to secure necessary approvals, which could delay or prevent us from manufacturing or marketing our products.

In addition to the regulatory product approval framework, biotechnology companies, including Aptose, are subject to regulation under local, provincial, state and federal law, including requirements regarding occupational safety, laboratory practices, environmental protection and hazardous substance control, and may be subject to other present and future local, provincial, state, federal and foreign regulation, including possible future regulation of the biotechnology industry.

Approval of New Drugs in Canada

In Canada, the manufacture and sale of new drugs are controlled by Health Canada. New drugs must pass through a number of testing stages, including pre-clinical testing and human clinical trials. Pre-clinical testing involves testing the new drug's chemistry, pharmacology and toxicology *in vitro* and *in vivo*. Successful results (that is, potentially valuable pharmacological activity combined with an acceptable low level of toxicity) enable the developer of the new drug to file a clinical trial application to begin clinical trials involving humans.

To study a drug in Canadian patients, a clinical trial application submission must be filed with Health Canada. The clinical trial application submission must contain specified information, including the results of the pre-clinical tests completed at the time of the submission and any available information regarding use of the drug in humans. In addition, since the method of manufacture may affect the efficacy and safety of a new drug, information on manufacturing methods and standards and the stability of the drug substance and dosage form must be presented. Production methods and quality control procedures must be in place to ensure an acceptably pure product, essentially free of contamination, and to ensure uniformity with respect to all quality aspects.

In addition, all federally regulated trials must be approved and monitored by an independent committee of doctors, scientists, advocates and others to ensure safety and ethical standards, Institutional Review Boards ("IRBs") or Ethics Review Boards ("ERBs"). The review boards study and approve all study-related documents before a clinical trial begins and also carefully monitor data to detect benefit or harm, and validity of results.

Provided Health Canada does not reject a clinical trial application submission and IRB or ERB approval has been obtained, clinical trials can begin. Clinical trials for product candidates in Canada, as in the United States, are generally carried out in three phases. Phase 1 involves studies to evaluate toxicity and ideal dose levels in healthy humans. The new drug is administered to human patients who have met the clinical trial entry criteria to determine pharmacokinetics, human tolerance and prevalence of any adverse side effects. Phases 2 and 3 involve therapeutic studies. In Phase 2, efficacy, dosage, side effects and safety are established in a small number of patients who have the disease or disorder that the new drug is intended to treat. In Phase 3, there are controlled clinical trials in which the new drug is administered to a large number of patients who are likely to receive benefit from the new drug. In Phase 3, the effectiveness of the new drug in patients is compared to that of standard accepted methods of treatment in order to provide sufficient data for the statistical proof of safety and efficacy for the new drug.

If clinical studies establish that a new drug has value, the manufacturer submits a new drug submission application to Health Canada for marketing approval. The new drug submission contains all known information known about the new drug, including the results of pre-clinical testing and clinical trials. Information about a substance contained in new drug submission includes its proper name, its chemical name, and details on its method of manufacturing and purification, and its biological, pharmacological and toxicological properties. The new drug submission also provides information about the dosage form of the new drug, including a quantitative listing of all ingredients used in its formulation, its method of manufacture, manufacturing facility information, packaging and labeling, the results of stability tests, and its diagnostic or therapeutic claims and side effects, as well as details of the clinical trials to support the safety and efficacy of the new drug. Furthermore, for biological products, an on-site evaluation is completed to assess the production process and manufacturing facility. It is required prior to the issuance of a notice of compliance. All aspects of the new drug submission are critically reviewed by Health Canada. If a new drug submission is found satisfactory, a notice of compliance is issued permitting the new drug to be sold for the approved use. In Canada, an establishment license must be obtained prior to marketing the product.

Health Canada has a policy of priority evaluation of new drug submissions for all drugs intended for serious or life-threatening diseases for which no drug product has received regulatory approval in Canada and for which there is reasonable scientific evidence to indicate that the proposed new drug is safe and may provide effective treatment.

An exception to the foregoing requirements relating to the manufacture and sale of a new drug is the limited authorization that may be available in respect of the sale of new drugs for emergency treatment. Under the special access program, Health Canada may authorize the sale of a quantity of a new drug for human use to a specific practitioner for the emergency treatment of a patient under the practitioner's care. Prior to authorization, the practitioner must supply Health Canada with information concerning the medical emergency for which the new drug is required, such data as is in the possession of the practitioner with respect to the use, safety and efficacy of the new drug, the names of the institutions at which the new drug is to be used and such other information as may be requested by Health Canada. In addition, the practitioner must agree to report to both the drug manufacturer and Health Canada the results of the new drug's use in the medical emergency, including information concerning adverse reactions, and must account to Health Canada for all quantities of the new drug made available.

The Canadian regulatory approval requirements for new drugs outlined above are similar to those of other major pharmaceutical markets. While the testing carried out in Canada is often acceptable for the purposes of regulatory submissions in other countries, individual regulatory authorities may request supplementary testing during their assessment of any submission. Therefore, the clinical testing conducted under Health Canada authorization or the approval of regulatory authorities of other countries may not be accepted by regulatory authorities outside Canada or other countries.

Approval of New Drugs in the United States

In the United States, the FDA controls and investigates the investigation, manufacturing, and sale of new drugs. New drugs require FDA approval of an NDA prior to commercial sale. In the case of certain biological products, a Biological License Application ("BLA") must be obtained prior to marketing and batch releasing. As in Canada, to obtain marketing approval, data from adequate and well-controlled human clinical trials, demonstrating to the FDA's satisfaction a new drug's safety and effectiveness for its intended use, are required. Data are generated in studies conducted pursuant to an investigational new drug ("IND") submission, similar to that required for a clinical trial application in Canada. Clinical trials with human subjects are characterized as Phase 1, Phase 2 and Phase 3 trials or a combination thereof. In a marketing application, the manufacturer must also demonstrate the identity, potency, quality and purity of the active ingredients of the new drug involved, and the stability of those ingredients. Further, the manufacturing facilities, equipment, processes and quality controls for the new drug must comply with the FDA's current cGMP regulations for drugs both in a pre-licensing inspection before product licensing and in subsequent periodic inspections after licensing. An establishment license grants the sponsor permission to fabricate, package, label, distribute, import, wholesale or test the newly approved drug.

Federally regulated trials must be approved and monitored by an independent committee of doctors, scientists, advocates, and others to ensure safety and ethical standards, IRBs or ERBs. The review boards study and approve all study-related documents before a clinical trial begins and also carefully monitor data to detect benefit or harm, and validity of results.

Post-Approval Regulation

The monitoring of a new drug does not cease once it is on the market. For example, a manufacturer of a new drug must report any new information received concerning serious side effects, as well as the failure of the new drug to produce desired effects. If Health Canada determines it to be in the interest of public health, a notice of compliance for a new drug may be suspended and the new drug may be removed from the market.

A post surveillance program involves clinical trials conducted after a drug is marketed (referred to as Phase 4 studies in the United States) and is an important source of information on as yet undetected adverse outcomes, especially in populations that may not have been involved in the premarketing trials (e.g., children, the elderly, pregnant women) and the drug's long-term morbidity and mortality profile. Regulatory authorities may require companies to conduct Phase 4 studies as a condition of market approval. Companies often conduct post-marketing studies in the absence of a regulatory mandate.

The foregoing description is a summary of the requirements for a new drug to be approved for marketing in North America. The EMA and Japanese Pharmaceuticals and Medical Devices Agency are also important regulatory authorities in drug development. Together with the FDA, they are the three International Conference on Harmonization parties which oversee the three largest markets for drug sales.

Corporate Information

We are a publicly traded company governed by the CBCA. Our headquarters are located at 251 Consumers Road, Suite 1105 Toronto, Ontario, Canada M2J 4R3 (telephone: 647-479-9828), and our executive offices are located at 12770 High Bluff Drive, Suite 120, San Diego, CA 92130 (telephone: 858-926-2730).

We file annual, quarterly, current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site that contains our public filings and other information regarding the Company, at www.sec.gov. We make these reports available free of charge at our website http://www.aptose.com (under the "Investors — Financial Information" caption).

We are also a reporting issuer under the securities laws of every province of Canada.

Properties

We lease 7,556 square feet of office space in San Diego, California and 2,078 square feet of office space in Toronto, Canada. The lease for the San Diego office space was scheduled to expire on March 31, 2023. On November 4, 2022, this lease was extended through May 31, 2026, with a possible extension for an additional three years. We previously leased 2,618 square feet of laboratory space in San Diego. We exited this laboratory space prior to the expiration of the lease on February 28, 2023. The costs of exit and disposition were not material. The lease for the Toronto office space was scheduled to expire on June 30, 2023. This lease was extended for one year on February 23, 2023, with this extension expiring June 30, 2024. We believe that our facilities are sufficient to meet our needs and that suitable additional space will be available as and when needed.

Legal Proceedings

We know of no material pending legal proceedings to which our company or subsidiaries is a party or of which any of our properties, or the properties of our subsidiaries, is the subject. However, from time to time, we may be subject to various pending or threatened legal actions and proceedings, including those that arise in the ordinary course of our business. Such matters are subject to many uncertainties and to outcomes that are not predictable with assurance and that may not be known for extended periods of time.

Holders

As of January 25, 2024, there were approximately 38 shareholders of record of our Common Shares, which included Cede & Co., a nominee for Depository Trust Company, or DTC, and CDS & Co., a nominee for The Canadian Depository for Securities Ltd., or CDS. Common shares that are held by financial institutions as nominees for beneficial owners are deposited into participant accounts at either DTC or CDS, and are considered to be held of record by Cede & Co. or CDS & Co., each as one shareholder.

PRINCIPAL HOLDERS

The table below sets forth information known to us regarding the beneficial ownership of our Shares as of January 25, 2024 for:

- each person the Corporation believes beneficially holds more than 5% of our outstanding Shares based solely on our review of SEC filings and our listing of registered shareholders as at January 25, 2024;
- each of our directors and nominees for directors;
- each of the named executive officers named in the Summary Compensation Table (we collectively refer to these persons as our "Named Executive Officers"); and
- all of our directors and executive officers as a group.

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The number of Shares beneficially owned by a person includes shares subject to options held by that person that are currently exercisable or that become exercisable within 60 days of January 25, 2024. Percentage calculations assume, for each person and group, that all Shares that may be acquired by such person or group pursuant to options currently exercisable or that become exercisable within 60 days of January 25, 2024 are outstanding for the purpose of computing the percentage of Shares owned by such person or group. However, such unissued Shares described above are not deemed to be outstanding for calculating the percentage of Shares owned by any other person.

Except as otherwise indicated, the persons in the table below have sole voting and investment power with respect to all Shares shown as beneficially owned by them, subject to community property laws where applicable and subject to the information contained in the notes to the table.

Name of Beneficial Owner	Amount and Nature of Beneficial Ownership[1]	Percent of Class
Named Executive Officers and Directors		
Carol G. Ashe	21,163	*
Dr. Rafael Bejar	123,053	1.55%
Dr. Denis Burger	34,593	*
Philippe Ledru	33,366	*
Fletcher Payne	47,332	*
Dr. Erich Platzer	64,161	*
Dr. William G. Rice	362,120	4.56%
Dr. Bernd R. Seizinger	21,999	*
Mark D. Vincent	33,160	*
Warren Whitehead	30,828	*
All Executive Officers and Directors as a Group (10 persons)	771,775	9.74%
Beneficial Owners of More Than 5%		
Hanmi Pharmaceutical Co., Ltd.[2]	884,152	11.13%

* Does not exceed one percent of Shares outstanding

(1) Includes for the persons listed below the following Shares subject to options held by such persons that are currently exercisable or become exercisable within 60 days of January 25, 2024:
Ms. Carol G. Ashe: 21,163; Dr. Rafael Bejar: 115,720; Dr. Denis Burger: 33,149; Mr. Philippe Ledru: 26,666; Mr. Fletcher Payne: 40,000; Dr. Erich Platzer: 30,495; Dr. William G. Rice: 327,904; Dr. Bernd R. Seizinger: 4,999; Dr. Mark Vincent: 32,727; and Mr. Warren Whitehead: 29,828.

(2) Based our listing of registered shareholders as at January 25, 2024.

INTEREST OF RELATED PERSONS IN TRANSACTIONS

For the last two completed fiscal years, no director, proposed director, executive officer, or immediate family member of a director, proposed director or executive officer nor, to the knowledge of our directors or executive officers, after having made reasonable inquiry, any person or company who beneficially owns, directly or indirectly, Shares carrying more than 5% of the voting rights attached to all Shares outstanding at the date hereof, or any immediate family member thereof, had any material interest, direct or indirect, in any transaction or proposed transaction of the Corporation which involves an amount exceeding the lesser of $120,000 or one percent of the average of the Corporation's total assets at year-end for the last two completed fiscal years.

CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a general summary of certain material U.S. federal income tax considerations applicable to a U.S. Holder (as defined below) arising from and relating to the acquisition, ownership and disposition of Offered Shares and Warrants (one Offered Share and one Warrant acquired together pursuant to this offering is referred to in this summary as a "Offered Share Unit"), the acquisition, ownership, and disposition of Offered Shares acquired as part of the Offered Share Units, the exercise, disposition, and lapse of Warrants acquired as part of the Offered Share Units, the acquisition, ownership, and the acquisition, ownership and disposition of Offered Shares received upon exercise of the Warrants (as used in this summary, the "Warrant Shares"), all as acquired pursuant to this offering. This summary is for general information purposes only and does not purport to be a complete analysis or listing of all potential U.S. federal income tax considerations that may apply to a U.S. Holder arising from or relating to the acquisition, ownership and disposition of Offered Share Units acquired pursuant to this offering. In addition, this summary does not take into account the individual facts and circumstances of any particular U.S. Holder that may affect the U.S. federal income tax consequences to such U.S. Holder, including, without limitation, specific tax consequences to a U.S. Holder under an applicable income tax treaty. Accordingly, this summary is not intended to be, and should not be construed as, legal or U.S. federal income tax advice with respect to any particular U.S. Holder. This summary does not address the U.S. federal alternative minimum, U.S. federal net investment income, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences to U.S. Holders of the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares. In addition, except as specifically set forth below, this summary does not discuss applicable income tax reporting requirements. Each prospective U.S. Holder should consult its own tax advisors regarding the U.S. federal income, U.S. federal alternative minimum, U.S. federal net investment income, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences relating to the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares.

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

Scope of this Summary

Authorities

This summary is based on the U.S. Internal Revenue Code of 1986, as amended (the "Code"), Treasury Regulations (whether final, temporary, or proposed) promulgated thereunder, published rulings of the IRS, published administrative positions of the IRS, the current provisions of the Convention Between Canada and the United States of America with respect to Taxes on Income and on Capital of 1980, as amended (the "Canada-U.S. Tax Treaty"), and U.S. court decisions that are applicable, and, in each case, as in effect and available, as of the date of this document. Any of the authorities on which this summary is based could be changed in a material and adverse manner at any time, and any such change could be applied on a retroactive or prospective basis, which could affect the U.S. federal income tax considerations described in this summary. Except as provided herein, this summary does not discuss the potential effects, whether adverse or beneficial, of any proposed legislation that, if enacted, could be applied on a retroactive or prospective basis.

U.S. Holders

For purposes of this summary, the term "U.S. Holder" means a beneficial owner of Offered Share Units, Offered Shares, Warrants or Warrant Shares as acquired pursuant to this offering, that is for U.S. federal income tax purposes:

- An individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate whose income is subject to U.S. federal income taxation regardless of its source; or
- a trust that (1) is subject to the primary supervision of a court within the U.S. and the control of one or more U.S. persons for all substantial decisions or (2) has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

Non-U.S. Holders

For purposes of this summary, a "non-U.S. Holder" is a beneficial owner of Offered Share Units, Offered Shares, Warrants or Warrant Shares that is not a U.S. Holder or an entity or arrangement classified as a partnership for U.S. federal income tax purposes. This summary does not address the U.S. federal, state or local tax consequences to non-U.S. Holders arising from or relating to the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares. Accordingly, a non-U.S. Holder should consult its own tax advisors regarding the U.S. federal, state or local and non-U.S. tax consequences (including the potential application of and operation of any income tax treaties) relating to the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares.

U.S. Holders Subject to Special U.S. Federal Income Tax Rules Not Addressed

This summary does not address the U.S. federal income tax considerations applicable to U.S. Holders that are subject to special provisions under the Code, including, but not limited to U.S. Holders that: (a) are tax-exempt organizations, qualified retirement plans, individual retirement accounts, or other tax-deferred accounts; (b) are financial institutions, underwriters, insurance companies, real estate investment trusts, or regulated investment companies; (c) are broker-dealers, dealers, or traders in securities or currencies that elect to apply a mark-to-market accounting method; (d) have a "functional currency" other than the U.S. dollar; (e) own Offered Share Units, Offered Shares, Warrants and Warrant Shares as part of a straddle, hedging transaction, conversion transaction, constructive sale, or other integrated transaction; (f) acquire Offered Share Units, Offered Shares, Warrants and Warrant Shares in connection with the exercise of employee stock options or otherwise as compensation for services; (g) hold Offered Share Units, Offered Shares, Warrants and Warrant Shares other than as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment purposes); (h) are subject to the alternative minimum tax; (i) are subject to special tax accounting rules with respect to the Offered Share Units, Offered Shares, Warrants and Warrant Shares; (j) are partnerships or other "pass-through" entities (and partners or other owners thereof); (k) are S corporations (and shareholders thereof); (l) are U.S. expatriates or former long-term residents of the United States subject to Section 877 or 877A of the Code; (m) hold Offered Share Units, Offered Shares, Warrants and Warrant Shares in connection with a trade or business, permanent establishment, or fixed base outside the United States; or (n) own or have owned or will own (directly, indirectly, or by attribution) 10% or more of the total combined voting power or value of our outstanding shares. U.S. Holders that are subject to special provisions under the Code, including, but not limited to, U.S. Holders described immediately above, should consult their own tax advisors regarding the U.S. federal income, U.S. federal alternative minimum, U.S. federal net investment income, U.S. federal estate and gift, U.S. state and local, and non-U.S. tax consequences relating to the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares.

If an entity or arrangement that is classified as a partnership (or other "pass-through" entity) for U.S. federal income tax purposes holds Offered Share Units, Offered Shares, Warrants and Warrant Shares, the U.S. federal income tax consequences to such entity or arrangement and the partners (or other owners or participants) of such entity or arrangement generally will depend on the activities of the entity or arrangement and the status of such partners (or owners or participants). This summary does not address the tax consequences to any such partner (or owner or participant). Partners (or other owners or participants) of entities or arrangements that are classified as partnerships or as "pass-through" entities for U.S. federal income tax purposes should consult their own tax advisors regarding the U.S. federal income tax consequences arising from and relating to the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares.

U.S. Federal Income Tax Consequences of the Acquisition of Offered Share Units

For U.S. federal income tax purposes, the acquisition by a U.S. Holder of an Offered Share Unit will be treated as the acquisition of one Offered Share and one Warrant. The purchase price for each Offered Share Unit will be allocated between these two components in proportion to their relative fair market values at the time the Offered Share Unit is purchased by the U.S. Holder. This allocation of the purchase price for each Offered Share Unit will establish a U.S. Holder's initial tax basis for U.S. federal income tax purposes in the Offered Share and one Warrant that comprise each Offered Share Unit.

For this purpose, we will allocate US$1.70 of the purchase price for the Offered Share Unit to the Offered Share and US$0.01 of the purchase price for each Offered Share Unit to the Warrant. However, the IRS will not be bound by such allocation of the purchase price for the Offered Share Units, and therefore, the IRS or a U.S. court may not respect the allocation set forth above. Each U.S. Holder should consult its own tax advisor regarding.

Passive Foreign Investment Company Rules

If we were to constitute a "passive foreign investment company" or "PFIC" for any year during a U.S. Holder's holding period, then certain potentially adverse rules would affect the U.S. federal income tax consequences to a U.S. Holder resulting from the acquisition, ownership and disposition of Offered Share Units, Offered Shares, Warrants and Warrant Shares. We believe we were a "passive foreign investment company" (a "PFIC") within the meaning of Section 1297 of the Code for our most recently completed taxable year and based on the nature of our business, the projected composition of our gross income and the projected composition and estimated fair market values of our assets, we expect to be a PFIC for our current taxable year and may be a PFIC in subsequent tax years. No opinion of legal counsel or ruling from the IRS concerning our status as a PFIC has been obtained or is currently planned to be requested. The determination of whether any corporation was, or will be, a PFIC for a tax year depends, in part, on the application of complex U.S. federal income tax rules, which are subject to differing interpretations. In addition, whether any corporation will be a PFIC for any tax year depends on the assets and income of such corporation over the course of each such tax year and, as a result, cannot be predicted with certainty as of the date of this document. Accordingly, there can be no assurance that the IRS will not challenge any determination made by us (or any of our non-U.S. subsidiaries) concerning our (or its) PFIC status. Each U.S. Holder should consult its own tax advisors regarding our PFIC status of the PFIC status of each of our non-U.S. subsidiaries.

In any year in which we are classified as a PFIC, a U.S. Holder will be required to file an annual report with the IRS containing such information as Treasury Regulations and/or other IRS guidance may require. In addition to penalties, a failure to satisfy such reporting requirements may result in an extension of the time period during which the IRS can assess a tax. U.S. Holders should consult their own tax advisors regarding the requirements of filing such information returns under these rules, including the requirement to file an IRS Form 8621 annually.

We generally will be a PFIC if, for a tax year, (a) 75% or more of our gross income in such tax year is passive income (the "PFIC income test") or (b) 50% or more of the value of our assets either produce passive income or are held for the production of passive income, based on the quarterly average of the fair market value of such assets (the "PFIC asset test"). "Gross income" generally includes all sales revenues less the cost of goods sold, plus income from investments and from incidental or outside operations or sources, and "passive income" generally includes, for example, dividends, interest, certain rents and royalties, certain gains from the sale of stock and securities, and certain gains from commodities transactions. Active business gains arising from the sale of commodities generally are excluded from passive income if substantially all of a foreign corporation's commodities are stock in trade or inventory, depreciable property used in a trade or business, or supplies regularly used or consumed in the ordinary course of its trade or business, and certain other requirements are satisfied.

For purposes of the PFIC income test and PFIC asset test described above, if we own, directly or indirectly, 25% or more of the total value of the outstanding shares of another corporation, we will be treated as if we (a) held a proportionate share of the assets of such other corporation and (b) received directly a proportionate share of the income of such other corporation. In addition, for purposes of the PFIC income test and PFIC asset test described above, and assuming certain other requirements are met, "passive income" does not include certain interest, dividends, rents, or royalties that are received or accrued by us from certain "related persons" (as defined in Section 954(d)(3) of the Code) also organized in Canada, to the extent such items are properly allocable to the income of such related person that is not passive income.

Under certain attribution rules, if we are a PFIC, U.S. Holders will generally be deemed to own their proportionate share of our direct or indirect equity interest in any company that is also a PFIC (a "Subsidiary PFIC"), and will generally be subject to U.S. federal income tax as described below under "*Default PFIC Rules Under Section 1291 of the Code*" on their proportionate share of (a) any "excess distributions," as described below, on the stock of a Subsidiary PFIC and (b) a disposition or deemed disposition of the stock of a Subsidiary PFIC by us or another

Subsidiary PFIC, both as if such U.S. Holders directly held the shares of such Subsidiary PFIC. In addition, U.S. Holders may be subject to U.S. federal income tax on any indirect gain realized on the stock of a Subsidiary PFIC on the sale or disposition of Offered Share Units, Offered Shares, Warrants or Warrant Shares. Accordingly, U.S. Holders should be aware that they could be subject to tax under the PFIC rules even if no distributions are received and no redemptions or other dispositions of Offered Share Units, Offered Shares, Warrants or Warrant Shares are made.

Default PFIC Rules Under Section 1291 of the Code

If we are a PFIC for any tax year during which a U.S. Holder owns Offered Share Units, Offered Shares, Warrants or Warrant Shares, the U.S. federal income tax consequences to such U.S. Holder of the acquisition, ownership, and disposition of Offered Share Units, Offered Shares, Warrants or Warrant Shares will depend on whether such U.S. Holder makes a "qualified electing fund" or "QEF" election (a "QEF Election") with respect to the Offered Shares, or Warrant Shares or makes a mark-to-market election under Section 1296 of the Code (a"Mark-to-Market Election") with respect to Offered Shares or Warrant Shares. A U.S. Holder that does not make either a QEF Election or a Mark-to-Market Election (a "Non-Electing U.S. Holder") will be taxable as described below.

