Financial Statements and