A Non-Electing U.S. Holder will be subject to the rules of Section 1291 of the Code (described below) with respect to: (a) any gain recognized on the sale or other taxable disposition of Offered Shares, Warrants and Warrant Shares; and (b) any "excess distribution" received on the Offered Shares, Warrants and Warrant Shares. A distribution generally will be an "excess distribution" to the extent that such distribution (together with all other distributions received in the current tax year) exceeds 125% of the average distributions received during the three preceding tax years (or during a U.S. Holder's holding period for the Offered Shares, or Warrant Shares, if shorter).

Under Section 1291 of the Code, any gain recognized on the sale or other taxable disposition of Offered Shares and Warrant Shares of a PFIC (including an indirect disposition of the stock of any Subsidiary PFIC), and any "excess distribution" received on Offered Shares and Warrant Shares or a distribution by a Subsidiary PFIC to its shareholder that is deemed to be received by a U.S. Holder (including a constructive distribution on the Warrants), must be ratably allocated to each day in a Non-Electing U.S. Holder's holding period for the respective Offered Shares, Warrants and Warrant Shares. The amount of any such gain or excess distribution allocated to the tax year of disposition or distribution of the excess distribution and to years before the entity became a PFIC, if any, would be taxed as ordinary income (and not eligible for certain preferential tax rates, as discussed below). The amounts allocated to any other tax year would be subject to U.S. federal income tax at the highest tax rate applicable to ordinary income in each such year, and an interest charge would be imposed on the tax liability for each such year, calculated as if such tax liability had been due in each such year. A Non-Electing U.S. Holder that is not a corporation must treat any such interest paid as "personal interest," which is not deductible.

If we are a PFIC for any tax year during which aNon-Electing U.S. Holder holds Offered Shares, Warrants or Warrant Shares, we will continue to be treated as a PFIC with respect to such Non-Electing U.S. Holder, regardless of whether we cease to be a PFIC in one or more subsequent tax years. If we cease to be a PFIC, a Non-Electing U.S. Holder may terminate this deemed PFIC status with respect to Offered Shares and Warrant Shares by electing to recognize gain (which will be taxed under the rules of Section 1291 of the Code discussed above), but not loss, as if such Offered Shares and Warrant Shares were sold on the last day of the last tax year for which we were a PFIC. No such election, however, may be made with respect to the Warrants

Under proposed Treasury Regulations, if a U.S. Holder has an option, warrant, or other right to acquire stock of a PFIC (such as the Warrants), such option, warrant or right is considered to be PFIC stock subject to the default rules of Section 1291 of the Code. Under rules described below, the holding period for the Warrant Shares will begin on the date a U.S. Holder acquires the Offered Share Units. This will impact the availability of the QEF Election and Mark-to-Market Election with respect to the Warrant Shares. Thus, a U.S. Holder will have to account for Warrant Shares and Offered Shares under the PFIC rules and the applicable elections differently.

QEF Election

A U.S. Holder that makes a timely and effective QEF Election for the first tax year in which the holding period of its Offered Shares generally will not be subject to the rules of Section 1291 of the Code discussed above with respect to its Offered Shares. However, a U.S. Holder that makes a timely and effective QEF Election will be subject to U.S. federal income tax on such U.S. Holder's pro rata share of (a) our net capital gain, which will be taxed as long-term capital gain to such U.S. Holder, and (b) our ordinary earnings, which will be taxed as ordinary income to such U.S. Holder. Generally, "net capital gain" is the excess of (a) net long-term capital gain over (b) net short-term capital loss, and "ordinary earnings" are the excess of (a) "earnings and profits" over (b) net capital gain. A U.S. Holder that makes a QEF Election will be subject to U.S. federal income tax on such amounts for each tax year in which we are a PFIC, regardless of whether such amounts are actually distributed to such U.S. Holder by us. However, for any tax year in which we are a PFIC and have no net income or gain, U.S. Holders that have made a QEF Election would not have any income inclusions as a result of the QEF Election. If a U.S. Holder that made a QEF Election has an income inclusion, such a U.S. Holder may, subject to certain limitations, elect to defer payment of current U.S. federal income tax on such amounts, subject to an interest charge. If such U.S. Holder is not a corporation, any such interest paid will be treated as "personal interest," which is not deductible.

A U.S. Holder that makes a timely and effective QEF Election with respect to us generally (a) may receive a tax-free distribution from us to the extent that such distribution represents our "earnings and profits" that were previously included in income by the U.S. Holder because of such QEF Election and (b) will adjust such U.S. Holder's tax basis in the Offered Shares to reflect the amount included in income or allowed as a tax-free distribution because of such QEF Election. In addition, a U.S. Holder that makes a QEF Election generally will recognize capital gain or loss on the sale or other taxable disposition of Offered Shares.

The procedure for making a QEF Election, and the U.S. federal income tax consequences of making a QEF Election, will depend on whether such QEF Election is timely. A QEF Election will be treated as "timely" for purposes of avoiding the default PFIC rules discussed above if such QEF Election is made for the first year in the U.S. Holder's holding period for the Offered Shares in which we are a PFIC. A U.S. Holder may make a timely QEF Election by filing the appropriate QEF Election documents at the time such U.S. Holder files a U.S. federal income tax return for such year.

A QEF Election will apply to the tax year for which such QEF Election is timely made and to all subsequent tax years, unless such QEF Election is invalidated or terminated or the IRS consents to revocation of such QEF Election. If a U.S. Holder makes a QEF Election and, in a subsequent tax year, we cease to be a PFIC, the QEF Election will remain in effect (although it will not be applicable) during those tax years in which we are not a PFIC. Accordingly, if we become a PFIC in another subsequent tax year, the QEF Election will be effective and the U.S. Holder will be subject to the QEF rules described above during any subsequent tax year in which we qualify as a PFIC.

As discussed above, under proposed Treasury Regulations, if a U.S. Holder has an option, warrant or other right to acquire stock of a PFIC (such as the Warrants), such option, warrant or right is considered to be PFIC stock subject to the default rules of Section 1291 of the Code. However, a U.S. Holder of an option, warrant or other right to acquire stock of a PFIC may not make a QEF Election that will apply to the option, warrant or other right to acquire PFIC stock. In addition, under proposed Treasury Regulations, if a U.S. Holder holds an option, warrant or other right to acquire stock of a PFIC, the holding period with respect to shares of stock of the PFIC acquired upon exercise of such option, warrant or other right will include the period that the option, warrant or other right was held.

Consequently, under the proposed Treasury Regulations, if a U.S. Holder of Offered Shares makes a QEF Election, such election generally will not be treated as a timely QEF Election with respect to Warrant Shares and the rules of Section 1291 of the Code discussed above will continue to apply with respect to such U.S. Holder's Warrant Shares. However, a U.S. Holder of Warrant Shares should be eligible to make a timely QEF Election if such U.S. Holder makes a "purging" or "deemed sale" election to recognize gain (which will be taxed under the default rules of Section 1291 of the Code discussed above) as if such Warrant Shares were sold for fair market value. As a result of the "purging" or "deemed sale" election, the U.S. Holder will have a new basis and holding period in the Warrant

Shares acquired upon the exercise of the Warrants for purposes of the PFIC rules. In addition, gain recognized on the sale or other taxable disposition (other than by exercise) of the Warrants by a U.S. Holder will be subject to the rules of Section 1291 of the Code discussed above. Each U.S. Holder should consult its own tax advisor regarding the application of the PFIC rules to the Offered Share Purchase Units, Offered Shares, Warrants, and Warrant Shares.

U.S. Holders should be aware that there can be no assurances that we will satisfy the record keeping requirements that apply to a QEF, or that we will supply U.S. Holders with information that such U.S. Holders are required to report under the QEF rules, in the event that we are a PFIC. Thus, U.S. Holders may not be able to make a QEF Election with respect to their Offered Share or Warrant Shares. Each U.S. Holder should consult its own tax advisors regarding the availability of, and procedure for making, a QEF Election with respect to us and any Subsidiary PFIC.

A U.S. Holder makes a QEF Election by attaching a completed IRS Form 8621, including a PFIC Annual Information Statement, to a timely filed United States federal income tax return. However, if we do not provide the required information with regard to us or any of our Subsidiary PFICs, U.S. Holders will not be able to make a QEF Election for such entity and will continue to be subject to the rules of Section 1291 of the Code discussed above that apply to Non-Electing U.S. Holders with respect to the taxation of gains and excess distributions.

Mark-to-Market Election

A U.S. Holder may make aMark-to-Market Election with respect to Offered Shares and Warrant Shares only if the Offered Shares and Warrant Shares are marketable stock. The Offered Shares and Warrant Shares generally will be “marketable stock” if the Offered Shares and Warrant Shares are regularly traded on (a) a national securities exchange that is registered with the SEC, (b) the national market system established pursuant to section 11A of the Exchange Act, or (c) a foreign securities exchange that is regulated or supervised by a governmental authority of the country in which the market is located, provided that (i) such foreign exchange has trading volume, listing, financial disclosure, and surveillance requirements, and meets other requirements and the laws of the country in which such foreign exchange is located, together with the rules of such foreign exchange, ensure that such requirements are actually enforced and (ii) the rules of such foreign exchange effectively promote active trading of listed stocks. If such stock is traded on such a qualified exchange or other market, such stock generally will be “regularly traded” for any calendar year during which such stock is traded, other than in de minimis quantities, on at least 15 days during each calendar quarter. Each U.S. Holder should consult its own tax advisor in this matter.

A U.S. Holder that makes aMark-to-Market Election with respect to its Offered Shares generally will not be subject to the rules of Section 1291 of the Code discussed above with respect to such Offered Shares. However, if a U.S. Holder does not make a Mark-to-Market Election beginning in the first tax year of such U.S. Holder’s holding period for the Offered Shares for which we are a PFIC and such U.S. Holder has not made a timely QEF Election, the rules of Section 1291 of the Code discussed above will apply to certain dispositions of, and distributions on, the Offered Shares.

Any Mark-to-Market Election made by a U.S. Holder for the Offered Shares will also apply to such U.S. Holder’s Warrant Shares. As a result, if a Mark-to-Market Election has been made by a U.S. Holder with respect to Offered Shares, any Warrant Shares received will automatically be marked-to-market in the year of exercise. Because, under the proposed Treasury Regulations, a U.S. Holder’s holding period for Warrant Shares includes the period during which such U.S. Holder held the Warrants, a U.S. Holder will be treated as making a Mark-to-Market Election with respect to its Warrant Shares after the beginning of such U.S. Holder’s holding period for the Warrant Shares unless the Warrant Shares are acquired in the same tax year as the year in which the U.S. Holder acquired its Offered Share Units. Consequently, the default rules under Section 1291 described above generally will apply to the mark-to-market gain realized in the tax year in which Warrant Shares are received upon the exercise of the Warrants. However, the general mark-to-market rules will apply to subsequent tax years.

A U.S. Holder that makes aMark-to-Market Election will include in ordinary income, for each tax year in which we are a PFIC, an amount equal to the excess, if any, of (a) the fair market value of the Offered Shares and any Warrant Shares, as of the close of such tax year over (b) such U.S. Holder's adjusted tax basis in such Offered Shares and any Warrant Shares. A U.S. Holder that makes a Mark-to-Market Election will be allowed a deduction in an amount equal to the excess, if any, of (a) such U.S. Holder's adjusted tax basis in the Offered Shares and any Warrant Shares, over (b) the fair market value of such Offered Shares and any Warrant Shares (but only to the extent of the net amount of previously included income as a result of the Mark-to-Market Election for prior tax years).

A U.S. Holder that makes aMark-to-Market Election generally also will adjust such U.S. Holder's tax basis in the Offered Shares and Warrant Shares to reflect the amount included in gross income or allowed as a deduction because of such Mark-to-Market Election. In addition, upon a sale or other taxable disposition of Offered Shares and Warrant Shares, a U.S. Holder that makes a Mark-to-Market Election will recognize ordinary income or ordinary loss (not to exceed the excess, if any, of (a) the amount included in ordinary income because of such Mark-to-Market Election for prior tax years over (b) the amount allowed as a deduction because of such Mark-to-Market Election for prior tax years). Losses that exceed this limitation are subject to the rules generally applicable to losses provided in the Code and Treasury Regulations.

A U.S. Holder makes a Mark-to-Market Election by attaching a completed IRS Form 8621 to a timely filed United States federal income tax return. A Mark-to-Market Election applies to the tax year in which suchMark-to-Market Election is made and to each subsequent tax year, unless the Offered Shares and Warrant Shares cease to be "marketable stock" or the IRS consents to revocation of such election. Each U.S. Holder should consult its own tax advisors regarding the availability of, and procedure for making, a Mark-to-Market Election.

Although a U.S. Holder may be eligible to make aMark-to-Market Election with respect to the Offered Shares and Warrant Shares, no such election may be made with respect to the stock of any Subsidiary PFIC that a U.S. Holder is treated as owning, because such stock is not marketable. Hence, the Mark-to-Market Election will not be effective to eliminate the interest charge and other income inclusion rules described above with respect to deemed dispositions of Subsidiary PFIC stock or distributions from a Subsidiary PFIC to its shareholder.

Other PFIC Rules

Under Section 1291(f) of the Code, the IRS has issued proposed Treasury Regulations that, subject to certain exceptions, would cause a U.S. Holder that had not made a timely QEF Election to recognize gain (but not loss) upon certain transfers of Offered Shares, Warrants and Warrant Shares that would otherwise be tax-deferred (e.g., gifts and exchanges pursuant to corporate reorganizations). However, the specific U.S. federal income tax consequences to a U.S. Holder may vary based on the manner in which Offered Shares, Warrants, and Warrant Shares are transferred.

If finalized in their current form, the proposed Treasury Regulations applicable to PFICs would be effective for transactions occurring on or after April 1, 1992. Because the proposed Treasury Regulations have not yet been adopted in final form, they are not currently effective, and there is no assurance that they will be adopted in the form and with the effective date proposed. Nevertheless, the IRS has announced that, in the absence of final Treasury Regulations, taxpayers may apply reasonable interpretations of the Code provisions applicable to PFICs and that it considers the rules set forth in the proposed Treasury Regulations to be reasonable interpretations of those Code provisions. The PFIC rules are complex, and the implementation of certain aspects of the PFIC rules requires the issuance of Treasury Regulations which in many instances have not been promulgated and which, when promulgated, may have retroactive effect. U.S. Holders should consult their own tax advisors about the potential applicability of the proposed Treasury Regulations.

Certain additional adverse rules may apply with respect to a U.S. Holder if we are a PFIC, regardless of whether such U.S. Holder makes a QEF Election. For example, under Section 1298(b)(6) of the Code, a U.S. Holder that uses Offered Shares, Warrants or Warrant Shares as security for a loan will, except as may be provided in Treasury Regulations, be treated as having made a taxable disposition of such Offered Shares, Warrants or Warrant Shares.

In addition, a U.S. Holder who acquires Offered Shares, Warrants or Warrant Shares from a decedent will not receive a "step up" in tax basis of such Offered Shares, Warrants or Warrant Shares to fair market value unless such decedent had a timely and effective QEF Election in place.

Special rules also apply to the amount of foreign tax credit that a U.S. Holder may claim on a distribution from a PFIC. Subject to such special rules, foreign taxes paid with respect to any distribution in respect of stock in a PFIC are generally eligible for the foreign tax credit. The rules relating to distributions by a PFIC and their eligibility for the foreign tax credit are complicated, and a U.S. Holder should consult with its own tax advisors regarding the availability of the foreign tax credit with respect to distributions by a PFIC.

The PFIC rules are complex, and each U.S. Holder should consult its own tax advisors regarding the PFIC rules (including the availability and advisability of making a QEF Election or Mark-to-Market Election) and how the PFIC rules may affect the U.S. federal income tax consequences of the acquisition, ownership, and disposition of Offered Shares, Warrants or Warrant Shares.

Certain additional adverse rules may apply with respect to a U.S. Holder if we are a PFIC, regardless of whether the U.S. Holder makes a QEF Election. These rules include special rules that apply to the amount of foreign tax credit that a U.S. Holder may claim on a distribution from a PFIC. Subject to these special rules, foreign taxes paid with respect to any distribution in respect of stock in a PFIC are generally eligible for the foreign tax credit. U.S. Holders are urged to consult their own tax advisors regarding the potential application of the PFIC rules to the ownership and disposition of Offered Shares, Warrants or Warrant Shares and the availability of certain U.S. tax elections under the PFIC rules.

U.S. Federal Income Tax Consequences of the Exercise and Disposition of Warrants

The following discussion describes the general rules applicable to the ownership and disposition of the Warrants but is subject in its entirety to the special rules described above under the heading "*Passive Foreign Investment Company Rules*."

Exercise of Warrants

A U.S. Holder should not recognize gain or loss on the exercise of a Warrant and related receipt of a Warrant Share (unless cash is received in lieu of the issuance of a fractional Warrant Share). A U.S. Holder's initial tax basis in the Warrant Share received on the exercise of a Warrant should be equal to the sum of (a) such U.S. Holder's tax basis in such Warrant plus (b) the exercise price paid by such U.S. Holder on the exercise of such Warrant. It is unclear whether a U.S. Holder's holding period for the Warrant Share received on the exercise of a Warrant would commence on the date of exercise of the Warrant or the day following the date of exercise of the Warrant. If we are a PFIC, a U.S. Holder's holding period for the Warrant Share for PFIC purposes will begin on the date on which such U.S. Holder acquired its Offered Share Units.

In certain limited circumstances, a U.S. Holder may be permitted to undertake a cashless exercise of Warrants into Warrant Shares. The U.S. federal income tax treatment of a cashless exercise of Warrants into Warrant Shares is unclear, and the tax consequences of a cashless exercise could differ from the consequences upon the exercise of a Warrant described in the preceding paragraph. U.S. Holders should consult their own tax advisors regarding the U.S. federal income tax consequences of a cashless exercise of Warrants.

Disposition of Warrants

A U.S. Holder will recognize gain or loss on the sale or other taxable disposition of a Warrant in an amount equal to the difference, if any, between (a) the amount of cash plus the fair market value of any property received and (b) such U.S. Holder's tax basis in the Warrant sold or otherwise disposed of. Subject to the PFIC rules discussed above, any such gain or loss generally will be a capital gain or loss, which will be long-term capital gain or loss if the Warrant is held for more than one year. Deductions for capital losses are subject to complex limitations under the Code.

Expiration of Warrants Without Exercise

Upon the lapse or expiration of a Warrant, a U.S. Holder will recognize a loss in an amount equal to such U.S. Holder's tax basis in the Warrant. Any such loss generally will be a capital loss and will be long-term capital loss if the Warrants are held for more than one year. Deductions for capital losses are subject to complex limitations under the Code.

Certain Adjustments to the Warrants

Under Section 305 of the Code, an adjustment to the number of Warrant Shares that will be issued on the exercise of the Warrants, or an adjustment to the exercise price of the Warrants, may be treated as a constructive distribution to a U.S. Holder of the Warrants if, and to the extent that, such adjustment has the effect of increasing such U.S. Holder's proportionate interest in the "earnings and profits" or our assets, depending on the circumstances of such adjustment (for example, if such adjustment is to compensate for a distribution of cash or other property to the shareholders). Adjustments to the exercise price of Warrants made pursuant to a bona fide reasonable adjustment formula that has the effect of preventing dilution of the interest of the holders of the Warrants should generally not be considered to result in a constructive distribution. Any such constructive distribution would be taxable whether or not there is an actual distribution of cash or other property. (See more detailed discussion of the rules applicable to distributions made by us at "*Distributions on Offered Shares and Warrant Shares*" below).

General Rules Applicable to the Ownership and Disposition of Offered Shares and Warrant Shares

The following discussion is subject, in its entirety, to the rules described above under the heading "*Passive Foreign Investment Company Rules*".

Distributions on Offered Shares and Warrant Shares

A U.S. Holder that receives a distribution, including a constructive distribution, with respect to an Offered Share or Warrant Share (as well as any constructive distribution on a Warrant) will be required to include the amount of such distribution in gross income as a dividend (without reduction for any Canadian income tax withheld from such distribution) to the extent of our current or accumulated "earnings and profits", as computed for U.S. federal income tax purposes. A dividend generally will be taxed to a U.S. Holder at ordinary income tax rates if we are a PFIC for the tax year of such distribution or were a PFIC for the preceding tax year. To the extent that a distribution exceeds our current and accumulated "earnings and profits", such distribution will be treated first as a tax-free return of capital to the extent of a U.S. Holder's tax basis in the Offered Shares or Warrant Shares and thereafter as gain from the sale or exchange of such Offered Shares or Warrant Shares. (See "*Sale or Other Taxable Disposition of Offered Shares and Warrant Shares*" below). However, we do not intend to maintain the calculations of our earnings and profits in accordance with U.S. federal income tax principles, and each U.S. Holder therefore should assume that any distribution by us with respect to Offered Shares or Warrant Shares will constitute ordinary dividend income. Dividends received on Offered Shares or Warrant Shares by corporate U.S. Holders generally will not be eligible for the "dividends received deduction" generally applicable to corporations. Subject to applicable limitations and provided we are eligible for the benefits of the Canada-U.S. Tax Treaty or the Offered Shares are readily tradable on a United States securities market, dividends paid by us to non-corporate U.S. Holders, including individuals, in respect of Offered Shares or Warrant Shares generally will be eligible for the preferential tax rates applicable to long-term capital gains for dividends, provided certain holding period and other conditions are satisfied, including that we not be classified as a PFIC in the tax year of distribution or in the preceding tax year. The dividend rules are complex, and each U.S. Holder should consult its own tax advisors regarding the application of such rules.

Sale or Other Taxable Disposition of Offered Shares and Warrant Shares

Upon the sale or other taxable disposition of Offered Shares or Warrant Shares, a U.S. Holder generally will recognize capital gain or loss in an amount equal to the difference between the U.S. dollar value of cash received plus the fair market value of any property received and such U.S. Holder's tax basis in such Offered Shares or Warrant Shares sold or otherwise disposed of. Gain or loss recognized on such sale or other taxable disposition generally will be long-term capital gain or loss if, at the time of the sale or other taxable disposition, the Offered Shares or Warrant Shares have been held for more than one year.

Preferential tax rates may apply to long-term capital gain of a U.S. Holder that is an individual, estate, or trust. There are currently no preferential tax rates for long-term capital gain of a U.S. Holder that is a corporation. Deductions for capital losses are subject to significant limitations under the Code.

Additional Considerations

Receipt of Foreign Currency

The amount of any distribution paid to a U.S. Holder in foreign currency, or on the sale, exchange or other taxable disposition of Offered Shares, Warrants or Warrant Shares generally will be equal to the U.S. dollar value of such foreign currency based on the exchange rate applicable on the date of receipt (regardless of whether such foreign currency is converted into U.S. dollars at that time). A U.S. Holder will have a tax basis in the foreign currency equal to its U.S. dollar value on the date of receipt. Any U.S. Holder who converts or otherwise disposes of the foreign currency after the date of receipt may have a foreign currency exchange gain or loss that would be treated as ordinary income or loss, and generally will be U.S. source income or loss for foreign tax credit purposes. Different rules apply to U.S. Holders who use the accrual method of tax accounting. Each U.S. Holder should consult its own U.S. tax advisors regarding the U.S. federal income tax consequences of receiving, owning, and disposing of foreign currency.

Foreign Tax Credit

Dividends paid on the Offered Shares or Warrant Shares (or constructive dividends on the Warrants) will be treated as foreign-source income, and generally will be treated as "passive category income" or "general category income" for U.S. foreign tax credit purposes. Any gain or loss recognized on a sale or other disposition of Offered Shares, Warrants or Warrant Shares generally will be United States source gain or loss. Certain U.S. Holders that are eligible for the benefits of Canada-U.S. Tax Treaty may elect to treat such gain or loss as Canadian source gain or loss for U.S. foreign tax credit purposes. The Code applies various complex limitations on the amount of foreign taxes that may be claimed as a credit by U.S. taxpayers. In addition, Treasury Regulations that apply to foreign taxes paid or accrued (the "Foreign Tax Credit Regulations") impose additional requirements for Canadian withholding taxes to be eligible for a foreign tax credit, and there can be no assurance that those requirements will be satisfied. The Treasury Department has recently released guidance temporarily pausing the application of certain of the Foreign Tax Credit Regulations.

Subject to the PFIC rules and the Foreign Tax Credit Regulations, each as discussed above, a U.S. Holder that pays (whether directly or through withholding) Canadian income tax with respect to dividends paid on the Offered Shares or Warrant Shares (or constructive dividends on the Warrants) generally will be entitled, at the election of such U.S. Holder, to receive either a deduction or a credit for such Canadian income tax. Generally, a credit will reduce a U.S. Holder's U.S. federal income tax liability on a dollar-for-dollar basis, whereas a deduction will reduce a U.S. Holder's income that is subject to U.S. federal income tax. This election is made on a year-by-year basis and applies to all foreign taxes paid (whether directly or through withholding) by a U.S. Holder during a year. The foreign tax credit rules are complex and involve the application of rules that depend on a U.S. Holder's particular circumstances. Accordingly, each U.S. Holder should consult its own U.S. tax advisor regarding the foreign tax credit rules.

Backup Withholding and Information Reporting

Under U.S. federal income tax law and Treasury Regulations, certain categories of U.S. Holders must file information returns with respect to their investment in, or involvement in, a foreign corporation. For example, U.S. return disclosure obligations (and related penalties) are imposed on individuals who are U.S. Holders that hold certain specified foreign financial assets in excess of certain threshold amounts. The definition of specified foreign financial assets includes not only financial accounts maintained in foreign financial institutions, but also, unless held in accounts maintained by a financial institution, any stock or security issued by a non-U.S. person, any financial instrument or contract held for investment that has an issuer or counterparty other than a U.S. person and any interest in a non-U.S. entity. U.S. Holders may be subject to these reporting requirements unless their Offered Shares, Warrants or Warrant Shares are held in an account at certain financial institutions. Penalties for failure to file certain of these information returns are substantial. U.S. Holders should consult their own tax advisors regarding the requirements of filing information returns, including the requirement to file an IRS Form 8938.

Payments made within the U.S. or by a U.S. payor or U.S. middleman, of dividends on, and proceeds arising from the sale or other taxable disposition of Offered Shares, Warrants or Warrant Shares will generally be subject to information reporting and backup withholding tax (currently at a rate of 24%) if a U.S. Holder (a) fails to furnish such U.S. Holder's correct U.S. taxpayer identification number (generally on IRS Form W-9), (b) furnishes an incorrect U.S. taxpayer identification number, (c) is notified by the IRS that such U.S. Holder has previously failed to properly report items subject to backup withholding tax, or (d) fails to certify, under penalty of perjury, that such U.S. Holder has furnished its correct U.S. taxpayer identification number and that the IRS has not notified such U.S. Holder that it is subject to backup withholding tax. However, certain exempt persons generally are excluded from these information reporting and backup withholding rules. Backup withholding is not an additional tax. Any amounts withheld under the U.S. backup withholding tax rules will be allowed as a credit against a U.S. Holder's U.S. federal income tax liability, if any, or will be refunded, if such U.S. Holder furnishes required information to the IRS in a timely manner.

The discussion of reporting requirements set forth above is not intended to constitute a complete description of all reporting requirements that may apply to a U.S. Holder. A failure to satisfy certain reporting requirements may result in an extension of the time period during which the IRS can assess a tax, and under certain circumstances, such an extension may apply to assessments of amounts unrelated to any unsatisfied reporting requirement. Each U.S. Holder should consult its own tax advisors regarding the information reporting and backup withholding rules.

THE ABOVE SUMMARY IS NOT INTENDED TO CONSTITUTE A COMPLETE ANALYSIS OF ALL TAX CONSIDERATIONS APPLICABLE TO U.S. HOLDERS WITH RESPECT TO THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OFFERED SHARE UNITS, OFFERED SHARES, WARRANTS, AND WARRANT SHARES. U.S. HOLDERS SHOULD CONSULT THEIR OWN TAX ADVISORS AS TO THE TAX CONSIDERATIONS APPLICABLE TO THEM IN LIGHT OF THEIR OWN PARTICULAR CIRCUMSTANCES.

DESCRIPTION OF OUR COMMON SHARES

The following description of the common shares summarizes the material terms and provisions thereof.

Authorized Capital

Our authorized share capital consists of an unlimited number of common shares, no par value, of which 7,952,425 were issued and outstanding as at January 25, 2024. 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”.

DESCRIPTION OF OUR SECURITIES WE ARE OFFERING

We are offering 4,912,280 Offered Shares, together with Warrants to purchase up to 4,912,280 Offered Shares. Each Warrant has an exercise price of $1.71 per Offered Share. The Offered Shares and the Warrants are immediately separable and will be issued separately, but must be purchased together in this offering.

Offered Shares

The material terms and provisions of our common shares are described under the section titled “Description of our Common Shares” on page 68.

Warrants to Purchase Offered Shares

The following summary of certain terms and provisions of the Warrants is not complete and is subject to, and qualified in its entirety by, the provisions of the Warrants, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of Warrant for a complete description of the terms and conditions of the Warrants.

Duration and Exercise Price

Each Warrant offered hereby has an initial exercise price equal to $1.71 per Offered Share. The Warrants will be exercisable immediately upon issuance and will expire five years from the date of issuance. We may at any time during the term of each Warrant reduce the then current exercise price to any amount and for any period of time deemed appropriate by our board of directors. The exercise price and number of Offered Shares issuable upon exercise is subject to appropriate adjustment in the event of stock splits and combinations affecting our Offered Shares. The Warrants will be issued separately from the Offered Shares.

Exercisability

The Warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of Offered Shares purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the Warrant to the extent that the holder would beneficially own more than the maximum percentage, except that upon prior notice from the holder to us, the holder may increase or decrease the maximum percentage, provided that the maximum percentage cannot be increased to more than 9.99% and any increase does not take effect for 61 days after such notice is delivered.

Cashless Exercise

If, at the time a holder exercises its Warrants, a registration statement registering the issuance of the Offered Shares underlying the Warrants or the resale of such shares under the Securities Act is not then effective or available for the issuance or resale, as applicable, of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of Offered Shares determined according to a formula set forth in the Warrants.

Fractional Shares

No fractional Offered Shares will be issued upon the exercise of the Warrants. Rather, the number of Offered Shares to be issued will be rounded to the nearest whole number.

Transferability

Subject to applicable laws, a Warrant may be transferred at the option of the holder upon surrender of the Warrant to us together with the appropriate instruments of transfer.

Trading Market

There is no trading market available for the Warrants on any securities exchange or nationally recognized trading system, and we do not expect a trading market to develop. We do not intend to list the Warrants on any securities exchange or other trading market. Without a trading market, the liquidity of the Warrants will be extremely limited. Our common shares are currently listed on Nasdaq. We have applied to list the Offered Shares issuable upon exercise of the Warrants on the TSX.

Right as a Shareholder

Except as otherwise provided in the Warrants or by virtue of such holder's ownership of Offered Shares, the holders of the Warrants do not have the rights or privileges of holders of our Offered Shares, including any voting rights, until they exercise their Warrants.

Fundamental Transaction

In the event we are subject to a Fundamental Transaction (as such term is defined in the form of Warrant), then we will not enter into or be a party to the Fundamental Transaction unless the successor entity assumes in writing all of the obligations of the Company under the Warrant. If the Fundamental Transaction is a Change of Control (as such term is defined in the form of Warrant), at the request of the holder delivered no later than 30 days after the closing of such Change of Control, we or the successor entity shall purchase the Warrant for an amount equal to the Black Scholes Value (as defined in the Warrant) of the unexercised portion of the Warrant on the effective date of the Change of Control. Such purchase shall be payable in cash unless the Change of Control is not within our control, including not having been approved by our board of directors, in which case the holder shall be entitled to receive the same type or form of consideration (and in the same proportion) at the Black Scholes Value of the unexercised portion of the Warrant, that is being offered and paid to the holders of Offered Shares.

U.S. Tax Consequences

In the event of an adjustment (or nonoccurrence of an adjustment) to the exercise price or the number of Offered Shares or other consideration for which a Warrant may be exercised, the holders of the Warrants may, in certain circumstances, be deemed to have received a distribution subject to U.S. federal income tax as a dividend. See "Material U.S. Federal Income Tax Consequences." Because this deemed income would not give rise to any cash from which any applicable withholding tax could be satisfied, if withholding taxes (including backup withholding taxes) are paid on behalf of a holder, those withholding taxes may be set off against any cash or shares received pursuant to the Warrants (or, in some circumstances, against any payments on the Offered Shares).

Private Placement Warrants

The Private Placement Warrants have terms and provisions that are identical in material respects to those of the Warrants being sold in this offering, except that the Private Placement Warrants and the common shares issuable upon exercise of the Private Placement Warrants are not being registered under the Securities Act, and are not being offered pursuant to this prospectus supplement and the accompanying prospectus but are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder in the concurrent private placement offering.

DIRECTORS & MANAGEMENT

Directors

The following is a list of our board of directors (the "Board") as of January 25, 2024.

Director	Experience and Qualifications
Carol G. Ashe[2][3] Pennsylvania, United States Director Since August 2018	Ms. Ashe, age 65, has been the Chief Business Officer at the New York Genome Center, an independent,non-profit academic research institution focused on genomic science, and its application to novel biomedical discoveries to advance the understanding of the genetic basis of neurodegenerative disease, neuropsychiatric disease, and cancer, since 2014. Previously, she served as Vice President of Corporate Development for Endo's branded, generic and platform drug delivery pharmaceutical business units from 2011 to 2013; a Partner at SR One, the corporate venture capital fund of GlaxoSmithKline ("GSK"), from 2008 to 2010; and head of GSK's US Corporate Legal Group supporting US-based mergers, acquisitions and equity investments from 2007 to 2008. Prior to that, Ms. Ashe led GSK's global Business Development Transactions Legal Team supporting both the pharmaceutical and consumer healthcare business units from 1995 to 2007. In 2020, Ms. Ashe joined the Board of Elicio Therapeutics, a privately held clinical-stage biotechnology company developing a pipeline of novel immunotherapies, as an independent director. Ms. Ashe received her BS degree in Biology from Pennsylvania State University, her law degree from Villanova University School of Law and is a registered patent attorney. Ms. Ashe makes valuable contributions to the Board based on over 25 years of experience in the pharmaceutical and biotechnology industry in business development and as legal counsel for business development transactions and patent matters.
Dr. Denis Burger[1][2][3][4] Oregon, United States Director Since 2007	Dr. Burger, age 79, currently is the managing member of Paradigm Ventures LLC, a healthcare consulting and funding firm based in Portland, Oregon, from 1986. Previously, he co-founded Trinity Biotech, PLC, a diagnostic biotechnology company based in Dublin, Ireland, where he was Chairman from 1992 to 1995 and served on its board of directors until 2020 and chaired its Audit Committee from 1996 to 2016. Dr. Burger served as the Chairman, Chief Executive Officer and a Director of AVI Biopharma Inc., an Oregon-based biotechnology company, from 1996 to 2007. He was a co-founder and Chairman of Epitope Inc. from 1981 to 1990. Dr. Burger was Vice Chairman and Chief Scientific Officer of CytoDyn Inc. from 2014 to 2018. Dr. Burger has served as President of Yamhill Valley Vineyards since 1983. In addition, Dr. Burger previously held a professorship in the Department of Microbiology and Immunology and Surgery (Surgical Oncology) at the Oregon Health Sciences University in Portland. Dr. Burger received his M.Sc. and Ph.D. in Microbiology and Immunology from the University of Arizona. Dr. Burger served on the board of directors of Epitope Inc (1986-1990)*, Trinity Biotech, PLC. (1992 to 2020)*, CytoDyn Inc. (2014 to 2018)* and AVI BioPharma Inc (1996-2007)*. Dr. Burger serves on the Board of Aptose since 2007 and was Chair of the Audit Committee of Aptose from 2008 to 2015. Dr. Burger makes valuable contributions to the Board based on his Ph.D. in microbiology and immunology, and his more than 25 years of experience in the biotechnology industry as a senior executive and as a corporate director.

Director	Experience and Qualifications
Dr. Mark D. Vincent[3] Ontario, Canada Director Since 2007	Dr. Vincent, age 70, has been a Professor of Oncology at the University of Western Ontario since 2008 and a staff medical oncologist at the London Regional Cancer Program since 1990. Dr. Vincent has also served as the co-founder and Chief Executive Officer of Sarissa, Inc., a private company actively involved in the development of compounds which potentiate existing, approved targeted drugs including agents approved in leukemia, since 2000. Dr. Vincent holds multiple patents on the potentiation of cancer chemotherapy by the manipulation of drug resistance genes, sits on the advisory boards and speakers panels of several major pharmaceutical companies, and is a frequent international lecturer on the positioning of new drugs in the complex evolving management of lung and gastro-intestinal cancer. Dr. Vincent completed his oncology training at the Royal Marsden Hospital in London, England, with a major focus on leukemia/lymphoma. Dr. Vincent makes valuable contributions to the Board based on over 25 years of experience as a medical oncologist.
Warren Whitehead[1] Ontario, Canada Director Since 2011	Mr. Whitehead, age 70, serves as the Chief Financial Officer of Satellos Bioscience Inc. (“Satellos”), a TSXV-listed regenerative medicine company aimed at developing therapeutics for degenerative muscle diseases, since August 2021. He previously served as the Chief Financial Officer of ProMIS Neurosciences Inc. (formerly Amorfix Life Sciences Ltd.), a TSX-listed company targeting detection and effective treatment of Alzheimer’s disease and amyotrophic lateral sclerosis, from 2013 to 2015, after which he concentrated on his role on corporate boards until he joined Satellos in 2021. From 2006 to 2008, he was the Chief Financial Officer of Arius Research Inc., a TSX-listed company developing anti-cancer antibodies, where he provided financial guidance and leadership during the acquisition of Arius by Roche in 2008. He was also the former Chief Financial Officer of Labopharm Inc. from 2000 to 2006, where he completed a series of public equity financings, including a cross-border Nasdaq offering. Other positions include Chief Financial Officer of Resolution Pharmaceuticals Inc., and a position in finance and business development at Glaxo Canada (now GlaxoSmithKline). Mr. Whitehead holds an MBA, and BComm from the University of Windsor and a BA from the University of Western Ontario. Mr. Whitehead was the former Chairman and board member of Plantform Corporation until 2019 and a former Board Member of Telesta Therapeutics (TSX), which was acquired by Prometic Life Sciences in 2016. Mr. Whitehead makes valuable contributions to the Board based on his financial expertise as a Chartered Professional Accountant (CPA) who has held chief financial officer roles at publicly traded pharmaceutical and biotechnology firms.

1. Member of the Audit Committee.
2. Member of the Compensation Committee.
3. Member of the Corporate Governance and Nominating Committee.
4. Lead Director of the Corporation.

* SEC reporting issuer

Other than as described below, no director is, to our knowledge as at the date of this Registration Statement, or has been, within 10 years before the date of this Registration Statement, a director, chief executive officer or chief financial officer of any company (including Aptose) that: (i) was subject to a cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemption under Canadian securities legislation that was in effect for a period of more than 30 consecutive days, (ii) was subject to cease trade order, an order similar to a cease trade order or an order that denied the relevant company access to any exemption under Canadian securities legislation that was in effect for a period of more than 30 consecutive days that was issued after the proposed director ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer or chief financial officer, (iii) while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any

proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets, or (iv) become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromised with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the proposed director.

Dr. Seizinger was a non-executive independent director of Opsona Therapeutics Ltd., a private company formed under the laws of Ireland, which filed for a creditors' voluntary liquidation under applicable Irish law in December 2018.

Moreover, no director has been subject, to our knowledge, (i) any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or (ii) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable securityholder in deciding whether to vote for a proposed director.

There are no family relationships among any of the director nominees, directors and/or any of our executive officers. In addition, no nominee has an arrangement or understanding with another person under which he or she was or is to be selected as a director or nominee.

Composition and Independence of the Board

Our Board is currently composed of seven directors, a majority (six) of whom meet the independence standards under the listing standards of Nasdaq, the rules and regulations of the SEC, and NI 52-110. Each year the Board reviews the composition of the Board and assesses whether a Board member is "independent".

Director	Independence
Carol Ashe	Yes
Denis Burger	Yes
Erich Platzer	Yes
William G. Rice	No
Bernd R. Seizinger	Yes
Mark Vincent	Yes
Warren Whitehead	Yes

Dr. William G. Rice, Ph.D., Chairman, President and Chief Executive Officer of the Corporation is not an independent director because of his role as our Chief Executive Officer.

Executive Officers

Fletcher Payne, age 60, joined Aptose as Senior Vice President and Chief Financial Officer ("CFO") in June 2022. With a healthcare tenure of more than two decades, Mr. Payne most recently served as CFO of Syapse, where he completed several financing transactions and oversaw accounting, finance, corporate development, and legal functions. Prior, he served as CFO at Catalyst Bioscience, a publicly traded biotech company. He served in a CFO capacity and senior financial positions at CytomX Therapeutics, Plexxikon Inc., Rinat Neuroscience Corporation, Dynavax Technologies Corporation, and Cell Genesys, among others. Mr. Payne holds a B.S. in Finance from the Haas School of Business, University of California, Berkeley.

Dr. Rafael Bejar, M.D, Ph.D., age 52, joined Aptose as Senior Vice President and Chief Medical Officer in January 2020. Dr. Bejar is an internationally recognized physician scientist with extensive research and clinical experience in the area of hematologic malignancies. Dr. Bejar joined Aptose from UC San Diego ("UCSD") where he began working in 2012. He continues to serve at UCSD as an Associate Professor of Clinical Medicine, caring for patients and maintaining a research laboratory focused on translational studies of myeloid malignancies and also serves and is an independent consultant as a member of the Independent Data Monitoring Committee for other pharmaceutical companies. At UCSD, he founded the MDS Center of Excellence and led the Hematology Disease Team from 2017 to 2019. There he has directed several clinical studies and served as an advisor for numerous companies including Celgene, Takeda, AbbVie, Astex, Genoptix, Forty Seven, PersImmune, and Daiichi-Sankyo. Outside UCSD, Dr. Bejar sits on the Scientific Advisory Board for the MDS Foundation, is a prior member of the National Comprehensive Cancer Network Guidelines Committee, and has led projects for the International Working Group for MDS. He is frequently invited to speak at national and international meetings and has published articles in a variety of journals including The New England Journal of Medicine, Journal of Clinical Oncology, Leukemia, Blood, and Blood Advances. Dr. Bejar completed his fellowship at the Dana-Farber Cancer Institute and has been board certified in Hematology and Oncology. He completed his internship in Internal Medicine at the University of Chicago followed by his residency at the Brigham and Women's Hospital in Boston where he later served a Medical Chief Resident and an Instructor in Hematology. He holds an MD degree and Neuroscience PhD from UCSD and a BS in Physics from MIT.

Philippe Ledru, age 56, joined Aptose as Senior Vice President and Chief Commercial Officer on April 7, 2022. Mr. Ledru brings to Aptose more than 30 years of pharmaceutical industry experience in the U.S. and Europe, including innovative drug development and commercial and strategic experience at two top global oncology companies. Most recently, he served as Associate Vice President and Head of Oncology New Products at Merck & Co, where he was responsible for commercial leadership over the entire Merck oncology pipeline, over 25 assets from discovery to mid-stage clinical development, across major solid tumors and hematological malignancies. At Merck, he also provided leadership on all licensing and M&A activities, including the Peloton Therapeutics and Arqule acquisitions in 2019. Prior, Mr. Ledru spent a 20+ year career at Novartis in the U.S. and France, most recently as Senior Director of Early Commercial Strategy focused on oncology products. There he also was part of the brand team and had early commercial development and global marketing responsibilities for several new compounds, including midostaurin. Earlier at Novartis Oncologie, he helped lead launches of several oncology products, including imatinib (Gleevec), a landmark drug that has greatly improved the outcomes of patients with chronic myelogenous leukemia. Mr. Ledru also held oncology product management and business development positions at Zeneca Pharma France/ICI Pharma.

EXECUTIVE COMPENSATION

Information About Our Executive Officers

Our leadership team comprises accomplished industry, financial and clinical research professionals who are dedicated to building a comprehensive anticancer drug pipeline and clinical development programs focused on targeted therapeutics directed against dysregulated oncogenic processes in patients with life-threathening hematologic malignancies. For the year ended December 31, 2023, the team included our Chairman, President and Chief Executive Officer, Dr. William G. Rice, our Senior Vice President, and Chief Financial Officer, Fletcher Payne; our Senior Vice President and Chief Medical Officer, Dr. Rafael Bejar and our Senior Vice President and Chief Commercial Officer, Philippe Ledru.

Compensation Philosophy

The Compensation Committee's mandate is to review and advise the Board on the recruitment, appointment, performance, compensation, benefits and termination of executive officers. The Compensation Committee also administers and reviews procedures and policies with respect to equity-based compensation plans, employee benefit programs, pay equity and employment equity and reviews executive compensation disclosure where it is publicly disclosed.

Aptose's executive compensation program is designed to:

- attract and retain qualified, motivated and achievement-oriented individuals by offering compensation that is competitive in the industry and marketplace, especially given the current challenging market conditions for recruiting and retaining talent;
- align executive interests with the interests of shareholders; and
- ensure that individuals continue to be compensated in accordance with their personal performance and responsibilities and their contribution to our overall objectives.

These objectives are achieved by offering executives and employees a compensation package that is competitive and rewards the achievement of both our short-term and long-term objectives. As such, our compensation package consists of three key elements:

- base salary and initial share options;
- short-term compensation incentives to reward corporate and personal performance through potential annual cash bonuses; and
- long-term compensation incentives related to long-term increase in share value through participation in equity-based compensation plans.

The Compensation Committee reviews each of these items on a stand-alone basis and also reviews compensation as a total package. Adjustments to compensation are made as appropriate following a review of the compensation package as a whole.

Base Salary

In establishing base salaries, the objective of the Compensation Committee is to establish levels that will enable Aptose to attract and retain executive officers that can effectively contribute to the long-term success of the

Corporation. Base salary for each executive officer is determined by the individual's skills, abilities, experience, past performance and anticipated future contribution to our success. The members of the Compensation Committee use their knowledge of the industry and of industry trends as well as independent third party consultants to assist with the determination of an appropriate compensation package for each executive officer.

Short-Term Compensation Incentives

Short-term compensation incentives motivate our executive officers to achieve specified performance objectives and to reward them for their achievement in the event that those objectives are met. Each year, the Compensation Committee approves the annual corporate objectives encompassing scientific, clinical, regulatory, business and corporate development and financial criteria. The annual cash incentive for the executive officers is based, at least in part, on the level of achievement of these annual objectives, assuming these objectives are still relevant at the time of evaluation.

All corporate and executive officer objectives and short-term incentives are reviewed by the Compensation Committee and approved by the Board.

Long-Term Incentive Plans

Long-term compensation incentives at Aptose reward an executive's contribution to the attainment of Aptose's long-term objectives, align an executive's performance with the long-term performance of Aptose and to provide an additional incentive for an executive to enhance shareholder value. Long-term incentive compensation for directors, officers, employees and consultants is reviewed annually and may be accomplished through the grant of share options and of stock-based awards under the 2021 Stock Incentive Plan.

In certain cases, executive officers may be granted share options on the commencement of employment with Aptose in accordance with the responsibility delegated to each executive officer for achieving corporate objectives and enhancing shareholder value in accordance with those objectives.

Other Benefits

In certain cases, the Compensation Committee may recommend inclusion of automobile allowances, fitness allowances and the payment of certain professional dues as a component of a competitive remuneration package for executives.

Hedge or Offset Instruments

Named executive officers, other Aptose employees, and directors are not restricted from purchasing financial instruments that are designed to hedge or offset a decrease in market value of the Corporation's equity securities granted as compensation or held, directly or indirectly, by Named executive officers or directors, including, for greater certainty, prepaid variable forward contracts, equity swaps, collars, or units of exchange funds.

Employment Agreements

We entered into an employment agreement with Dr. Rice on October 25, 2013 upon his commencement as Chairman, President, and Chief Executive Officer. This agreement was amended and restated on August 19, 2014. Pursuant to the amended and restated employment agreement, Dr. Rice is entitled to an annual base salary of $480,000, which amount is reviewed annually by the Board and increased at the Board's discretion, upon the advice of the Compensation Committee. Dr. Rice is also eligible for an annual discretionary bonus of up to 50% of his current base salary. The annual bonus is based on the Corporation's and Dr. Rice's achievement of objectives and milestones to be determined on an annual basis by the Board. Dr. Rice is entitled to receive termination benefits described under "Termination and Change of Control Benefits" below. Dr. Rice also receives employee benefits including, without limitation, participation in our 401(k) plan with a 3% non-elective company contribution, participation in Aptose's group health coverage plan and life insurance plan for US employees, 25 days of paid vacation time

annually, and an annual automobile allowance of $18,000. Dr. Rice is subject to certain non-compete restrictions. Dr. Rice receives no remuneration for his service as Chairman of the Board and director.

We entered into an employment agreement with Mr. Payne upon his commencement as Chief Financial Officer, effective June 27, 2022. Pursuant to the employment agreement, Mr. Payne is entitled to an annual base salary of $430,000 which amount is reviewed annually by the Board and increased at the Board's discretion, upon the advice of the Compensation Committee. Mr. Payne is also eligible for an annual discretionary bonus of up to 40% of his current base salary. The annual bonus is based on the Corporation's and Mr. Payne's achievement of objectives and milestones to be determined on an annual basis by the Board. Mr. Payne's agreement also provides for termination benefits described under "Termination and Change of Control Benefits" below. Mr. Payne also receives employee benefits, including, without limitation, participation in any 401(k) plan with a 3% non-elective company contribution, participation in other benefits provided by us to our U.S.-based executive officers and other employees, which consist to date of life insurance and health benefits, and 20 days of paid vacation time annually. Mr. Payne is subject to certain non-compete restrictions.

We entered into an employment agreement with Dr. Bejar upon his commencement as Chief Medical Officer, effective January 1, 2020. Pursuant to the employment agreement, Dr. Bejar is entitled to an annual base salary of $400,000 which amount is reviewed annually by the Board and increased at the Board's discretion, upon the advice of the Compensation Committee. Dr. Bejar is also eligible for an annual discretionary bonus of up to 40% of his current base salary. The annual bonus is based on the Corporation's and Dr. Bejar's achievement of objectives and milestones to be determined on an annual basis by the Board. Dr. Bejar's agreement also provides for termination benefits described under "Termination and Change of Control Benefits" below. Dr. Bejar also receives employee benefits, including, without limitation, participation in any 401(k) plan with a 3% non-elective company contribution, participation in other benefits provided by us to our U.S.-based executive officers and other employees, which consist to date of life insurance and health benefits, and 20 days of paid vacation time annually. Dr. Bejar is subject to certain non-compete restrictions.

We entered into an employment agreement with Mr. Ledru upon his commencement as Chief Commercial Officer, effective April 6, 2022. Pursuant to the employment agreement, Mr. Ledru is entitled to an annual base salary of $410,000 which amount is reviewed annually by the Board and increased at the Board's discretion, upon the advice of the Compensation Committee. Mr. Ledru is also eligible for an annual discretionary bonus of up to 40% of his current base salary. The annual bonus is based on the Corporation's and Mr. Ledru's achievement of objectives and milestones to be determined on an annual basis by the Board. Mr. Ledru's agreement also provides for termination benefits described under "Termination and Change of Control Benefits," below. Mr. Ledru also receives employee benefits, including, without limitation, participation in any 401(k) plan with a 3% non-elective company contribution, participation in other benefits provided by us to our U.S. based executive officers and other employees, which consist to date of life insurance and health benefits, and 20 days of paid vacation time annually. Mr. Ledru is subject to certain non-compete restrictions.

Summary Compensation Table

The following table details the compensation information for the fiscal years ended December 31, 2021 and December 31, 2023 of the Corporation for the Named Executive Officers. All amounts presented in the following tables are as recorded in US dollars.

Name and *Principal Position*	Year	Salary ($)	Bonus ($)	Stock awards[1] ($)	Option awards[2] ($)	All other compensation[3] ($)	Total compensation ($)
Dr. William G. Rice	2023	624,000	—	99,000	174,691	27,900	925,591
Chairman, President and Chief Executive Officer	2022	599,289	294,360	—	942,890	27,150	1,863,689
Fletcher Payne	2023	461,000	—	65,993	87,345	9,900	624,239
Senior Vice President, Chief Financial Officer and Chief Business Officer	2022	223,269	125,000	—	564,961	9,150	922,380
Dr. Rafael Bejar	2023	490000	—	65,993	87,345	9,900	653,239
Senior Vice President and Chief Medical Officer	2022	459,231	200,000	—	532,691	9,150	1,201,072
Philippe Ledru	2023	426,400	—	65,993	87,345	9,900	589,639
Senior Vice President and Chief Commercial Officer	2022	299,615	226,417	—	599,970	9,150	1,037,489

(1) The dollar amounts in this column reflect the aggregate grant date fair value of all stock awards granted during the indicated fiscal year. These amounts have been calculated in accordance with ASC 718, excluding the effect of estimated forfeitures. Assumptions used in the calculation of these amounts are included in note 12 to our audited consolidated financial statements included in the Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 (the "10-K"). These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the NEOs. Stock awards are subject to the executives' continued employment with the Corporation. All stock awards issued to Dr. Rice, Mr. Payne, Dr. Bejar and Mr. Ledru may be subject to accelerated vesting following termination of employment. See "Termination and Change of Control Benefits" below.

(2) The dollar amounts in this column reflect the aggregate grant date fair value of all share option awards granted during the indicated fiscal year. These amounts have been calculated in accordance with ASC 718, using the Black-Scholes option-pricing model and excluding the effect of estimated forfeitures. Assumptions used in the calculation of these amounts are included in note 12 to our audited consolidated financial statements included in the Corporation's 10-K. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the NEOs..

Share options are subject to the executives' continued employment with the Corporation and have a maximum term of 10 years. All share option grants issued to Dr. Rice, Mr. Payne, Dr. Bejar and Mr. Ledru may be subject to accelerated vesting following termination of employment. See "Termination and Change of Control Benefits" below.

(3) The dollar amounts in this column reflect the Corporation's contributions to the executives' accounts in our 401(k) plan and car allowances. The contributions to our executives' accounts in our 401(k) plan were as follows: for 2021: $8,700 for each of Dr. Rice and Dr. Bejar, and for 2022: $9,150 for each of Dr. Rice, Mr. Payne, Mr. Ledru and Dr. Bejar. Car allowances were as follows: for 2021, $18,000 to Dr. Rice; and for 2022: $18,000 to Dr. Rice.

(4) Mr. Payne joined Aptose on June 27, 2022.

(5) Mr. Ledru joined Aptose on April 7, 2022.

Outstanding Equity Awards at Fiscal Year-End

	Option-based Awards				Share-based awards	
Name and *Principal Position*	**Number of securities underlying unexercised options (#) exercisable**	**Number of securities underlying unexercised options (#) unexercisable**	**Option exercise price ($)**	**Option expiration date**	**Number shares or units of stock that have not vested (#)**	**Market value of shares or units of stock that have not vested ($)**
Dr. William G. Rice	Nil	26,666	9.9	18-Jan-33		
Chairman, President and Chief Executive Officer	Nil	40,000	12.15	5-Jul-32		
	3,333	Nil	15.45	6-Jun-27		
	6,666	Nil	17.21	28-Mar-27		
	23,332	23334	20.1	17-Jan-32	Nil	Nil
	26,666	Nil	28.65	2-Jan-29		
	20,000	Nil	42	19-Jan-28		
	4,000	Nil	43.26	30-Mar-26		
	26,666	Nil	46.05	22-Jan-28		
	26,408	Nil	64.55	15-Jun-24		
	15,244	7,622	65.55	4-Jan-31		
	9,333	Nil	67.95	9-Apr-24		
	352	Nil	78.82	28-Jan-24		
	8000	Nil	78.82	9-Jun-25		
	111111	22222	103.65	30-Jan-30		

Fletcher Payne	33,333	33,333	12.72	26-Jun-32	Nil	Nil
Senior Vice President, Chief Financial Officer and Chief Business Officer	Nil	13,333	9.9	18-Jan-33		
Dr. Rafael Bejar	22,222	4,444	85.05	1-Jan-30	Nil	Nil
Senior Vice President and Chief Medical Officer	11,111	2,222	103.65	30-Jan-30		
	15,244	7,622	65.55	4-Jan-31		
	23,333	Nil	35.25	19-Aug-31		
	20,000	20,000	20.10	17-Jan-32		
	Nil	13,333	9.90	18-Jan-33		
Philippe Ledru	19,999	20,001	18.75	12-Apr-32	Nil	N/A
Senior Vice President and Chief Commercial Officer	Nil	13,333	9.90	18-Jan-33		

1. Unexercisable options vest on January 22, 2023.
2. Unexercisable options vest as follows: 50% vest on January 30, 2023, and 50% vest on January 30, 2024 for William Rice and Rafael Bejar and 50% vest on January 30, 2023.
3. Unexercisable options vest as follows: 33% vest on January 4, 2023, 33% vest on January 4, 2024, and 33% vest on January 4, 2025 for William Rice and Rafael Bejar and 33.33% vest on January 4, 2023.
4. Unexercisable options vest as follows: 50% vest on January 17, 2023, 16.67% vest on January 17, 2024, 16.67% vest on January 17, 2025, and 16.67% vest on January 17, 2026 for William Rice and Rafael Bejar and 50% vest on January 18, 2023.
5. Unexercisable options vest upon reaching certain performance triggers as determined by the Board.
6. Converted from the Canadian exercise price at the conversion rate of 0.7913 Canadian dollars per U.S. dollar.
7. Unexercisable options vest as follows: 50% vest on June 26, 2023, 16.67% vest on June 26, 2024, 16.67% vest on June 26, 2025, and 16.67% vest on June 26, 2026.
8. Unexercisable options vest as follows: 50% vest on January 1, 2023, and 50% vest on January 1, 2024.
9. Unexercisable options vest either (i) upon reaching certain performance triggers as determined by the Board, or (ii) if such performance triggers are not attained in the opinion of the Board, on August 19, 2025.
10. Unexercisable options vest as follows: 50% vest on April 12, 2023, 16.67% vest on April 12, 2024, 16.67% vest on April 12, 2025, and 16.67% vest on April 12, 2026.

Retirement Benefits

The Corporation maintains a 401(k) plan in which eligible employees of the Corporation may choose to participate, including the Named Executive Officers. The Corporation makes non-elective contributions of 3% of compensation for all eligible employees, subject to the maximum allowed by the Internal Revenue Code Section 401(k).

Termination and Change of Control Benefits

The employment agreements of Dr. Rice, Mr. Payne, Dr. Bejar and Mr. Ledru provide that if their employment is terminated by the Corporation other than for "cause" (defined as (i) theft, fraud, dishonesty or material misconduct of the executive involving the property, business or affairs of the Corporation, which results, or could result in material harm to the Corporation, (ii) any material breach by the NEO of any term of his employment agreement, or (iii) any material breach of the Employee Information and Inventions Agreement (as defined in each employment agreement)), or if the Named Executive Officer resigns for "good reason" (defined as a material reduction in Executive Base Salary (as defined in each employment agreement), unless pursuant to a salary reduction program, a material reduction in the NEO's duties or the relocation of the NEO's principal place of employment) each of Dr. Rice, Mr. Payne, Dr. Bejar and Mr. Ledru shall be entitled to a payment equivalent to 12 months of their respective annual base salaries at the time of termination (Dr. Rice's December 31, 2022 annual base salary represents $600,000, Mr. Payne's December 31, 2022 annual base salary represents $430,000, Dr. Bejar's December 31, 2022 base salary represents $460,000 and Mr. Ledru's December 31, 2022 base salary represents $410,000), plus an amount equal to the average bonus remuneration received from the Corporation during the last three years of employment completed prior to the termination date, prorated based on the number of days the executive worked during the year of the termination. In addition, the employment agreements of Dr. Rice, Mr. Payne, Dr. Bejar and Mr. Ledru provide that certain payments related to health benefits will continue to be made for a period of 12 months following termination of their employment.

The employment agreements of Dr. Rice, Mr. Payne and Mr. Ledru provide that, in the event their employment with the Corporation is terminated within three months immediately preceding or 12 months immediately following the consummation of a "change of control" (defined as the consummation of any of the following: (a) the acquisition of the Corporation by another entity by means of any transaction or series of related transactions to which the Corporation is a party, (b) a sale, lease or other conveyance of all or substantially all of the assets of the Corporation, or (c) liquidation, dissolution or winding up of the Corporation, whether voluntary of involuntary), each of Dr. Rice, Mr. Payne and Mr. Ledru would be eligible, subject to certain conditions, to receive a payment equivalent to 18 months of their annual base salaries at the time of termination, plus an amount equal to 150% of the average bonus remuneration received from the Corporation during the last three years of employment completed prior to the termination date, prorated based on the number of days the executive worked during the year of the termination, as well as continuation of the payments related to health benefits for a period of 12 months following the termination following a change of control.

The employment agreements of Dr. Rice, Mr. Payne, Dr. Bejar and Mr. Ledru provide that in the event of their termination, other than for cause, the vesting and exercisability of all then outstanding unvested share options, RSUs or other equity awards then held by such NEO become immediately vested and exercisable and shall remain exercisable as set forth in the applicable award documents.

DIRECTOR COMPENSATION

Overview

The Compensation Committee makes recommendations regarding compensation payable to ournon-employee directors to the entire Board, which then makes final decisions regarding such compensation.

Dr. Rice receives no remuneration for his service as Chairman of the Board and director.

Cash Compensation

Non-employee directors are entitled to an annual fee of $60,000 with no per meeting fees. The Lead Director is entitled to an additional annual fee of $40,000. The chair of each committee is entitled to an additional annual fee of $15,000, with the exception of the chair of the Audit Committee who is entitled to an additional annual fee of $20,000. Each committee member is entitled to receiving an annual fee of $10,000 per committee. All fees are paid in quarterly installments.

Non-employee directors are reimbursed for any out-of-pocket travel expenses incurred in order to attend meetings. Executive directors are not entitled to directors' compensation.

Option Awards

Upon appointment to the Board a non-employee director will be entitled to an option grant of 100,000 options under the 2021 Stock Incentive Plan and each year thereafter are eligible for an additional grant at the beginning of the fiscal year. The options vest 50% after one year, and 25% for each of the second and third years. If a director resigns, the director will have 90-days from the date of resignation to exercise all vested and unexercised options.

The maximum compensation (cash and equity awards) that may be received by any director during a financial year has been set to $500,000.

The following table details the compensation earned by each non-employee director for the year ended December 31, 2023:

Name	Fees earned or paid in cash ($)	Option awards[1] ($)	Total ($)
Carol G. Ashe	$ 80,000	43,669.43	$ 123,669
Dr. Denis Burger	$ 128,500	43,669.43	$ 172,169
Dr. Mark Vincent	$ 75,000	42,682.13	$ 117,682
Mr. Warren Whitehead	$ 80,000	42,682.13	$ 122,682
Dr. Erich Platzer	$ 70,000	43,669.43	$ 113,669
Dr. Bernd R. Seizinger	$ 73,500	43,669.43	$ 117,169

(1) The dollar amounts in this column reflect the aggregate grant date fair value of all share option awards granted during the indicated fiscal year. These amounts have been calculated in accordance with ASC 718, using the Black-Scholes option-pricing model and excluding the effect of estimated forfeitures. Assumptions used in the calculation of these amounts will be included in note 12 to our audited consolidated financial statements included in the Corporation's Annual Report on Form 10-K. These amounts do not necessarily correspond to the actual value recognized or that may be recognized by the non-employee directors.

During the year ended December 31, 2023, the following share options were granted to Aptose directors: 50,000 share options for Ms. Ashe, 50,000 share options for Ms. Loewy, 50,000 share options for Dr. Burger, 50,000 share options for Dr. Vincent, 50,000 share options for Mr. Whitehead, 50,000 share options for Dr. Platzer and 50,000 share options for Dr. Seizinger. All options granted will vest over three years.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with our financial statements and related notes thereto included elsewhere in this prospectus. In addition to historical information, this discussion contains forward-looking statements that involve risks, uncertainties and assumptions that could cause actual results to differ materially from management's expectations. Factors that could cause such differences are discussed in the sections entitled "Forward-Looking Statements" and "Risk Factors." We are not undertaking any obligation to update any forward-looking statements or other statements we may make in the following discussion or elsewhere in this document even though these statements may be affected by events or circumstances occurring after the forward-looking statements or other statements were made. Therefore, no reader of this document should rely on these statements being current as of any time other than the time at which this document is declared effective by the SEC.

OVERVIEW

We are a science-driven clinical stage biotechnology company committed to the development and commercialization of precision medicines addressing unmet clinical needs in oncology, with an initial focus on hematology. Our small molecule cancer therapeutics pipeline includes products designed to provide single agent efficacy and to enhance the efficacy of other anti-cancer therapies and regimens without overlapping toxicities. Our executive offices are located in San Diego, California, and our head office is located in Toronto, Canada.

Aptose Programs

Aptose is advancing oral targeted agents to treat life-threatening hematologic cancers that, in most cases, are not elective for patients and require immediate treatment. We have two clinical-stage investigational products under active development for the treatment of hematologic malignancies: tuspetinib (HM43239), an oral, potent myeloid kinase inhibitor, and luxeptinib (CG-806), an oral, dual lymphoid and myeloid kinase inhibitor.

Tuspetinib is an orally administered, highly potent myeloid kinase inhibitor that selectively targets a constellation of kinases operative in myeloid malignancies and known to be involved in tumor proliferation, resistance to therapy, and differentiation. This small molecule anticancer agent is currently being evaluated in an international Phase 1/2 clinical trial in patients with relapsed or refractory acute myeloid leukemia ("R/R AML") as a single agent therapy and in combination with the venetoclax BCL-2 inhibitor (TUS/VEN doublet combination therapy).

Luxeptinib is an orally administered, highly potent dual lymphoid and myeloid kinase inhibitor that selectively targets defined clusters of kinases that are operative in hematologic malignancies. This small molecule anticancer agent is currently being evaluated in a Phase 1a/b study for the treatment of patients having B-cell malignancies including classic chronic lymphocytic leukemia ("CLL"), small lymphocytic leukemia ("SLL") and certain non-Hodgkins lymphomas ("NHLs") that are resistant/refractory/intolerant to other therapies, and in a Phase 1 a/b study for the treatment of patients with R/R AML and high risk myelodysplastic syndromes ("HR MDS").

PROGRAM UPDATES

For an update of our programs see "Prospectus Summary—Recent Developments—Clinical Update" beginning on page 6.

LIQUIDITY AND CAPITAL RESOURCES

Aptose is an early-stage development company, and we currently do not generate any revenues from our drug candidates. The continuation of our research and development activities and the commercialization of the targeted therapeutic products are dependent upon our ability to successfully finance and complete our research and development programs through a combination of equity financing and payments from strategic partners.

Sources of liquidity:

The following table presents our cash and cash equivalents, investments and working capital as of September 30, 2023 and December 31, 2022.

(in thousands)	Balances at September 30, 2023	Balances at December 31, 2022
Cash and cash equivalents	$ 15,720	$ 36,970
Investments	1,997	9,989
Total	$ 17,717	$ 46,959
Working capital	$ 7,291	$ 37,235

Working capital is a non-GAAP measure and represents primarily cash, cash equivalents, investments, prepaid expenses and other current assets less current liabilities. This financial measure provides a fuller understanding of our capital available to fund future operations.

Management recognizes that in order for us to meet our capital requirements, and continue to operate, additional financing will be necessary. We plan to raise additional funds in order to fund our business operations. We will seek access to financing but there is no assurance that such additional funds will be available for us to finance our operations on acceptable terms, if at all. These conditions raise substantial doubt about our ability to continue as a going concern. Our current cash, cash equivalents and investments will enable the support of operations through March 2024. The financial statements do not include any adjustments that might result from the outcome of this uncertainty. Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our trial, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If necessary funds are not available, we may have to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

Our cash needs for the next twelve months include estimates of the number of patients and rate of enrollment of our clinical trials, the amount of drug product that we will require to support our clinical trials, and our general corporate overhead costs to support our operations, and our reliance on our manufacturers. We have based these estimates on assumptions and plans which may change and which could impact the magnitude and/or timing of operating expenses and our cash runway.

Since our inception, we have financed our operations and technology acquisitions primarily from equity financing, proceeds from the exercise of warrants and stock options, and interest income on funds held for future investment.

All our cash is maintained at high-credit quality institutions. We minimize the cash levels above the insurance levels required by the Federal Deposit Insurance Corporation and the Canada Deposit Insurance Corporation, with excess cash invested in short-term investments with leading financial institutions.

Hanmi Equity Investment

On August 10, 2023, we entered into a binding term sheet with Hanmi whereby Hanmi agreed at their sole discretion to invest up to a maximum of $7 million in Aptose up to a total ownership of 19.99 percent of Aptose by Hanmi. On September 6, 2023, we entered into a subscription agreement with Hanmi, pursuant to which the Corporation agreed to sell 668,449 common shares to Hanmi for proceeds of $3 million. The second investment of up to $4 million or a maximum of 19.99 percent ownership interest in the Company by Hanmi is contingent on Aptose meeting certain manufacturing and data milestones related to tuspetinib by June 30, 2024, which milestones are anticipated to be achieved by year-end. Hanmi held 884,152 common shares of Aptose as of November 9, 2023.

2023 Committed Equity Facility

On May 25, 2023, we entered into the 2023 Committed Equity Facility Agreement, which provides that subject to the terms and conditions set forth therein, the Company has the right, but not the obligation, to sell to Keystone, and Keystone is obligated to purchase, up to the Total Commitment during the 24-month term of the 2023 Committed Equity Facility.

Under the 2023 Committed Equity Facility, and subject to its terms and conditions set forth, we may sell to Keystone up to the lesser of (i) $25.0 million of the common shares and (ii) a number of common shares equal to 19.99% of the common shares outstanding immediately prior to the execution of the 2023 Committed Equity Facility (subject to certain exceptions) (the "Total Commitment"), from time to time during the 24-month term of the 2023 Committed Equity Facility. Additionally, on May 25, 2023, we entered into a Registration Rights Agreement with Keystone, 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 2023 Committed Equity Facility. This registration statement became effective on June 30, 2023 and the 2023 Committed Equity Facility commencement date was July 12, 2023 (the "Commencement Date").

Upon entering into the 2023 Committed Equity Facility, 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 our direction under the 2023 Committed Equity Facility. The Company issued 7,547 common shares, or 30% of the Commitment Shares, on the date of the 2023 Committed Equity Facility and an additional 7,547 First Back-End Commitment Shares, or 30% of the Commitment Shares, were issued to Keystone 90 days following the Commencement date for nil cash proceeds. The remaining 10,062 Second Back-End Commitment Shares, or 40% of the Commitment Shares, shall be issued to Keystone 180 days following the Commencement Date.

In the nine months ended September 30, 2023, our issuance of common shares to Keystone comprised 328,438 common shares sold to Keystone for cash proceeds and the 7,547 common shares issued for nil cash proceeds as the Initial Commitment Shares on the Commencement Date. The Company raised a total of $1,150,000 in cash proceeds from issuing common shares to Keystone as of September 30, 2023. In addition, the Company received $50,000 in September for 17,857 common shares that were issued subsequent to September 30, 2023.

At-The-Market Facilities

On December 9, 2022, the Company entered into an equity distribution agreement with respect to the 2022 ATM Facility pursuant to which the Company may, from time to time, sell common shares having an aggregate offering value of up to $50 million through Jones Trading on Nasdaq. During the year ended December 31, 2022, the Company issued 4,836 common shares under the 2022 ATM Facility at an average price of $10.81 per Common Share for gross proceeds of $52 thousand ($51 thousand net of share issuance costs).

During the nine months ended September 30, 2023, the Company issued 336,690 common shares under the 2022 ATM Facility at an average price of $5.62 per Common Share for gross proceeds of $1.9 million ($1.8 million net of share issuance costs). On a cumulative basis to September 30, 2023, the Company has raised a total of $1.9 million gross proceeds ($1.9 million, net of share issue costs) under the 2022 ATM Facility. Costs associated with the proceeds consisted of 3% cash commission.

On May 5, 2020, the Company entered an "at-the-market" equity distribution agreement with Piper Sandler & Co. and Canaccord Genuity acting as co-agents with respect to the 2020 ATM Facility. Under the terms of the 2020 ATM Facility, the Company could, from time to time, sell common shares having an aggregate offering value of up to $75 million through Piper Sandler and Canaccord Genuity on Nasdaq. During the nine months ended September 30, 2022, the Company issued 3,646 common shares under the 2020 ATM Facility at an average price of $14.25 for gross proceeds of $52 thousand ($50 thousand net of share issue costs). As of October 31, 2022, the date the Agreement was terminated, the Company had raised a total of $89 thousand gross proceeds ($86 thousand net of share issuance costs) under the 2020 ATM Facility. Costs associated with the proceeds consisted of a 3% cash commission.

Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our clinical trials, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If the necessary funds are not available, we may need to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

Cash flows:

The following table presents a summary of our cash flows for the three-month and nine-month periods ended September 30, 2023 and 2022:

(in thousands)	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	2023	2022
Net cash provided by (used in):				
Operating activities	$(10,536)	$ (6,979)	$(35,331)	$(23,671)
Investing activities	12,953	(5,078)	$ 8,022	12,493
Financing activities	4,902	21	6,056	65
Effect of exchange rates changes on cash and cash equivalents	1	(7)	$ 3	(10)
Net increase/(decrease) in cash and cash equivalents	$ 7,320	$(12,043)	$(21,250)	$(11,123)

Cash used in operating activities:

Our cash used in operating activities for the three-month periods ended September 30, 2023 and 2022 was approximately $10.5 million and $7.0 million, respectively. Our cash used in operating activities for the nine-month periods ended September 30, 2023 and 2022 was approximately $35.3 million and $23.7 million, respectively.

Net cash used in operating activities was higher in the three-month and nine-month periods ended September 30, 2023, as compared to the three-month and nine-month periods ended September 30, 2022, due primarily to higher operating expenses, as discussed further below (see “Results of Operations”). Our uses of cash for operating activities for both periods consisted primarily of salaries and wages for our employees, facility and facility-related costs for our offices and laboratories, fees and pass-through expenses paid in connection with preclinical and clinical studies, drug manufacturing costs, laboratory supplies and materials, and professional fees.

We do not expect to generate positive cash flow from operations for the foreseeable future as we incur additional research and development costs, including costs related to drug discovery, preclinical testing, clinical trials and manufacturing, as well as operating expenses associated with supporting these activities, and potential milestone payments to our collaborators. It is expected that negative cash flows will continue until such time, if ever, that we receive regulatory approval to commercialize any of our products under development and/or royalty or milestone revenue from any such products exceeds expenses.

Cash flow from (used in) investing activities:

Our cash provided by investing activities for the three-month period ended September 30, 2023 was $13.0 million, and consisted of net maturities of investments. Our cash used in investing activities for the three-month period ended September 30, 2022 was $5.1 million, and consisted of net acquisitions of investments. Our cash provided by investing activities for the nine-month period ended September 30, 2023, was $8.0 million, and consisted of net maturities of investments, with purchase of equipment of $29 thousand. Our cash provided by investing activities for the nine-month period ended September 30, 2022 was $12.5 million, with purchases of equipment of $24 thousand.

The composition and mix of cash, cash equivalents and investments is based on our evaluation of conditions in financial markets and our near-term liquidity needs. We have exposure to credit risk, liquidity risk and market risk

related to our investments. The Company manages credit risk associated with its cash and cash equivalents and investments by maintaining minimum standards of R1-low or A-low investments. The Company invests only in highly rated financial instruments which are capable of prompt liquidation. The Company manages its liquidity risk by continuously monitoring forecasts and actual cash flows. The Company is subject to interest rate risk on its cash and cash equivalents and investments. The Company does not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates relative to interest rates on the investments, owing to the relative short-term nature of the investments.

Cash flow from financing activities:

Our cash flow from financing activities for the three months ended September 30, 2023, was $4.9 million, consisting of $3 million, $1.2 million and $694 thousand resulting from common shares issued from the Hanmi subscription agreement, the 2023 Committed Equity Facility, and the 2022 ATM Facility, respectively, $50 thousand from a stock subscription advance under the 2023 Committed Equity Facility and $13 thousand in cash proceeds from issuance of shares under the Employee Stock Purchase Plan ("ESPP"). Our cash flow from financing activities for the three months ended September 30, 2022, was $21 thousand from common shares issued from the 2020 ATM Facility. Our cash flow from financing activities for the nine months ended September 30, 2023 was $6 million, consisting of $3 million, $1.8 million and $1.2 million resulting from common shares issued from the Hanmi subscription agreement, the 2022 ATM Facility and the 2023 Committed Equity Facility, respectively, $50 thousand from a stock subscription advance under the 2023 Committed Equity Facility and $29 thousand in cash proceeds from issuance of shares under the Employee Stock Purchase Plan. Our cash flow from financing activities for the nine months ended September 30, 2022 was $65 thousand, consisting of $50 thousand from common shares issued from the 2020 ATM Facility and $15 thousand from the exercise of stock options.

RESULTS OF OPERATIONS

A summary of the results of operations for the three-month and nine-month periods ended September 30, 2023 and 2022 is presented below:

	Three months ended September 30,		Nine months ended September 30,	
(in thousands)	2023	2022	2023	2022
Revenues	$ —	$ —	$ —	$ —
Research and development expenses	8,256	6,578	27,649	21,312
General and administrative expenses	3,425	3,448	12,580	10,887
Other income, net	234	249	977	376
Net loss	$(11,447)	$(9,777)	$(39,252)	$(31,823)
Other comprehensive income/(loss)	—	20	3	(17)
Comprehensive loss	$(11,447)	$(9,757)	$(39,249)	$(31,840)
Basic and diluted loss per common share	$ (1.76)	$ (1.59)	$ (6.14)	$ (5.17)

Net loss for the three-month period ended September 30, 2023 increased by $1.7 million to $11.4 million, as compared to $9.8 million for the comparable period in 2022. Net loss for the nine-month period ended September 30, 2023 increased by $7.4 million to $39.3 million, as compared to $31.8 million for the comparable period in 2022. Components of net loss are presented below:

Research and Development

Research and development expenses consist primarily of costs incurred related to the research and development of our product candidates and include:

- External research and development expenses incurred under agreements with third parties, such as contract research organizations, consultants, members of our scientific advisory boards, external labs and contract manufacturing organizations; and

- Employee-related expenses, including salaries, benefits, travel, and stock-based compensation for personnel directly supporting our clinical trials, manufacturing and development activities.

We have ongoing clinical trials for our product candidates tuspetinib and luxeptinib. Tuspetinib was licensed to Aptose in the fourth quarter of 2021, and we assumed sponsorship, and the related costs, of the tuspetinib study effective January 1, 2022. In the fourth quarter of 2021, we discontinued the APTO-253 program.

We expect our research and development expenses to be higher than current period expenses for the foreseeable future as we advance tuspetinib into larger clinical trials.

The research and development expenses for the three-month and nine-month periods ended September 30, 2023, and 2022 were as follows:

	Three months ended September 30,		Nine months ended September 30,	
(in thousands)	2023	2022	2023	2022
Program costs – Tuspetinib	$ 5,814	$ 3,049	$18,659	$ 6,570
Program costs – Luxeptinib	648	1,390	2,643	6,624
Program costs – APTO-253	2	66	28	345
Personnel-related expenses	1,523	1,627	5,107	5,821
Stock-based compensation	259	440	1,183	1,923
Depreciation of equipment	10	6	29	29
Total	$ 8,256	$ 6,578	$27,649	$21,312

Research and development expenses increased by $1.7 million to $8.3 million for the three-month period ended September 30, 2023, as compared to $6.6 million for the comparative period in 2022. Changes to the components of our research and development expenses presented in the table above are primarily as a result of the following events:

- Program costs for tuspetinib were $5.8 million for the three-month period ended September 30, 2023. The higher program costs for tuspetinib in the current period represent the enrollment of patients in our APTIVATE clinical trial, our healthy volunteer trial, manufacturing activities to support clinical development, and related expenses.
- Program costs for luxeptinib decreased by approximately $742 thousand, primarily due to lower clinical trial costs and lower manufacturing costs as a result of the current formulation requiring less API than the prior formulation.
- Program costs for APTO-253 decreased by approximately $64 thousand, due to our decision on December 20, 2021 to discontinue further clinical development of APTO-253.
- Personnel-related expenses decreased by $104 thousand, related to fewer employees in the current three-month period, partially offset by salary increases.
- Stock-based compensation decreased by approximately $181 thousand in the three months ended September 30, 2023, compared to the three months ended September 30, 2022, primarily due to stock options granted with lower grant date fair values, in the current period.

Research and development expenses increased by $6.3 million to $27.6 million for the nine-month period ended September 30, 2023, as compared to $21.3 million for the comparative period in 2022. Changes to the components of our research and development expenses presented in the table above are primarily as a result of the following events:

- Program costs for tuspetinib were $18.7 million for the nine-month period ended September 30, 2023, an increase of $12.1 million compared with $6.6 million in the corresponding period in 2022. The higher program costs for tuspetinib in the current period represent the enrollment of patients in our APTIVATE clinical trial, our healthy volunteer trial, manufacturing activities to support clinical development, and related expenses.

- Program costs for luxeptinib decreased by approximately $4.0 million from $6.6 million in the nine months ended September 30, 2022 to $2.6 million in the current period, primarily due to lower clinical trial costs and lower manufacturing costs as a result of the current formulation requiring less API than the prior formulation.
- Program costs for APTO-253 decreased by approximately $317 thousand, due to our decision on December 20, 2021 to discontinue further clinical development of APTO-253.
- Personnel-related expenses decreased by $714 thousand, related to fewer employees in the current nine-month period and partially offset by salary increases.
- Stock-based compensation decreased by approximately $740 thousand in the nine months ended September 30, 2023, compared to the three months ended September 30, 2022, primarily due to stock options granted with lower grant date fair values, in the current period.

General and Administrative

General and administrative expenses consist primarily of salaries, benefits and travel, including stock-based compensation for our executive, finance, business development, human resources, and support functions. Other general and administrative expenses are professional fees for auditing and legal services, investor relations and other consultants, insurance and facility-related expenses.

We expect that our general and administrative expenses will increase for the foreseeable future as we incur additional costs to support the expansion of our pipeline of activities. We also expect our intellectual property related legal expenses to increase as our intellectual property portfolio expands.

The general and administrative expenses for the three-month and nine-month periods ended September 30, 2023, and 2022 were as follows:

(in thousands)	Three months ended September 30,		Nine months ended September 30,	
General and administrative, excluding items below	$ 3,075	$ 2,811	$10,479	$ 8,401
Stock-based compensation	340	613	2,060	2,423
Depreciation of equipment	10	24	41	63
	$ 3,425	$ 3,448	$12,580	$10,887

General and administrative expenses for the three-month period ended September 30, 2023 were $3.4 million, as compared to $3.4 million for the comparative period in 2022, a decrease of approximately $23 thousand. The decrease was primarily due to the following:

- General and administrative expenses, other than stock-based compensation and depreciation of equipment, increased by approximately $264 thousand in the three months ended September 30, 2023, primarily as a result of higher salaries expenses and higher professional fees.
- Stock-based compensation decreased by approximately $273 thousand in the three months ended September 30, 2023, as compared to the three months ended September 30, 2022, due to stock options granted with lower grant date fair values in the current period.

General and administrative expenses for the nine-month period ended September 30, 2023 were $12.6 million, as compared to $10.9 million for the comparative period in 2022, an increase of approximately $1.7 million. The increase was primarily due to the following:

- General and administrative expenses, other than stock-based compensation and depreciation of equipment, increased by approximately $2.1 million in the nine months ended September 30, 2023, primarily as a result of higher salaries expenses and higher professional fees.

- Stock-based compensation decreased by approximately $363 thousand in the nine months ended September 30, 2023, as compared to the nine months ended September 30, 2022, mostly as a result of lower grant date fair values in the current period, partially offset by the 2023 RSU Grant.

A summary of the results of operations for the years ended December 31, 2022 and 2021 is presented below:

	Year ended December 31,	
(in thousands except per Common Share data)	**2022**	**2021**
Revenues	$ —	$ —
Research and development expenses	28,088	45,985
General and administrative expenses	14,514	19,462
Net finance income	779	93
Net loss	$(41,823)	$(65,354)
Unrealized gain/(loss) on securities available-for-sale	(2)	—
Total comprehensive loss	$(41,825)	$(65,354)
Basic and diluted loss per Common Share	$ (0.45)	$ (0.73)

Net loss of $41.8 million for the year ended December 31, 2022 decreased by approximately $23.5 million as compared with $65.4 million for the year ended December 31, 2021, primarily as of a result of a reduction in research and development program costs and personnel expenses of $5.4 million, the $12.5 million in license fees paid to Hanmi in 2021 for development rights of tuspetinib, and a $5.0 million decrease in general and administrative costs.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred related to the research and development of our product candidates. Costs include the following:

- External research and development expenses incurred under agreements with third parties, such as CROs, consultants, members of our scientific advisory boards, external labs and CMOs;
- Employee-related expenses, including salaries, benefits, travel, and stock-based compensation for personnel directly supporting our clinical trials and manufacturing, and development activities;
- License fees.

We have ongoing Phase 1 clinical trials for our product candidates tuspetinib and luxeptinib. Tuspetinib was licensed into Aptose in November 2021 and we have assumed sponsorship, and the related costs, of the tuspetinib study effective January 1, 2022. In December 2021, we discontinued the APTO-253 program and are exploring strategic alternatives for this compound.

We expect our research and development expenses to be higher for the foreseeable future as we continue to advance tuspetinib into larger clinical trials.

The research and development (“R&D”) expenses for the years ended December 31, 2022 and 2021 were as follows:

(in thousands)	Year ended December 31, 2022	2021
License fee – Tuspetinib	—	12,500
Program costs – Tuspetinib	10,083	57
Program costs – Luxeptinib	8,426	18,490
Program costs – APTO-253	141	3,543
Personnel expenses	7,181	7,593
Stock-based compensation	2,218	3,790
Depreciation of equipment	39	12
	$28,088	$45,985

R&D expenses decreased by $17.9 million to $28.1 million for the year ended December 31, 2022 as compared with $46.0 million for the comparative period in 2021. Changes to the components of our R&D expenses presented in the table above are primarily as a result of the following activities:

- License fees paid in the year ended December 31, 2021 to Hanmi of $12.5 million for global development rights of tuspetinib, including $5.0 million in cash and $7.5 million in common shares. There were no license fee paid in the year ended December 31, 2022.
- Program costs for tuspetinib increased by $10.0 million. We in-licensed the development rights for tuspetinib in the fourth quarter of 2021 and assumed sponsorship, and the related costs, of the study effective January 1, 2022.
- Program costs for luxeptinib decreased by approximately $10.1 million, primarily due to lower manufacturing costs as a result of the current formulation requiring less API than the prior formulation, and lower clinical trial costs.
- Program costs for APTO-253 decreased by approximately $3.4 million due to our decision on December 20, 2021 to discontinue further development of APTO-253.
- Personnel-related expenses decreased by $0.4 million, due to lower headcount in 2022.
- Stock-based compensation decreased by approximately $1.6 million in the year ended December 31, 2022, compared with the year ended December 31, 2021, primarily due to stock options granted with lower grant date fair values in the current period.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries, benefits and travel, including stock-based compensation for our executive, finance, business development, human resource, and support functions. Other general and administrative expenses and professional fees for auditing, and legal services, investor relations and other consultants, insurance and facility related expenses.

We expect that our general and administrative expenses will increase for the foreseeable future as we incur additional costs associated with being a publicly traded company and to support our expanding pipeline of activities. We also expect our intellectual property related legal expenses to increase as our intellectual property portfolio expands.

The general and administrative expenses for the years ended December 31, 2022 and 2021 are as follows:

(in thousands)	Year ended December 31, 2022	2021
General and administrative, excluding items below:	$11,444	$10,164
Stock-based compensation	2,989	9,160
Depreciation of equipment	81	138
	$14,514	$19,462

General and administrative expenses for the year ended December 31, 2022 were approximately $14.5 million as compared with $19.5 million for the comparative period in 2021, a decrease of approximately $5.0 million. The decrease was primarily as a result of a decrease in stock-based compensation costs of $6.2 million, partially offset by higher salaries expenses, higher travel expenses, and higher professional fees.

Stock-based compensation decreased by approximately $6.2 million mostly as a result of a lower number of options granted in the year ended December 31, 2022, with those options having a lower grant date fair value as compared with the options granted in the comparative period, and additional compensation recognized in the comparative period for modifications made to then vested and unvested stock options for one former company officer, as part of a separation and release agreement.

CRITICAL ACCOUNTING POLICIES

Critical Accounting Policies and Estimates

We periodically review our financial reporting and disclosure practices and accounting policies to ensure that they provide accurate and transparent information relative to the current economic and business environment. As part of this process, we have reviewed our selection, application and communication of critical accounting policies and financial disclosures. Management has discussed the development and selection of the critical accounting policies with the Audit Committee of the Board of Directors and the Audit Committee has reviewed the disclosure relating to critical accounting policies in this Management's Discussion and Analysis.

Significant Accounting Judgments and Estimates

A "critical accounting policy" is one which is both important to the portrayal of our financial condition and results and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. For additional information, please see the discussion of our significant accounting policies in Note 2 to the Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on March 24, 2023. There were no material changes to our critical accounting policies and estimates during the three months ended September 30, 2023.

The Company records expenses for research and development activities based on management's estimates of services received and efforts expended pursuant to contracts with vendors that conduct research and development on our behalf. The financial terms vary from contract to contract and may result in uneven payment flows as compared to services performed or products delivered. As a result, the Company is required to estimate research and development expenses incurred during the period, which impacts the amount of accrued expenses and prepaid balances related to such costs as of each balance sheet date. Management estimates the amount of work completed through discussions with internal personnel and the contract research and contract manufacturing organizations as to the progress or stage of completion of the services. Our estimates are based on a number of factors, including our knowledge of the status of each of the research and development project milestones, and contract terms together with related executed change orders. Management makes significant judgments and estimates in determining the accrued balance at the end of each reporting period.

Although management does not expect our estimates to be materially different from amounts actually incurred, if the estimates of the status and timing of services performed differ from the actual status and timing of services performed, it could result in the Company reporting amounts that are too high or too low in any particular period. As of September 30, 2023, the Company has recorded $1.1 million in prepaid expenses and approximately $6.8 million in accrued liabilities related to its research and development activities. If the estimates are too high or too low by a factor of 10% this would mean that prepaid expenses would be over or understated by approximately $110 thousand, and accrued liabilities would be over or understated by approximately $680 thousand. On a combined basis, this could mean an increase or decrease in research and development expenses by approximately $790 thousand. To date, there have been no material differences between the estimates of such expenses and the amounts actually incurred.

Other important accounting policies and estimates made by management are the valuation of contingent liabilities, the valuation of tax accounts, and the assumptions used in determining the valuation of share-based compensation, as described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Management's assessment of our ability to continue as a going concern involves making a judgment, at a particular point in time, about inherently uncertain future outcomes and events or conditions. Please see the "Liquidity and Capital Resources" section in this Registration Statement for a discussion of the factors considered by management in arriving at its assessment.

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.

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 and Dorsey & Whitney LLP, Vancouver, British Columbia and Denver, Colorado with respect to matters of U.S. law. Certain legal matters will be passed upon for the underwriter by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

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 included in this prospectus have been so included in reliance upon the report of KPMG LLP, an independent registered public accounting firm. The audit report covering the December 31, 2022 consolidated financial statements contains an explanatory paragraph that states that the Company's recurring losses from operations and net capital deficiency raise substantial doubt about the entity's ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of that uncertainty.

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 Offered 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.

Aptose Biosciences Inc.

Index to Financial Statements

Consolidated Financial Statements

APTOSE BIOSCIENCES INC.

Years ended December 31, 2022 and 2021

Aptose Biosciences Inc.

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

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors

Aptose Biosciences Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of Aptose Biosciences Inc. and subsidiaries (the Company) as of December 31, 2022 and 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 (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Notes 1 and 2 (a) to the consolidated financial statements, the Company has suffered recurring losses from operations and has a net capital deficiency that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Notes 1 and 2 (a). The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Aptose Biosciences Inc.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Research and Development Prepaid and Accrued Costs

As discussed in Notes 2(i), 4 and 9 to the consolidated financial statements, the Company records expenses for research and development activities based on Management's estimates of services received and efforts expended pursuant to contracts with vendors that conduct research and development on the Company's behalf. The financial terms vary from contract to contract and may result in uneven payment flows as compared with services performed or products delivered. As a result, the Company is required to estimate research and development expenses incurred during the period, which impacts the amount of accrued expenses and prepaid balances related to such costs as of each balance sheet date. Management estimates the amount of work completed through discussions with internal personnel and the contract research and contract manufacturing organizations as to the progress or stage of completion of the services. The Company's estimates are based on a number of factors, including the Company's knowledge of the status of each of the research and development project milestones, and contract terms together with related executed change orders. Management makes significant judgments and estimates in determining the accrued balance at the end of each reporting period.

We identified the evaluation of research and development prepaid and accrued costs as a critical audit matter. Higher degree of auditor judgment was required in evaluating the results of our audit procedures because of the subjectivity and estimation uncertainty associated with this estimate.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design of certain internal controls related to the critical audit matter. This included controls over the development of the estimated amount of prepaid and accrued costs incurred by the contract research and contract manufacturing organizations. For a selection of research and development projects, we assessed the Company's estimates of a selection of the research and development activities completed to date by:

- inquiring with Company personnel responsible for overseeing the research and development activities to understand progress of the activities including project milestones, and contract terms together with related executed change orders
- inspecting the terms of the contracts, including related executed change orders, between the Company and the respective contract research and contract manufacturing organizations, the correspondence between the Company and these organizations as to the completion status, and using this information to arrive at an independent estimate of the prepaid or accrual amounts and comparing it to the amounts recorded by the Company

We have served as the Company's auditor since 1994.

/s/ KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants
Vaughan, Canada

March 23, 2023

APTOSE BIOSCIENCES INC.

Consolidated Statements of Financial Position
(Expressed in thousands of US dollars)

	December 31, 2022	December 31, 2021
Assets		
Current assets:		
Cash and cash equivalents	$ 36,970	$ 39,114
Investments	9,989	40,014
Prepaid expenses	2,303	2,476
Other current assets	257	133
Total current assets	49,519	81,737
Non-current assets:		
Property and equipment	211	323
Right-of-use assets, operating leases	1,297	465
Total non-current assets	1,508	788
Total assets	$ 51,027	$ 82,525
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 6,326	$ 1,699
Accrued liabilities	5,657	6,016
Current portion of lease liability, operating leases	301	459
Total current liabilities	12,284	8,174
Non-current liabilities:		
Lease liability, operating leases	1,002	115
Total liabilities	13,286	8,289
Shareholders' equity:		
Share capital:		
Common shares, no par value, unlimited authorized shares, 92,367,275 and 92,215,024 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	437,520	437,386
Additional paid-in capital	68,869	63,673
Accumulated other comprehensive loss	(4,318)	(4,316)
Deficit	(464,330)	(422,507)
Total shareholders' equity	37,741	74,236
Total liabilities and shareholders' equity	$ 51,027	$ 82,525

See accompanying notes to consolidated financial statements.
Going concern, see Note 2.
Commitments, see Note 10.
Subsequent events, see Notes 1, 10 and 16.

APTOSE BIOSCIENCES INC.

Consolidated Statements of Loss and Comprehensive Loss
(Expressed in thousands of US dollars, except for per common share data)

	Year ended December 31, 2022	Year ended December 31, 2021
Revenue	$ —	$ —
Expenses:		
Research and development	28,088	45,985
General and administrative	14,514	19,462
Operating expenses	42,602	65,447
Other income:		
Interest income	788	94
Foreign exchange gain/(loss)	(9)	(1)
Total other income	779	93
Net loss	(41,823)	(65,354)
Other comprehensive loss:		
Unrealized loss on securities available-for-sale	(2)	—
Total comprehensive loss	$ (41,825)	$ (65,354)
Basic and diluted loss per common share	$ (0.45)	$ (0.73)
Weighted average number of common shares outstanding used in the calculation of (in thousands)		
Basic and diluted loss per common share	92,267	89,086

See accompanying notes to consolidated financial statements.

APTOSE BIOSCIENCES INC.

Consolidated Statements of Changes in Shareholders' Equity
(Expressed in thousands of US dollars, except for per common share data)

	Common Shares					
	Shares (thousands)	Amount	Additional paid-in capital	Accumulated other comprehensive loss	Deficit	Total
Balance, December 31, 2021	92,215	$437,386	$ 63,673	$ (4,316)	$(422,507)	$ 74,236
Common shares issued under the October 2022 ATM	73	51	—	—	—	51
Common shares issued under the May 2020 ATM	55	50	—	—	—	50
Common shares issued upon exercise of stock options	14	26	(11)	—	—	15
Stock-based compensation	—	—	5,207	—	—	5,207
Common shares issued under the ESPP plan	11	7	—	—	—	7
Other comprehensive loss	—	—	—	(2)	—	(2)
Net loss	—	—	—	—	(41,823)	(41,823)
Balance, December 31, 2022	92,368	$437,520	$ 68,869	$ (4,318)	$(464,330)	$ 37,741
Balance, December 31, 2020	88,882	$429,523	$ 50,861	$ (4,316)	$(357,153)	$118,915
Common shares issued pursuant to the Hanmi licensing fees	3,236	7,500	—	—	—	7,500
Common shares issued under the May 2020 ATM	15	36	—	—	—	36
Common shares issued upon exercise of stock options	82	327	(137)	—	—	190
Stock-based compensation	—	—	12,949	—	—	12,949
Net loss	—	—	—	—	(65,354)	(65,354)
Balance, December 31, 2021	92,215	$437,386	$ 63,673	$ (4,316)	$(422,507)	$ 74,236

See accompanying notes to consolidated financial statements.

APTOSE BIOSCIENCES INC.

Consolidated Statements of Cash Flows
(Expressed in thousands of US dollars)

	Year ended December 31, 2022	Year ended December 31, 2021
Cash flows from operating activities:		
Net loss for the year	$ (41,823)	$ (65,354)
Items not involving cash:		
Stock-based compensation	5,207	12,949
Shares issued to Hanmi Pharmaceutical as license fees	—	7,500
Depreciation and amortization	120	150
Disposal of property and equipment	16	—
Amortization of right-of-use assets	408	472
Interest on lease liabilities	35	43
Unrealized foreign exchange gain/(loss)	4	(7)
Accrued interest on investments	(60)	(18)
Change in operating working capital:		
Prepaid expenses	173	78
Operating lease payments	(546)	(555)
Other assets	(124)	(4)
Accounts payable	4,627	(472)
Accrued liabilities	(359)	1,914
Cash used in operating activities	(32,322)	(43,304)
Cash flows from financing activities:		
Issuance of common shares under 2022 ATM	51	—
Issuance of common shares under 2020 ATM	50	36
Issuance of common shares pursuant to exercise of stock options	15	190
Cash provided by financing activities	116	226
Cash flows from (used in) investing activities:		
Maturity (acquisition) of investments, net	30,090	(34,996)
Purchase of property and equipment	(24)	(212)
Cash provided by (used in) investing activities	30,066	(35,208)
Effect of exchange rate fluctuations on cash and cash equivalents held	(4)	7
Decrease in cash and cash equivalents	(2,144)	(78,279)
Cash and cash equivalents, beginning of year	39,114	117,393
Cash and cash equivalents, end of year	$ 36,970	$ 39,114

See accompanying notes to consolidated financial statements.

1. **Reporting entity:**

Aptose Biosciences Inc. ("Aptose," the "Company," "we," "us," or "our") is a science-driven clinical stage biotechnology company committed to precision medicines addressing the unmet clinical needs in oncology, with an initial focus on hematology. The Company's small molecule cancer therapeutics pipeline includes products designed to provide single agent efficacy and to enhance the efficacy of other anti-cancer therapies and regimens without overlapping toxicities. The Company's executive offices are located in San Diego, California, and our head office is located in Toronto, Canada.

We are advancing targeted agents to treat life-threatening cancers that, in most cases, are not elective for patients and require immediate treatment. We have two clinical-stage investigational products for hematological malignancies: tuspetinib, an oral, potent myeloid kinase inhibitor, and luxeptinib, an oral, dual lymphoid and myeloid kinase inhibitor.

Since our inception, we have financed our operations and technology acquisitions primarily from equity financing, proceeds from the exercise of warrants and stock options, and interest income on funds held for future investment. Our uses of cash for operating activities have primarily consisted of salaries and wages for our employees, facility and facility-related costs for our offices and laboratories, fees paid in connection with preclinical and clinical studies, drug manufacturing costs, laboratory supplies and materials, and professional fees.

Management recognizes that in order for us to meet our capital requirements, and continue to operate, additional financing will be necessary. We plan to raise additional funds in order to fund our business operations. We will seek access to financing but there is no assurance that such additional funds will be available for us to finance our operations on acceptable terms, if at all. These conditions raise substantial doubt about the Company's ability to continue as a going concern, see Note 2(a). The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our trial, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If necessary funds are not available, we may have to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

We do not expect to generate positive cash flow from operations for the foreseeable future due to the early stage of our clinical trials. It is expected that negative cash flow will continue until such time, if ever, that we receive regulatory approval to commercialize any of our products under development and/or royalty or milestone revenue from any such products exceeds expenses.

Our cash needs for the next twelve months include estimates of the number of patients and rate of enrollment of our clinical trials, the amount of drug product that we will require to support our clinical trials, and our general corporate overhead costs to support our operations, and our reliance on our manufacturers. We have based these estimates on assumptions and plans which may change and which could impact the magnitude and/or timing of operating expenses and our cash runway, See Note 2(a).

The Company's financial statements are prepared using generally accepted accounting principles in the United States of America applicable to a going concern which contemplates the realization of assets and liquidation of liabilities in the normal course of business. As of December 31, 2022, the Company has an accumulated deficit of approximately $464.3 million; cash and cash equivalents and investment balances of approximately $47.0 million; and working capital of approximately $37.2 million. Management recognizes that in order for us to meet our capital requirements, and continue to operate, additional financing will be necessary. We plan to raise additional funds in order to fund our business operations through equity financing under the 2022 Base Shelf or the 2022 ATM Facility. We will seek access to financing but there is no assurance that such additional funds will be available for us to finance our operations on acceptable terms, if at all. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

On July 18, 2022, we received a letter from the Nasdaq Stock Market, LLC ("Nasdaq") indicating that, for the last 30 consecutive business days, the bid price for our common shares had closed below the minimum $1.00 per share required for continued inclusion on the Nasdaq Capital Market under the Nasdaq Listing Rules. Under Nasdaq Listing Rule 5810(c)(3)(A), if during the 180 calendar day period following the date of the notice the closing bid price of our common shares is at or above $1.00 for a minimum of 10 consecutive business days, we would regain compliance with the minimum bid price requirement and our common shares would continue to be eligible for listing on the Nasdaq Capital Market, absent noncompliance with any other requirement for continued listing.

On January 18, 2023, we qualified for a 180-day extension to July 18, 2023. If we are unable to meet the minimum closing bid price requirement under Nasdaq Listing Rule 5810(c)(3)(A) by then, Nasdaq will provide notice that our securities will be subject to delisting.

2. Significant accounting policies

(a) Basis of presentation – Going concern

These consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States, or GAAP and the rules and regulations of the Securities and Exchange Commission, or SEC, related to annual reports filed on Form 10-K, assuming the Company will continue as a going concern. The going concern assumption contemplates the realization of assets and satisfaction of liabilities in the normal course of business. However, substantial doubt about the Company's ability to continue as a going concern exists.

As of December 31, 2022, the Company had an accumulated deficit of approximately $464.3 million, cash and investment balances of approximately $47.0 million, and working capital of approximately $37.2 million. In order for the Company to meet its capital requirements, and continue to operate, additional financing will be necessary. The Company is evaluating strategies to obtain the required additional funding for future operations. These strategies may include, but are not limited to, obtaining equity financing, and restructuring of operations to decrease expenses. However, given the impact of the economic downturn on the U.S. and global financial markets, the Company may be unable to access further equity or when needed. As such, there can be no assurance that the Company will be able to obtain additional liquidity when needed or under acceptable terms, if at all. The consolidated financial statements do not reflect any adjustments to the carrying amounts and classification of assets, liabilities, and reported expenses that may be necessary if the Company were unable to continue as a going concern. Such adjustments may be material.

The functional and presentation currency of the Company is the US dollar.

(b) Basis of consolidation:

These consolidated financial statements include the accounts of its subsidiaries. All intercompany transactions, balances, revenue, and expenses are eliminated on consolidation.

(c) Significant accounting policies, estimates and judgments

The preparation of the consolidated financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and reported amounts of assets and liabilities at the date of the consolidated financial statements and reported amounts of revenue and expenses during the reporting period. Actual outcomes could differ from those estimates. The consolidated financial statements contain estimates, which by their nature, are uncertain.

The impacts of such estimates are pervasive throughout the consolidated financial statements and mayrequire accounting adjustments based on future occurrences.

The estimates and underlying assumptions are reviewed on a regular basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised and in any future periods affected.

(d) Leases

The Company's operating leases of tangible property with terms greater than twelve months are recognized as right of use assets, which represents the lessee's right to use, or control the use of, a specified asset for the lease term, and a corresponding lease liability, which represents the lessee's obligation to make lease payments under a lease, measured on a discounted basis. Landlord inducements in the form of free rent periods are netted against lease payments to the landlord in measuring right-of-use assets and lease liabilities.

(e) Cash and cash equivalents:

Cash and cash equivalents are short-term highly liquid investments with original maturities of 90 days or less as of the date of purchase. Cash equivalents are accounted for an amortized cost basis, which approximates their fair value due to their short-term maturities.

(f) Investments:

Investments consist of term deposits with original maturities greater than 90 days and are classified by management as securitiesavailable-for-sale. These available-for-sale securities are recorded at estimated fair values. Unrealized gains and losses on these investments are recorded in accumulated other comprehensive income (AOCI) in shareholder's equity. Realized gains and losses and declines in value that are judged to be other than temporary are included in interest income.

(g) Concentration of risk:

The Company is subject to credit risk from the Company's cash and cash equivalents and investments. The carrying amount of the financial assets represents the maximum credit exposure. The Company manages credit risk associated with its cash and cash equivalents and investments by maintaining minimum standards of R1-low or A-low investments and the Company invests only in highly rated corporations and treasury bills, which are capable of prompt liquidation.

The Company has cash accounts in Canada and the US. The Canada Deposit Insurance Corporation (CDIC) and the US Federal Deposit Insurance Corporation (FDIC) provide insurance to protect depositors against the loss of their deposits in case of a bank failure. However, the maximum amount of coverage varies by jurisdiction and account type. In Canada, the CDIC insures eligible deposits up to $100,000 (CAD) per depositor, per insured category, per member institution. In the United States, the FDIC insures deposits up to $250,000 per depositor, per insured bank, for each account ownership category. It is important to note that not all deposits are eligible for insurance coverage. For example, deposits in foreign currency, deposits held in trust, and investments such as mutual funds, stocks, and bonds are not insured by either the FDIC or CDIC.

The Company is subject to intermediary risk associated with the actions of financial intermediaries, such as banks or investment managers, who act on behalf of clients to buy and sell assets. The Company has diversified the investments with two large financial institutions to reduce the concentration of risk in any one institution, and spread the risk. This measure reduces the likelihood of being significantly impacted by the failure of a single financial institution.

The Company has reduced the exposure to individual investment vehicles to minimize the risk of loss in case of adverse events. The Company has diversified the investment portfolio across different asset classes and investment vehicles to achieve this goal.

(h) Property and equipment:

Property and equipment is measured at cost less accumulated depreciation and accumulated impairment losses. Cost includes expenditures that are directly attributable to the acquisition of the asset. The Company records depreciation at rates that charge operations with the cost of the assets over their estimated useful lives on a straight-line basis as follows:

Office furniture	5 years
Laboratory equipment	5 years
Computer hardware	3 years
Computer software	3 years
Leasehold improvements	Life of lease

The residual value, useful life and methods of depreciation of the assets are reviewed at each reporting period and adjusted prospectively if appropriate.

(i) Research and development:

Research and development (R&D) costs are expensed as incurred. R&D costs consist primarily of salaries and benefits, stock-based compensation, manufacturing, contract services, clinical trials and research related overhead. Non-refundable advance payments for goods and services that will be used in future research are recorded in prepaid and other assets and are expensed when the services are performed.

The Company records expenses for research and development activities based on Management's estimates of services received and efforts expended pursuant to contracts with vendors that conduct research and development on the Company's behalf. The financial terms vary from contract to contract and may result in uneven payment flows as compared with services performed or products delivered. As a result, the Company is required to estimate research and development expenses incurred during the period, which impacts the amount of accrued expenses and prepaid balances related to such costs as of each balance sheet date. Management estimates the amount of work completed through discussions with internal personnel and the contract research and contract manufacturing organizations as to the progress or stage of completion of the services. The Company's estimates are based on a number of factors, including the Company's knowledge of the status of each of the research and development project milestones, and contract terms together with related executed change orders. Management makes significant judgments and estimates in determining the accrued balance at the end of each reporting period.

(j) Fair value:

The Company measures its financial assets and liabilities at fair value. The carrying amounts for the Company's financial instruments, including cash and cash equivalents, accounts payable and accrued liabilities approximate their fair value due to their short maturities. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

(k) Stock-based compensation:

The Company has a stock-based compensation plan (the "Plan") available to officers, directors, employees, and consultants with grants under the Plan approved by the Company's Board of Directors. Under the Plan, the exercise price of each option equals the closing trading price of the Company's stock on the day prior to the grant if the grant is made during the trading day or the closing trading price on the day of the grant if the grant is issued after markets have closed. Vesting is provided for at the discretion of the Board of Directors and the expiration of options is to be no greater than 10 years from the date of grant.

The Company uses the fair value based method of accounting for employee awards granted under the Plan. The Company calculates the fair value of each stock option grant using the Black-Scholes option pricing model at the grant date. Thestock-based compensation cost of the options is recognized as stock-based compensation expense over the relevant vesting period of the stock options using an estimate of the number of options that will eventually vest.

Stock options awarded to non-employees are measured at the grant-date fair value of the equity instruments issued in accordance with FASB accounting standards update No 2018-07, Topic 718.

The Company has a stock incentive plan pursuant to which the Board maygrant equity settled stock-based awards comprised of restricted stock units or dividend equivalents to employees, officers, consultants, independent contractors, advisors and non-employee directors of the Company. Compensation cost for restricted share units is measured at fair value at the date of grant, which is the market price of the underlying security, and is expensed over the award's vesting period on a straight-line basis using an estimate of the number of awards that will eventually vest.

(l) Segment reporting:

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker, or CODM. The Company's Chief Executive Officer serves as its CODM. The Company views its operations and manages its business as one segment, which is the discovery and development of personalized therapies addressing unmet medical needs in oncology. The Company operates primarily in the US.

(m) Loss per share:

Basic loss per share is computed by dividing the net loss available to common shareholders by the weighted average number of shares outstanding during the year. Diluted loss per share is computed similarly to basic loss per share except that the weighted average share outstanding is increased to include additional shares for the assumed exercise of stock options and warrants, if dilutive. The number of additional shares is calculated by assuming that outstanding stock options and warrants were exercised and that the proceeds from such exercises were used to acquire common stock at the average market price during the year. The inclusion of the Company's stock options and warrants in the computation of diluted loss per share has an anti-dilutive effect on the loss per share and, therefore, they have been excluded from the calculation of diluted loss per share.

(n) Income taxes:

The Company accounts for income taxes under the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted rates in effect for the year in which these temporary differences are expected to be recovered or settled. Valuation allowances are provided if, based on the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company provides reserves for potential payments of tax to various tax authorities related to uncertain tax positions and other issues. Reserves are based on a determination of whether and how much of a tax benefit taken by the Company in its tax filing is more likely than not to be realized following resolution of any potential contingencies present related to the tax benefit. Potential interest and penalties associated with such uncertain tax positions are recorded as components of income tax expense. As of December 31, 2022 and December 31, 2021, the Company has not recorded any reserves for potential payments as the Company has a history of losses and does not have any revenue from operations.

(o) Recent Accounting Pronouncements

There were various accounting standards and interpretations issued recently, none of which are expected to have a material impact on our financial position, operations, or cash flows.

3. Cash and cash equivalents:

Cash and cash equivalents consists of cash of $596 thousand (December 31, 2021- $294 thousand), deposits in high interest savings accounts, money market funds and accounts with original maturities less than 90 days totaling $36.374 million (December 31, 2021 - $38.820 million). See Note 16, Subsequent Events.

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

4. Prepaid expenses:

	December 31, 2022	December 31, 2021
Prepaid research and development expenses	$ 1,271	$ 632
Prepaid insurance	893	1,811
Other prepaid expenses	139	33
Total	$ 2,303	$ 2,476

5. Property and equipment:

December 31, 2022	Cost	Accumulated depreciation	Net book value
Laboratory equipment	$ 197	$ 48	$ 149
Computer hardware	198	177	21
Computer software	222	222	—
Office furniture	140	117	23
Leasehold improvements	184	166	18
Total	$ 941	$ 730	$ 211

December 31, 2021	Cost	Accumulated depreciation	Net book value
Laboratory equipment	$ 369	$ 188	$ 181
Computer hardware	198	144	54
Computer software	222	222	—
Office furniture	140	95	45
Leasehold improvements	184	141	43
Total	$1,113	$ 790	$ 323

In the year ended December 31, 2022, the company recorded a loss on disposition of fixed assets of $16 thousand, with these assets having had an original cost of $196 thousand and accumulated depreciation of $180 thousand. Also in the year ended December 31, 2022, the Company had additions to fixed assets of $24 thousand.

6. Right-of-use assets, operating leases:

	Year ended December 31, 2022	Year ended December 31, 2021
Right-of-use assets, beginning of year	$ 1,860	$ 1,848
Additions to right-of-use assets	1,240	12
Right-of-use assets, end of year	3,100	1,860
Accumulated amortization	(1,803)	(1,395)
Right-of use assets, NBV	$ 1,297	$ 465

7. Investments:

Investments consisted of the following as of December 31, 2022 and December 31, 2021:

	December 31, 2022		
	Cost	Unrealized gain	Market value
United States Treasury Bills	$9,991	$ (2)	$9,989
Total	$9,991	$ (2)	$9,989

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

	December 31, 2021		
	Cost	Unrealized gain	Market value
Guaranteed Investment Certificate	$20,016	$ —	$20,016
Commercial notes	19,998	—	19,998
Total	$40,014	$ —	$40,014

The short-term U.S. Treasury Bills recorded as investments as of December 31, 2022 had maturities of one year.

8. Fair value measurements and financial instruments:

The fair value hierarchy establishes three levels to classify the inputs to valuation techniques used to measure fair value.

Level 1 - inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2 - inputs are quoted prices in markets that are not active, quoted prices for similar assets or liabilities in active markets, inputs other than quoted prices that are observable for the asset or liability, or inputs that are derived principally from or corroborated by observable market data or other means; and

Level 3 - inputs are unobservable (supported by little or no market activity).

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level*3* inputs.

The following table presents the fair value of the Company's financial instruments for the periods presented:

	December 31, 2022	Level 1	Level 2	Level 3
Assets				
Money Market accounts	$ 165	$ —	$ 165	$ —
Money Market Funds	22,343	—	22,343	—
High interest savings accounts	13,866	—	13,866	—
United States Treasury Bills	9,989	—	9,989	—
Total	$ 46,363	$ —	$46,363	$ —

	December 31, 2021	Level 1	Level 2	Level 3
Assets				
Money Market accounts	$ 17,974	$ —	$17,974	$ —
Money Market Funds	15,801	—	15,801	—
High interest savings accounts	5,045	—	5,045	—
Commercial notes	19,998	—	19,998	—
Guaranteed Investment Certificate	20,016	—	20,016	—
Total	$ 78,834	$ —	$78,834	$ —

9. Accrued liabilities:

Accrued liabilities as of December 31, 2022 and December 31, 2021 consisted of the following:

	December 31, 2022	December 31, 2021
Accrued personnel-related costs	$ 2,302	$ 2,152
Accrued research and development expenses	3,122	3,520
Other accrued expenses	233	344
Total	$ 5,657	$ 6,016

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

10. Lease liability

Aptose leases office space in San Diego, California and Toronto, Canada. The lease for the San Diego office space was scheduled to expire on March 31, 2023. On November 4, 2022, this lease was extended through May 31, 2026 (the "Third Amendment"). Management has determined that the Third Amendment represents a lease modification, as defined by ASC 842, *Leases*, does not meet the requirements for accounting as a separate contract and continues to meet the definition of an operating lease. Accordingly, the Company has accounted for the Third Amendment prospectively, via remeasurements, on the Modification Date, to the lease liability and corresponding right-of-use asset. Aptose previously leased lab space in San Diego, which we exited prior to the expiration of the lease on February 28, 2023. The costs incurred in exiting this laboratory space were not material. We lease office space in Toronto, Ontario, Canada, with this lease previously scheduled to expire on June 30, 2023. This lease was extended for one year on February 23, 2023, with this extension expiring on June 30, 2024. The Company has not included any extension periods in calculating its right-to-use assets and lease liabilities. The Company also enters into leases for small office equipment.

Minimum payments, undiscounted, under our operating leases are as follows:

Years ending December 31,	
2023	$ 394
2024	447
Thereafter	659
Total	$1,500

To calculate the lease liability, the lease payments in the table above were discounted over the remaining term of the leases using the Company's incremental borrowing rate as of January 1, 2019 for existing leases at the time of adopting ASC 842, and for new leases after the date adoption, as of the date of the execution date of the new lease. The following table presents the weighted average remaining term of the leases and the weighted average discount rate:

	December 31, 2022	**December 31, 2021**
Weighted-average remaining term – operating leases (years)	3.3	1.2
Weighted-average discount rate – operating leases	6.62%	5.37%
Lease liability, current portion	$ 301	$ 459
Lease liability, long term portion	1,002	115
Lease liability, total	$ 1,303	$ 574

Operating lease costs and operating cash flows from our operating leases are as follows:

	Year ended December 31, 2022	**Year ended December 31, 2021**
Operating lease cost	$ 443	$ 515
Operating cash flows from operating leases	$ 546	$ 555

11. **Share capital:**

The Company has authorized share capital of an unlimited number of common voting shares.

(a) Equity issuances:

(i) 2022 At-The-Market ("ATM") Facility

On December 9, 2022, the Company entered into an equity distribution agreement with Jones Trading acting as the agent in connection with the 2022 ATM Facility. Under the terms of the 2022 ATM Facility, the Company may, from time to time, sell common shares having an aggregate offering value of up to $50 million through Jones Trading on the Nasdaq Capital Market. During the year ended December 31, 2022, the Company issued 72,541 shares under this ATM Facility at an average price of $0.72 for gross proceeds of $52 thousand ($51 thousand net of share issuance costs). Costs associated with the proceeds consisted of 3% cash commission.

(ii) Hanmi Licensing Payment

On December 9, 2021, the Effective date, the Company entered into an exclusive license agreement with Hanmi Pharmaceutical Co. Ltd. (Hanmi) for global rights to tuspetinib. Pursuant to the terms of this agreement, on December 14, 2021, the Company issued 3,235,548 common shares as a partial upfront payment to Hanmi in consideration of the license and other rights granted for a total cost of $7.5 million. The number of common shares issued is determined using the average market closing price of the common shares on the Nasdaq stock market over the five (5) trading day period ending on the Effective Date. See also Note 13, Collaborative agreements.

(iii) 2020 At-The-Market ("ATM") Facility

On May 5, 2020, the Company entered into an equity distribution agreement with Piper Sandler and Canaccord Genuity (the "Agreement") acting as co-agents in connection with the 2020 ATM Facility. Under the terms of the 2020 ATM Facility, the Company may, from time to time, sell common shares having an aggregate offering value of up to $75 million through Piper Sandler and Canaccord Genuity on the Nasdaq Capital Market. During the period from January 1, 2022 to October 21, 2022, the date the Agreement was terminated, the Company issued 54,687 shares under this ATM equity facility at an average price of $0.95 for gross proceeds of $52 thousand ($50 thousand net of share issuance costs). During the year ended December 31, 2021, the Company issued 15,315 shares under the facility at an average price of $2.446 for gross proceeds of $37 thousand ($36 thousand net of share issue costs). As of October 21, 2022, the date the Agreement was terminated, the Company had raised a total of $89 thousand gross proceeds ($86 thousand net of share issuance costs) under the 2020 ATM Facility. Costs associated with the proceeds consisted of a 3% cash commission.

(b) Loss per share:

Loss per common share is calculated using the weighted average number of common shares outstanding and is presented in the table below:

(in thousands)	Year ended December 31, 2022	Year ended December 31, 2021
Net loss	$ (41,823)	$ (65,354)
Weighted-average common shares – basic and diluted	92,267	89,086
Net loss per share – basic and diluted	$ (0.45)	$ (0.73)

The effect of any potential exercise of the Company's stock options outstanding during the years ended December 31, 2022 and December 31, 2021 has been excluded from the calculation of diluted loss per common share as it would be anti-dilutive.

12. Stock-based compensation:

(a) Stock option plan and employee stock purchase plan

Effective June 1, 2021, the Company adopted a new stock incentive plan (New Incentive Plan) and an employee stock purchase plan (ESPP).

The New Incentive Plan authorizes the Board of Directors to administer the New Incentive Plan to provideequity-based compensation in the form of stock options, stock appreciation rights., restricted stock, restricted stock units and Dividend Equivalents.

The Corporation currently maintains its existing Share Option Plan and 2015 Stock Incentive Plan (2015 SIP). Effective June 1, 2021 no further grants will be made under the Share Option Plan or 2015 SIP, though existing grants under the Share Option Plan will remain in effect in accordance with their terms.

The aggregate number of our common shares, no par value, that may be issued under all awards under the New Incentive Plan is (i) 6,343,242, plus (ii) any of our common shares subject to any outstanding award under our prior plans that, after June 1, 2021, are not purchased or are forfeited or reacquired by us, or otherwise not delivered to the participant due to termination, cancellation or cash settlement of such award subject to the share counting provisions of the New Incentive Plan.

Under both the Share Option Plan and the New Incentive Plan, the exercise price of each option equals the closing trading price of the Company's stock on the day prior to the grant if the grant is made during the trading day or the closing trading price on the day of grant if the grant is issued after markets have closed. Vesting is provided for at the discretion of the Board of Directors and the expiration of options is to be no greater than 10 years from the date of grant.

The Company uses the fair value-based method of accounting for employee awards granted under both plans. The Company calculates the fair value of each stock option grant using the Black-Scholes option pricing model at the grant date. Thestock-based compensation cost of the options is recognized as stock-based compensation expense over the relevant vesting period of the stock options using an estimate of the number of options that will eventually vest.

The ESPP, which is administered by the Board of Directors, allows eligible employees of the Company with an opportunity to purchase common shares through accumulated payroll deductions up to a maximum 15% of eligible compensation. The ESPP will be implemented by consecutive offering periods with a new offering period commencing on the first trading day on or after February 1 and August 1 each year, or on such other date as the Board of Directors will determine, and continuing thereafter until terminated in accordance with the Plan. Unless the Board of Directors provides otherwise, the purchase price will be equal to eighty-five percent (85%) of the fair market value of a Common Share on the offering date or the exercise date, whichever is lower.

The maximum number of common shares which will be made available for sale under the ESPP will be 1,700,000 common shares.

The first six-month offering period began on February 1, 2022 and ended on August 1, 2022. There were 10,858 common shares issued under the ESPP as of December 31, 2022 (December 31, 2021 - nil). The second six-month period began on August 1, 2022 and ended on February 1, 2023.

Stock option transactions for the year ended December 31, 2022 and December 31, 2021, are summarized as follows:

	Options (in thousands)	Weighted average exercise price	Weighted average remaining contractual life (years)	Aggregate Intrinsic Value
Outstanding, December 31, 2020	11,942	$ 4.97		
Granted	4,659	3.84		
Exercised	(82)	2.32		
Forfeited	(1,407)	5.38		
Outstanding, December 31, 2021	15,112	$ 4.61		
Granted	6,295	1.19		
Exercised	(14)	1.08		
Forfeited	(4,890)	3.84		
Outstanding, December 31, 2022	16,503	$ 3.48	6.8	$ —
Exercisable, December 31, 2022	8,251	$ 4.52	5.4	$ —
Vested and expected to vest, December 31, 2022	15,263	$ 3.57	6.7	$ —

Aggregate intrinsic value represents the excess of the value of the closing stock price on the previous trading day of the respective balance sheet dates over the exercise price of the stock options. Total intrinsic value of options exercised was $3 thousand for 2022 (2021 – $222 thousand).

As of December 31, 2022, there was $2.68 million of total unrecognized compensation cost related tonon-vested stock options, which is expected to be recognized over an estimated weighted-average period of 1.52 years.

The following table presents the weighted average assumptions that were used in theBlack-Scholes option pricing model to determine the fair value of stock options granted during the period, and the resultant weighted average fair values:

	Year ended December 31, 2022	Year ended December 31, 2021
Risk-free interest rate	2.17%	0.59%
Expected dividend yield	—	—
Expected volatility	82.7%	81.8%
Expected life of options (years)	5	5
Grant date fair value	$ 0.79	$ 2.47

The Company uses historical data to estimate the expected dividend yield and expected volatility of its common shares in determining the fair value of stock options. The expected life of the options represents the estimated length of time the options are expected to remain outstanding.

The following table presents the vesting terms of options granted in the period:

	Year ended December 31, 2022	Year ended December 31, 2021
	Options (in thousands)	Options (in thousands)
Cliff vesting after one year anniversary	—	—
3-year vesting (50%-25%-25%)	425	430
4-year vesting (50%-16 2/3%-16 2/3%-16 2/3%)	5,270	3,429
Earlier of performance criteria or 4 years	600	800
Total stock options granted in the year	6,295	4,659

During the year ended December 31, 2022, the option agreements of one Company officer were modified as part of a separation and release agreement. Vested options of 851,053, with exercise prices ranging from $1.34 to $6.91, were allowed to continue to be exercisable for an additional 12-month period, and also 477,166 options that would have expired unvested, were allowed to continue to vest for a12-month period. As there was no service requirement, during the year ended December 31, 2022, the company recorded $67 thousand in additional compensation related to these modifications.

During the year ended December 31, 2022, the Company issued 600,000 performance stock options (PSOs) to one officer of the Company. 500,000 PSOs will vest in tranches connected with financing events, and the remaining 100,000 PSOs will vest in connection with licensing and partnering events. If any performance triggers are not attained, such unvested PSOs will vest on the fourth anniversary of the grant.

During the year ended December 31, 2021, the option agreements of one officer were modified as part of a separation and release agreement. Vested options of 1,679,169, with exercise prices ranging from $1.03 to $7.44, were allowed to continue to be exercisable for an additional 12-month period, and also 504,833 options that would have expired unvested were allowed to continue to vest for a 12-month period. As there was no service requirement, during the year ended December 31, 2021, the Company recorded $945 thousand and $663 thousand additional compensation related to these modifications for the vested and unvested options, respectively. All options expired on December 31, 2022.

During the year ended December 31, 2021, the Company issued 800,000 performance stock option (PSO) to two officers of the Company. One officer received 400,000 PSOs, of which 200,000 PSOs will vest in tranches connected with financing events, and the remaining 200,000 PSOs will vest in connection with licensing and partnering events. The other officer received 400,000 PSOs, of which 200,000 PSOs will vest in tranches connected to dose escalation trials and the remaining 200,000 PSOs will vest in connection with expansion trials. If such performance triggers are not attained, such PSOs will vest on the fourth anniversary of the grant. On November 11, 2021, the performance criteria connected with the financing events were met, and 200,000 PSOs were vested.

(b) Share-based payment expense

The Company recorded share-based payment expense related to stock options and RSUs as follows:

	Year ended December 31, 2022	Year ended December 31, 2021
Research and development	$ 2,218	$ 3,789
General and administrative	2,989	9,160
Total	$ 5,207	$ 12,949

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

13. **Collaborative agreements:**

The Company enters into research, development and license agreements in the ordinary course of business where the Company receives research services and rights to proprietary technologies. Milestone and royalty payments that may become due under various agreements are dependent on, among other factors, clinical trials, regulatory approvals and ultimately the successful development of a new drug, the outcome and timing of which is uncertain.

On November 4, 2021, the Effective Date, the Company entered into an exclusive license agreement with Hanmi Pharmaceutical Co. Ltd. (Hanmi) for global rights to its compound named tuspetinib. In consideration of the license and other rights granted, Aptose made an upfront payment to Hanmi in the amount of $12.5 million, including $5.0 million in cash and $7.5 million in Aptose common shares (the "Shares"). The number of Shares issued was determined using the average market closing price of the common shares on the NASDAQ stock market over the five (5) trading day period ending on the Effective Date. Accordingly, Aptose issued 3,235,548 shares to Hanmi.

Under the Company's license agreement with Hanmi, the Company has maximum obligations for clinical development and global regulatory milestones totaling $64.5 million for the first potential clinical indication of tuspetinib, $34 million for the second indication, and $29 million for the third indication. The company has maximum obligations for tiered global sales-based milestones totaling $280 million. The Company also has an obligation for tiered royalty payments on global sales of commercialized product. The timing of any milestone or royalty payments that may become due is not yet determinable.

Under the Company's license agreement with CrystalGenomics for rights to luxeptinib in all territories outside of the Republic of Korea and China, the Company has obligations for development milestones of $16 million related to the initiation of Phase 2 and pivotal clinical trials, and regulatory milestones totaling $44 million. The Company also has an obligation to pay royalty payments on sales of commercialized product. The timing of any milestone or royalty payments that may become due is not yet determinable.

On June 13, 2018, the Company entered into a license agreement with CrystalGenomics to gain an exclusive license to luxeptinib in China. The Company has potential future obligations of development milestones of $6 million related to approval of an Investigational New Drug ("IND") and to the initiation of Phase 2 and pivotal clinical trials, and regulatory milestones totaling $20 million. The Company also has an obligation to pay sales milestones and royalty payments on sales of commercialized product. The timing or likelihood of any milestone or royalty payments that may become due is not yet determinable.

14. **Income taxes:**

(a) Income taxes

For the years ended December 31, 2022 and 2021, the total comprehensive loss is as follows:

	December 31, 2022	December 31, 2021
Loss attributed to US foreign operations	$ (36,615)	$ (52,447)
Loss attributed to Canadian operations	(5,208)	(12,907)
Loss before income taxes	$ (41,823)	$ (65,354)

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

(b) Tax rate reconciliation

Major items causing the Company's income tax rate to differ from the statutory rate of approximately 26.5% (December 31, 2021 – 26.5%) are as follows:

	Year ended December 31, 2022	Year ended December 31, 2021
Net loss	$ (41,823)	$ (65,354)
Statutory Canadian corporate tax rate	26.5%	26.5%
Computed expected tax recovery	$ (11,083)	$ (17,319)
Non-deductible permanent differences	1,376	3,707
Change in valuation allowance	10,821	15,274
Foreign tax rate differential	(466)	(683)
Prior year true-up adjustments	(703)	(951)
Other	55	(28)
	$ —	$ —

(c) Significant components of deferred taxes

The tax effects of temporary differences that give rise to significant portions of the unrecognized deferred tax assets are presented below:

	December 31, 2022	December 31, 2021
Net operating losses carried forward	$ 60,092	$ 49,286
Research and development expenditures	5,023	5,032
Property, equipment, and other intangible assets	7,264	7,261
Research and development tax credits	4,968	4,202
Financing costs	873	1,580
Right-of-use assets	2	40
Total deferred tax assets	78,222	67,401
Valuation allowance	(78,222)	(67,401)
Net deferred tax asset	$ —	$ —

The valuation allowance at December 31, 2022 was primarily related to net operating loss carryforwards that, in the judgment of management, are not more-likely than-not to be realized. In assessing the realizability of deferred tax assets, management considers whether it ismore-likely-than-not that all or some portion of the deferred assets will not be realized. This ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the period in which those deductible temporary difference become deductible. Based on the history of losses and projections for future taxable income, management believes that it is not more-likely than-not that the Company will realize the benefits of these deductible temporary differences (e.g. deferred tax assets).

The Company has certain deductible Canadian research and development expenditures that have not been deducted for tax purposes, totaling $19.0 million, that can be carried forward indefinitely. The Company also has Canadian non-refundable federal and provincial investment tax credits of approximately $3.0 million which are available to reduce future federal taxes payable and begin to expire in 2023, as well as non-refundable US research and development tax credits of approximately $2.6 million which are available to reduce future US taxes payable and begin to expire in 2038.

In addition, the Company has Canadian non-capital loss carryforwards of $216.9 million. To the extent that thenon-capital loss carryforwards are not used, they begin to expire in 2026. The Company also has a US non-capital loss carryforward of $1.0 million. To the extent that thenon-capital loss carryforwards are not used, they begin to expire in 2034.

(Tabular amounts in thousands of United States dollars, except as otherwise noted)

The Company files income tax returns with Canada and its provinces and territories. Generally, we are subject to routine examinations by the Canada Revenue Agency ("CRA"). Income tax returns filed with various provincial jurisdictions are generally open to examination for periods of four to five years subsequent to the filing of the respective return.

The Company also files income tax returns for our U.S. operations and subsidiary with the U.S. federal and state tax jurisdictions. Generally, we are subject to routine examination by taxing authorities in the U.S. jurisdictions. There are presently no examination of our U.S. federal and U.S. state returns. We believe that our tax positions comply with the applicable tax law.

15. Selected quarterly financial data (unaudited):

Selected financial data (unaudited) for the periods presented was as follows:

	March 31, 2022	June 30, 2022	September 30, 2022	December 31, 2022
Revenue	$ —	$ —	$ —	$ —
Net loss	(11,481)	(10,565)	(9,777)	(10,000)
Basic and diluted loss per common share	(0.12)	(0.11)	(0.11)	(0.11)

	March 31, 2021	June 30, 2021	September 30, 2021	December 31, 2021
Revenue	$ —	$ —	$ —	$ —
Net loss	(16,227)	(13,470)	(11,333)	(24,324)
Basic and diluted loss per common share	(0.18)	(0.15)	(0.13)	(0.27)

16. Subsequent events

Subsequent to the year end, the Company issued 3,219,600 stock options to directors, officers, employees and consultants with an average exercise price of $0.67. 2,461,400 stock options vest 50% after one year and 16.67% on each of the next three anniversaries, and 725,000 options vest 50% after one year and 25% on each of the next two anniversaries.

On January 19, 2023, the Company granted 570,000 RSUs with immediate vesting. On February 6, 2023, all of these restricted stock units were redeemed for 570,000 common shares.

On March 13, 2022, the Company transferred all of its cash deposits from Silicon Valley Bank to a large US bank with a strong credit rating. The Company has securities held in custody at a different large, credit-worthy US bank, in money market accounts invested in US treasury notes. The Company established direct relationships with this bank after the closure of Silicon Valley Bank.

PART I—FINANCIAL INFORMATION

ITEM 1 – FINANCIAL STATEMENTS

Condensed Consolidated Interim Financial Statements

(Unaudited)

APTOSE BIOSCIENCES INC.

For the three months and nine months ended September 30, 2023 and 2022

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Financial Position
(Expressed in thousands of US dollars)
(unaudited)

	September 30, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 15,720	$ 36,970
Investments	1,997	9,989
Prepaid expenses	1,693	2,303
Other current assets	261	257
Total current assets	19,671	49,519
Non-current assets:		
Property and equipment	170	211
Right-of-use assets, operating leases	1,035	1,297
Total non-current assets	1,205	1,508
Total assets	$ 20,876	$ 51,027
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 2,811	$ 6,326
Accrued liabilities	9,129	5,657
Advance for equity issuances	50	—
Current portion of lease liability, operating leases	390	301
Total current liabilities	12,380	12,284
Non-current liabilities:		
Lease liability, operating leases	720	1,002
Total liabilities	13,100	13,286
Shareholders' equity:		
Share capital:		
Common shares, no par value, unlimited authorized shares, 7,542,760 and 6,157,749 shares issued and outstanding as of September 30, 2023 and December 31, 2022, respectively	443,938	437,520
Additional paid-in capital	71,735	68,869
Accumulated other comprehensive loss	(4,315)	(4,318)
Deficit	(503,582)	(464,330)
Total shareholders' equity	7,776	37,741
Total liabilities and shareholders' equity	$ 20,876	$ 51,027

The accompanying notes are an integral part of these condensed consolidated interim financial statements (unaudited).
Going concern, see Note 2.
Commitments, see Note 9.
Related party transactions, see Note 10.
Subsequent events, see Note 13.

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Loss and Comprehensive Loss
(Expressed in thousands of US dollars, except for per common share data)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	2023	2022
Revenue	$ —	$ —	$ —	$ —
Expenses:				
Research and development	8,256	6,578	27,649	21,312
General and administrative	3,425	3,448	12,580	10,887
Operating expenses	11,681	10,026	40,229	32,199
Other income/(expense):				
Interest income	232	254	980	387
Foreign exchange gain/(loss)	2	(5)	(3)	(11)
Total other income	234	249	977	376
Net loss	$(11,447)	$ (9,777)	$(39,252)	$(31,823)
Other comprehensive loss:				
Unrealized gain/(loss) on available-for-sale securities	—	20	3	(17)
Total comprehensive loss	$(11,447)	$ (9,757)	$(39,249)	$(31,840)
Basic and diluted loss per common share	$ (1.76)	$ (1.59)	$ (6.14)	$ (5.17)
Weighted average number of common shares outstanding used in the calculation of (in thousands) Basic and diluted loss per common share	6,495	6,153	6,391	6,150

The accompanying notes are an integral part of these condensed consolidated interim financial statements (unaudited).

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Changes in Shareholders' Equity
(Expressed in thousands of US dollars, except for per common share data)
(unaudited)

	Common Shares					
	Shares (in thousands)	Amount	Additional paid-in capital	Accumulated other comprehensive loss	Deficit	Total
Balance, December 31, 2022	6,158	$437,520	$ 68,869	$ (4,318)	$(464,330)	$ 37,741
Common shares issued under the Hanmi Subscription Agreement	668	3,000	—	—	—	3,000
Common shares issued in exchange for RSUs	38	376	(376)	—	—	—
Common shares issued under the 2023 Committed Equity Facility	336	1,185	—	—	—	1,185
Common shares issued under the 2022 ATM Facility	337	1,828	—	—	—	1,828
Stock-based compensation	—	—	3,242	—	—	3,242
Common shares issued under the ESPP plan	6	29	—	—	—	29
Other comprehensive gain	—	—	—	3	—	3
Net loss	—	—	—	—	(39,252)	(39,252)
Balance, September 30, 2023	7,543	$443,938	$ 71,735	$ (4,315)	$(503,582)	$ 7,776
Balance, December 31, 2021	6,148	$437,386	$ 63,673	$ (4,316)	$(422,507)	$ 74,236
Common shares issued under the 2020 ATM Facility	4	50	—	—	—	50
Common shares issued upon exercise of stock options	1	26	(11)	—	—	15
Common shares issued under the ESPP plan	1	7	—	—	—	7
Stock-based compensation	—	—	4,346	—	—	4,346
Other comprehensive loss	—	—	—	(17)	—	(17)
Net loss	—	—	—	—	(31,823)	(31,823)
Balance, September 30, 2022	6,154	$437,469	$ 68,008	$ (4,333)	$(454,330)	$ 46,814

The accompanying notes are an integral part of these condensed consolidated interim financial statements (unaudited).

APTOSE BIOSCIENCES INC.
Condensed Consolidated Interim Statements of Cash Flows
(Expressed in thousands of US dollars)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	2023	2022
Cash flows used in operating activities:				
Net loss for the period	$(11,447)	$ (9,777)	$(39,252)	$(31,823)
Items not involving cash:				
Stock-based compensation	599	1,053	3,242	4,346
Depreciation and amortization	20	30	70	92
Loss on disposal of property and equipment	—	—	—	4
Amortization of right-of-use assets	91	111	286	336
Interest on lease liabilities	23	4	73	17
Unrealized (gain)/loss on short-term investment	(1)	7	(3)	10
Accrued interest on investments	(44)	78	(56)	85
Changes in non-cash operating assets and liabilities:				
Prepaid expenses	29	825	646	1,638
Other current assets	(44)	(225)	(4)	(213)
Operating lease liabilities	(117)	(134)	(290)	(411)
Accounts payable	(690)	23	(3,515)	717
Accrued liabilities	1,045	1,026	3,472	1,531
Cash used in operating activities	(10,536)	(6,979)	(35,331)	(23,671)
Cash flows from financing activities:				
Shares issuances to Hanmi under subscription agreement	3,000	—	3,000	—
Issuance of common shares under 2022 ATM Facility	694	—	1,837	—
Issuance of common shares under 2023 Committed Equity Facility	1,150	—	1,150	—
Share subscription advance under the 2023 Committed Equity Facility	50	—	50	—
Cost of offering	(5)	—	(10)	—
Issuance of common shares under the ESPP plan	13	—	29	—
Issuance of common shares under 2020 ATM Facility	—	21	—	50
Issuance of common shares upon exercise of stock options	—	—	—	15
Cash from financing activities	4,902	21	6,056	65
Cash flows from/(used in) investing activities:				
Maturity /(acquisition) of investments, net	12,953	(5,078)	8,051	12,517
Purchase of property and equipment	—	—	(29)	(24)
Cash from/(used in) investing activities	12,953	(5,078)	8,022	12,493
Effect of exchange rate fluctuations on cash and cash equivalents	1	(7)	3	(10)
Increase /(decrease) in cash and cash equivalents	$ 7,320	$(12,043)	$(21,250)	$(11,123)
Cash and cash equivalents, beginning of period	$ 8,400	$ 40,034	$ 36,970	$ 39,114
Cash and cash equivalents, end of period	$ 15,720	$ 27,991	$ 15,720	$ 27,991

The accompanying notes are an integral part of these condensed consolidated interim financial statements (unaudited).

APTOSE BIOSCIENCES INC.
Notes to Condensed Consolidated Interim Financial Statements (unaudited)
Three months and nine months ended September 30, 2023 and 2022
(Tabular amounts in thousands of United States dollars, except as otherwise noted)

1. Reporting entity:

Aptose Biosciences Inc. ("Aptose," "the Company," "we," "us," or "our") is a science-driven, clinical-stage biotechnology company committed to the development and commercialization of precision medicines addressing unmet clinical needs in oncology, with an initial focus on hematology. The Company's small molecule cancer therapeutics pipeline includes products designed to provide single agent efficacy and to enhance the efficacy of other anti-cancer therapies and regimens without overlapping toxicities. The Company's executive offices are located in San Diego, California, and our head office is located in Toronto, Canada.

We are advancing targeted agents to treat life-threatening hematologic cancers that, in most cases, are not elective for patients and require immediate treatment. We have two clinical-stage investigational products for hematological malignancies: tuspetinib, an oral, potent myeloid kinase inhibitor, and luxeptinib, an oral, dual lymphoid and myeloid kinase inhibitor.

Since our inception, we have financed our operations and technology acquisitions primarily from equity financing, proceeds from the exercise of warrants and stock options, and interest income on funds held for future investment. Our uses of cash for operating activities have primarily consisted of salaries and wages for our employees, facility and facility-related costs for our offices and laboratories, fees paid in connection with preclinical and clinical studies, licensing fees, drug manufacturing costs, laboratory supplies and materials, and professional fees.

Management recognizes that in order for us to meet our capital requirements, and continue to operate, additional financing will be necessary. We plan to raise additional funds to fund our business operations but there is no assurance that such additional funds will be available for us to finance our operations on acceptable terms, if at all. The Company's current cash, cash equivalents and investments will enable the support of operations through March 2024. These conditions raise substantial doubt about the Company's ability to continue as a going concern, see Note 2(a). The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Our ability to raise additional funds could be affected by adverse market conditions, the status of our product pipeline, possible delays in enrollment in our trial, and various other factors and we may be unable to raise capital when needed, or on terms favorable to us. If necessary funds are not available, we may have to delay, reduce the scope of, or eliminate some of our development programs, potentially delaying the time to market for any of our product candidates.

We do not expect to generate positive cash flow from operations for the foreseeable future due to the early stage of our clinical trials. It is expected that negative cash flow will continue until such time, if ever, that we receive regulatory approval to commercialize any of our products under development and/or royalty or milestone revenue from any such products exceeds expenses.

Our cash needs for the next twelve months include estimates of the number of patients and rate of enrollment of our clinical trials, the amount of drug product that we will require to support our clinical trials, and our general corporate overhead costs to support our operations, and our reliance on our manufacturers. We have based these estimates on assumptions and plans which may change and which could impact the magnitude and/or timing of operating expenses and our cash runway, See Note 2(a).

The Company's financial statements are prepared using generally accepted accounting principles in the United States of America applicable to a going concern which contemplates the realization of assets and liquidation of liabilities in the normal course of business. As of September 30, 2023, the Company had an accumulated deficit of approximately $503.6 million (December 31, 2022, $464.3 million); cash and cash equivalents and investment balances of approximately $17.7 million (December 31, 2022, $47.0 million); and working capital of approximately $7.3 million (December 31, 2022, $37.2 million). Management recognizes that in order to meet the capital requirements, and continue to operate, additional financing will be necessary. The Company plans to raise additional funds to fund our business operations through equity financing under the 2022 ATM Facility, 2023 Committed Equity Facility and the Hanmi Subscription Agreement, as further described in note 10. Management continues considering other options for raising capital including debt, equity, collaborations, and reorganization to reduce operational expenses. However, given the impact of the financial markets, the Company may be unable to access financing when needed. As such, there can be no assurance that the Company will be able to obtain additional liquidity when needed or under acceptable terms, if at all. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

On May 23, 2023, during the Aptose Annual and Special Meeting of Shareholders, our shareholders voted to approve special resolutions providing for an amendment to our articles of incorporation to effect a reverse share split of our outstanding common shares, at a ratio in the range of 1-for-10 to 1-for-20. Our Board of Directors then approved a ratio of1-for-15 on May 23, 2023. On May 24, 2023, we filed articles of amendment under the*Canada Business Corporations Act* ("CBCA") 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 references in this report to historical common share prices, numbers of common shares, and earnings per share calculations have been presented to reflect the effect of the Reverse Stock Split.

2. Significant accounting policies:

a. Basis of presentation—Going concern

These unaudited consolidated condensed financial statements have been prepared in conformity with generally accepted accounting principles in the United States, or GAAP and the rules and regulations of the Securities and Exchange Commission, or SEC, related to quarterly reports filed on Form 10-Q, assuming the Company will continue as a going concern. The going concern assumption contemplates the realization of assets and satisfaction of liabilities in the normal course of business. However, substantial doubt about the Company's ability to continue as a going concern exists.

As of September 30, 2023, the Company had an accumulated deficit of approximately $503.6 million (December 31, 2022, $464.3 million); cash and cash equivalents and investment balances of approximately $17.7 million (December 31, 2022, $47.0 million); and working capital of approximately $7.3 million (December 31, 2022, $37.2 million). In order for the Company to meet its capital requirements, and continue to operate, additional financing will be necessary. The Company is evaluating strategies to obtain the required additional funding for future operations. These strategies may include, but are not limited to, obtaining equity financing, debt financing, committed equity facilities or other financing instruments and restructuring of operations to decrease expenses. However, given the impact of the economic downturn on the U.S. and global financial markets, the Company may be unable to access further equity when needed. As such, there can be no assurance that the Company will be able to obtain additional liquidity when needed or under acceptable terms, if at all. The Company's current cash, cash equivalents and investments will enable the support of operations through March 2024. The consolidated financial statements do not reflect any adjustments to the carrying amounts and classification of assets, liabilities, and reported expenses that may be necessary if the Company were unable to continue as a going concern. Such adjustments may be material.

b. Basis of consolidation:

These condensed consolidated interim financial statements include the accounts of the Company and its subsidiaries. All intercompany transactions, balances, revenue, and expenses are eliminated on consolidation.

c. Significant accounting policies, estimates and judgments:

During the nine months ended September 30, 2023, there have been no changes to our significant accounting policies as described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 filed with the SEC on March 24, 2023.

The preparation of the condensed consolidated interim financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and reported amounts of assets and liabilities at the date of the consolidated financial statements and reported amounts of revenue and expenses during the reporting period. Actual outcomes could differ from those estimates. The condensed consolidated interim financial statements include estimates, which, by their nature, are uncertain.

The impacts of such estimates are pervasive throughout the condensed consolidated interim financial statements and may require accounting adjustments based on future occurrences.

The estimates and underlying assumptions are reviewed on a regular basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised and in any future periods affected.

d. Recent Accounting Pronouncements

We have adopted no new accounting pronouncements during the nine months ended September 30, 2023. There were various accounting standards and interpretations issued recently, none of which are expected to have a material impact on our financial position, operations or cash flows.

e. Foreign currency:

The functional and presentation currency of the Company is the US dollar.

f. Concentration of risk:

The Company is subject to credit risk from the Company's cash and cash equivalents and investments. The carrying amount of the financial assets represents the maximum credit exposure. The Company manages credit risk associated with its cash and cash equivalents and investments by maintaining minimum standards of R1-low or A-low investments and the Company invests only in highly rated corporations and treasury bills, which are capable of prompt liquidation.

3. Cash and cash equivalents:

Cash and cash equivalents as of September 30, 2023, consist of cash of $1.691 million (December 31, 2022- $596 thousand), deposits in high interest savings accounts, money market funds and accounts with maturities of less than 90 days totaling of $14.029 million (December 31, 2022 - $36.374 million).

4. Prepaid expenses:

Prepaid expenses as of September 30, 2023 and December 31, 2022 are shown below. Other prepaid expenses primarily consist of subscriptions, software, conference deposits and deposits for general and administrative items.

	September 30, 2023	December 31, 2022
Prepaid research and development expenses	$ 1,069	$ 1,271
Prepaid insurance	108	893
Deferred financing expenses	248	5
Other prepaid operating expenses	268	134
Total	$ 1,693	$ 2,303

5. Right-of-use assets:

	September 30, 2023	December 31, 2022
Right-of-use assets, beginning of period	$ 3,100	$ 1,860
Additions to right-of-use assets	24	1,240
Right-of-use assets, end of period	3,124	3,100
Accumulated amortization	(2,089)	(1,803)
Right-of use assets, NBV	$ 1,035	$ 1,297

6. Investments:

Investments consisted of the following as of September 30, 2023 and December 31, 2022:

	September 30, 2023		
	Cost	Unrealized gain/(loss)	Market value
Commercial Notes	1,996	1	1,997
Total	$1,996	$ 1	$1,997

	December 31, 2022		
	Cost	Unrealized gain/(loss)	Market value
United States Treasury Bills	$9,991	$ (2)	$9,989
Total	$9,991	$ (2)	$9,989

7. Fair value measurements and financial instruments:

The fair value hierarchy establishes three levels to classify the inputs to valuation techniques used to measure fair value.

Level 1 - inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2 - inputs are quoted prices in markets that are not active, quoted prices for similar assets or liabilities in active markets, inputs other than quoted prices that are observable for the asset or liability, or inputs that are derived principally from or corroborated by observable market data or other means; and

Level 3 - inputs are unobservable (supported by little or no market activity).

The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs.

The following table presents the fair value of Company's assets that are measured at fair value on a recurring basis for the periods presented:

	September 30, 2023	Level 1	Level 2	Level 3
Assets				
Money Market funds	$ 2,005	$ —	$ 2,005	$ —
High interest savings account	4,565	—	4,565	—
United States Treasury Bills	7,459	—	7,459	—
Commercial Note, classified as short-term investments	1,997	—	1,997	—
Total	$ 16,026	$ —	$16,026	$ —

	December 31, 2022	Level 1	Level 2	Level 3
Assets				
Money Market accounts	$ 165	$ —	$ 165	$ —
Money Market funds	22,343	—	22,343	—
High interest savings accounts	13,866	—	13,866	—
United States Treasury Bills	9,989	—	9,989	—
Total	$ 46,363	$ —	$46,363	$ —

8. Accrued liabilities:

Accrued liabilities as of September 30, 2023 and December 31, 2022 consisted of the following:

	September 30, 2023	December 31, 2022
Accrued personnel related costs	$ 2,020	$ 2,302
Accrued research and development expenses	6,830	3,122
Other accrued expenses	279	233
Total	$ 9,129	$ 5,657

9. Lease liability:

Aptose leases office space in San Diego, California and Toronto, Canada. On November 4, 2022, the lease for the San Diego office space was extended through May 31, 2026 (the "Third Amendment"). Management has determined that the Third Amendment represents a lease modification, as defined by ASC 842, *Leases*, does not meet the requirements for accounting as a separate contract and continues to meet the definition of an operating lease. The lease for the Toronto, Canada office space was extended for one year on February 23, 2023, with this extension expiring on September 30, 2024. The Company has not included any extension periods in calculating its right-to-use assets and lease liabilities. Aptose previously leased lab space in San Diego, which we exited prior to the expiration of the lease on February 28, 2023. The costs incurred in exiting this laboratory space were not material. The Company also enters into leases for small office equipment.

Minimum payments, undiscounted, under our operating leases are as follows:

Years ending December 31,	
2023	$ 116
2024	459
2025	462
2026	197
Total	$1,234

The following table presents the weighted average remaining term of the leases and the weighted average discount rate:

	September 30, 2023	December 31, 2022
Weighted-average remaining term – operating leases (years)	2.6	3.3
Weighted-average discount rate – operating leases	7.38%	6.62%
Lease liability, current portion	$ 390	$ 301
Lease liability, long-term portion	720	1,002
Total	$ 1,110	$ 1,303

Operating lease costs and operating cash flows from our operating leases are as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	2023	2022
Operating lease cost	$114	$115	$359	$353
Operating cash flows from operating leases	$117	$134	$290	$411

10. Related party transactions:

Hanmi Pharmaceutical Co. Ltd.

On November 4, 2021, Aptose entered a licensing agreement with the South Korean company Hanmi for the clinical and commercial development of tuspetinib (formerly HM43239). Under the terms of the agreement, Hanmi granted Aptose exclusive worldwide rights to tuspetinib for all indications. Hanmi received an upfront payment of $12.5 million, including $5 million in cash and $7.5 million in common shares. Aptose issued Hanmi 215,703 common shares in this upfront licensing payment. Hanmi will also receive up to $407.5 million in future milestone payments contingent upon achieving certain clinical, regulatory and sales milestones across several potential indications, as well as tiered royalties on net sales. The Hanmi milestone payments based on progression of research as outlined in Note 13 to the Annual report on Form 10-K for the year ended December 31, 2022. The term of the agreement will continue on a product-by-product and country-by-country basis until the expiration of the royalty period for such product in such country. The licenses to Aptose will survive and become non-exclusive, perpetual, irrevocable and fully paid-up on a product-by-product and country-by-country basis, upon their natural expiration under the terms of the agreement.

In 2022, the Company and Hanmi also entered into a separate supply agreement for additional production of new drug substance (“API”) and drug product to support further tuspetinib clinical development, for which the Company pays Hanmi per batch of production. Expenses related to this supply agreement have been recognized by the Company, amounting to $3.1 million and $1.8 million for the nine months ended September 30, 2023 and 2022, respectively. Since inception to September 30, 2023, $6.7 million have been recognized for the period under the supply agreement.

The Company paid supply costs to Hanmi of $4.5 million and nil in the nine months ended September 30, 2023 and 2022, respectively. Since inception to September 30, 2023, payments of $4.5 million have been made under the supply agreement. At September 30, 2023, there was $2.2 million in accrued liabilities related to the supply agreement. (At December 31, 2022, there was $3 million in accounts payable and $572 thousand in accrued liabilities).

On August 10, 2023, the Company entered into a binding term sheet with Hanmi whereby Hanmi agreed at their sole discretion to invest, up to a maximum of $7 million in Aptose up to a total ownership of 19.99 percent of Aptose by Hanmi. On September 6, 2023, the Company entered into a subscription agreement with Hanmi, pursuant to which the Corporation agreed to sell 668,449 common shares to Hanmi for proceeds of $3 million. The issuance of shares, in exchange for proceeds of $3 million, is recorded in common shares on the balance sheet as of September 30, 2023. The second investment of up to $4 million or a maximum of 19.99

percent ownership interest in the Company by Hanmi is contingent on Aptose meeting certain manufacturing and data milestones related to tuspetinib by June 30, 2024.

Hanmi held 884,152 common shares of Aptose as of September 30, 2023.

11. Share capital:

On May 23, 2023, during the Aptose Annual and Special Meeting of Shareholders, our shareholders voted to approve special resolutions providing for an amendment to our articles of incorporation to effect a reverse share split of our outstanding common shares at a ratio in the range of 1-for-10 to 1-for-20. Our Board of Directors then approved a ratio of1-for-15 on May 23, 2023. On May 24, 2023, we filed articles of amendment under the CBCA to give effect to 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 references in this report to historical common share prices, numbers of common shares, and earnings per share calculations have been presented to reflect the effect of the Reverse Stock Split.

The Company has authorized share capital of an unlimited number of common shares.

a. Equity issuances:

(i) Hanmi

On August 10, 2023, the Company entered into a binding term sheet with Hanmi whereby Hanmi agreed at their sole discretion to invest, up to a maximum of $7 million in Aptose up to a total ownership of 19.99 percent of Aptose by Hanmi. On September 6, 2023, the Company entered into a subscription agreement with Hanmi, pursuant to which the Corporation agreed to sell 668,449 common shares to Hanmi for proceeds of $3 million. The second investment of up to $4 million or a maximum of 19.99 percent ownership interest in the Company by Hanmi is contingent on Aptose meeting certain manufacturing and data milestones related to tuspetinib by June 30, 2024. Hanmi held 884,152 common shares of Aptose as of September 30, 2023.

(ii) 2023 Committed Equity Facility

On May 25, 2023, the Company and Keystone Capital Partners, LLC (“Keystone”) entered into a committed equity facility, (the “2023 Committed Equity Facility”), which provides that subject to the terms and conditions set forth therein, we may sell to Keystone up to the lesser of (i) $25.0 million of the common shares and (ii) a number of common shares equal to 19.99% of the common shares outstanding immediately prior to the execution of the 2023 Committed Equity Facility Agreement with Keystone which respect to the 2023 Committed Equity Facility (subject to certain exceptions) (the “Total Commitment”), from time to time during the 24-month term of the 2023 Committed Equity Facility. Additionally, on May 25, 2023, the Company entered into a Registration Rights Agreement with Keystone, 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 2023 Committed Equity Facility. This registration statement became effective on June 30, 2023 and the 2023 Committed Equity Facility commencement date was July 12, 2023 (the “Commencement Date”).

Upon entering into the 2023 Committed Equity Facility, 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 2023 Committed Equity Facility. The Company issued 7,547 common shares, or 30% of the Commitment Shares, on the date of the 2023 Committed Equity Facility Agreement (the “Initial Commitment Shares”). An additional 7,547 common shares, or 30% of the Commitment Shares, were to 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”).

In the nine months ended September 30, 2023, the Company’s issuance of common shares to Keystone comprised 328,438 common shares sold to Keystone at an average price of $3.5 per common share for cash proceeds of $ 1.15

million and the 7,547 common shares issued for nil cash proceeds as the Initial Commitment Shares on the Commencement Date. The Company raised a total of $1,150,000 in cash proceeds from issuing common shares to Keystone as of September 30, 2023. In addition, the Company received $50,000 in September for 17,857 common shares that were issued subsequent to September 30, 2023. See Note 13, Subsequent events.

(iii) 2022 At-The-Market Facility

On December 9, 2022, the Company entered into an equity distribution agreement pursuant to which the Company may, from time to time, sell common shares having an aggregate offering value of up to $50 million through Jones Trading Institutional Services LLC ("Jones Trading") on Nasdaq (the "2022 ATM Facility"). During the year ended December 31, 2022, the Company issued 4,836 common shares under this 2022 ATM Facility at an average price of $10.81 per Common Share for gross proceeds of $52 thousand ($51 thousand net of share issuance costs). During the nine months ended September 30, 2023, the Company issued 336,690 common shares under this 2022 ATM Facility at an average price of $5.62 for gross proceeds of $1.9 million ($1.8 million net of share issuance costs). The Company raised a total of $1.94 million in cash proceeds from issuing common shares under the 2022 ATM Facility as of September 30, 2023. Costs associated with the proceeds consisted of 3% cash commission.

(iv) 2020 At-The-Market Facility

On May 5, 2020, the Company entered an "at-the-market" equity distribution agreement with Piper Sandler & Co. ("Piper Sandler") and Canaccord Genuity LLC ("Canaccord Genuity") acting as co-agents (the "2020 ATM Facility"). Under the terms of the 2020 ATM Facility, the Company could, from time to time, sell common shares having an aggregate offering value of up to $75 million through Piper Sandler and Canaccord Genuity on Nasdaq. During the nine months ended September 30, 2022, the Company issued 3,646 common shares under the 2020 ATM Facility at an average price of $14.25 per Common Share for gross proceeds of $52 thousand ($50 thousand net of share issuance costs). As of October 31, 2022, the date the 2020 ATM Facility was terminated, the Company had raised a total of $89 thousand gross proceeds ($86 thousand net of share issuance costs) under the 2020 ATM Facility. Costs associated with the proceeds consisted of a 3% cash commission.

b. Loss per share:

Loss per share is calculated using the weighted average number of common shares outstanding and is presented in the table below:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	2023	2022
Net loss	$(11,447)	$(9,777)	$(39,252)	$(31,823)
Weighted-average common shares – basic and diluted (in thousands)	6,495	6,153	6,391	6,150
Net loss per share – basic and diluted	$ (1.76)	$ (1.59)	$ (6.14)	$ (5.17)

The effects of any potential exercise of the Company's stock options outstanding during the three-month and nine-month periods ended September 30, 2023, and September 30, 2022 have been excluded from the calculation of diluted loss per share, since such securities would be anti-dilutive.

12. Stock-based compensation:

All references in this report to historical Common Share prices, numbers of common shares, and earnings per share calculations have been presented to reflect the effect of the Reverse Stock Split.

a. Stock option plan and employee stock purchase plan

Effective June 1, 2021, the Company adopted a new stock incentive plan ("New Incentive Plan") and an employee stock purchase plan ("ESPP").

The New Incentive Plan authorizes the Board of Directors to administer the New Incentive Plan to provide equity-based compensation in the form of stock options, stock appreciation rights, restricted stock, restricted stock units and dividend equivalents.

The Company currently maintains its existing Share Option Plan. Effective June 1, 2021, no further grants have been made under the Share Option Plan, though existing grants under the Share Option Plan remain in effect in accordance with their terms.

The aggregate number of our common shares, no par value, that may be issued under all awards under the New Incentive Plan is (i) 691,400, plus (ii) any of our common shares subject to any outstanding award under our prior plans that, after June 1, 2021, are not

purchased or are forfeited or reacquired by us, or otherwise not delivered to the participant due to termination, cancellation or cash settlement of such award subject to the share counting provisions of the New Incentive Plan.

Under both the Share Option Plan and the New Incentive Plan, the exercise price of each option equals the closing trading price of the Company's stock on the day prior to the grant if the grant is made during the trading day or the closing trading price on the day of grant if the grant is issued after markets have closed. Vesting is provided for at the discretion of the Board of Directors and the expiration of options is to be no greater than ten years from the date of grant.

The Company uses the fair value-based method of accounting for employee awards granted under both plans. The Company calculates the fair value of each stock option grant using the Black-Scholes option pricing model at the grant date. The stock-based compensation cost of the options is recognized as stock-based compensation expense over the relevant vesting period of the stock options using an estimate of the number of options that will eventually vest.

The ESPP allows eligible employees of the Company to purchase common shares through accumulated payroll deductions up to a maximum 15% of eligible compensation. The ESPP was implemented by consecutive offering periods with a new offering period commencing on the first trading day on or after February 1 and August 1 each year, or on such other date as the Board of Directors will determine and continuing thereafter until terminated in accordance with the Plan. Unless the Board of Directors provides otherwise, the purchase price will be equal to eighty-five percent (85%) of the fair market value of a Common Share on the offering date or the exercise date, whichever is lower. The maximum number of common shares available for sale under the ESPP is 113,333 common shares. The first six-month offering period began on February 1, 2022, and ended on August 1, 2022. There were 724 common shares issued under the ESPP as of December 31, 2022. The second six-month period began on August 1, 2022, and ended on February 1, 2023. The third six-month period began on February 2, 2023, and ended on August 1, 2023. There were 5,991 and 724 common shares issued under the ESPP during the nine months ended September 30, 2023 and September 30, 2022, respectively.

Stock option transactions for the nine months ended September 30, 2023 and September 30, 2022 are summarized as follows:

	Nine months ended September 30, 2023		
	Options (in thousands)	Weighted average exercise price	Weighted average remaining contractual life (years)
Outstanding, beginning of period	1,100	$ 52.22	
Granted	217	9.87	
Exercised	—	—	
Forfeited	(125)	49.58	
Outstanding, end of the period	1,192	$ 44.76	7.1
Exercisable, end of the period	718	58.98	6.1
Vested and expected to vest, end of period	1,107	$ 46.42	7.0

	Nine months ended September 30, 2022		
	Options (in thousands)	Weighted average exercise price	Weighted average remaining contractual life (years)
Outstanding, beginning of period	1,007	$ 68.30	
Granted	420	17.82	
Exercised	(1)	16.25	
Forfeited	(155)	47.42	
Outstanding, end of the period	1,271	$ 54.00	6.3
Exercisable, end of the period	704	67.95	4.5
Vested and expected to vest, end of period	1,186	$ 55.20	6.1

During the nine months ended September 30, 2022, the option agreements of one Company officer were modified as part of a separation and release agreement. 56,765 vested options, with exercise prices ranging from $20.10 to $103.65, were allowed to continue to be exercisable for an additional 12-month period, and also 31,810 options that would have expired unvested, were allowed to continue to vest for a 12-month period. As there was no service requirement, during the nine months ended September 30, 2022, the Company recorded $67 thousand in additional compensation related to these modifications.

As of September 30, 2023, there was $1.61 million of total unrecognized compensation cost related to non-vested stock options, which is expected to be recognized over an estimated weighted-average period of 1.47 years. As of September 30, 2023, total compensation cost not yet recognized related to grants under the ESPP was approximately $4 thousand, which is expected to be recognized over four months.

The following table presents the weighted average assumptions that were used in the Black-Scholes option pricing model to determine the fair value of stock options granted during the period, and the resulting weighted-average fair values:

	Nine months ended September 30, 2023	Nine months ended September 30, 2022
Risk-free interest rate	3.42%	2.17%
Expected dividend yield	—	—
Expected volatility	80.3%	82.7%
Expected life of options (years)	5	5
Grant date fair value	$ 6.53	$ 11.85

The Company uses historical data to estimate the expected dividend yield and expected volatility of its Common Shares in determining the fair value of stock options. The expected life of the options represents the estimated length of time the options are expected to remain outstanding.

The following table presents the vesting terms of options granted in the period:

	Nine months ended September 30, 2023 Number of options (in thousands)	Nine months ended September 30, 2022 Number of options (in thousands)
3-year vesting (50%-25%-25%)	48	348
4-year vesting (50%-16 2/3%-16 2/3%-16 2/3%)	169	32
Performance-based vesting	—	40
Total stock options granted in the period	217	420

The Company has a stock incentive plan (SIP) pursuant to which the Board may grant stock-based awards comprised of restricted stock units or dividend equivalents to employees, officers, consultants, independent contractors, advisors and non-employee directors of the Company. Each restricted stock unit ("RSU") is automatically redeemed for one Common Share of the Company upon vesting. During the nine-month period ended September 30, 2023, the Company granted 38,000 RSUs with immediate vesting and an exercise price of $9.90 (the "2023 RSU Grant"). On February 6, 2023, all of these RSUs were redeemed for 38,000 Common Shares. No RSUs were granted in the nine months ended September 30, 2022. The following table presents the vesting and redemption of the RSUs granted in the three months and nine months ended September 30, 2023 and September 30, 2022.

	Nine months ended September 30, 2023		Nine months ended September 30, 2022	
	Number of options (in thousands)	Weighted average grant date fair value	Number of options (in thousands)	Weighted average grant date fair value
Outstanding, beginning of period	—	$ —	—	$ —
Granted	38	9.90	—	—
Vested and redeemed	(38)	(9.90)	—	—
Outstanding, ending of period	—	$ —	—	$ —

b. Share-based payment expense

The Company recorded share-based payment expense related to stock options and RSUs as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2023	2022	2023	2022
Research and development	$ 259	$ 440	$1,182	$1,923
General and administrative	340	613	2,060	2,423
	$ 599	$ 1,053	$3,242	$4,346

13. Subsequent events

Subsequent to September 30, 2023, the Company issued 274,163 common shares to Keystone under the 2023 Committed Equity Facility. 248,759 common shares were issued for $600,000 in cash proceeds received in October, 17,857 common shares were issued in October in exchange for $50,000 in cash proceeds received in September. The issuance of 7,547 First Back-End Commitment Shares was initiated in September and completed in October.

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4,912,280 Common Shares

4,912,280 Warrants to Purchase 4,912,280 Common Shares

Up to 4,912,280 Common Shares Underlying Warrants

Up to 343,860 Common Shares Underlying Underwriter's Warrants

PROSPECTUS

Sole Book-Running Manager

Newbridge Securities Corporation

January 25, 2024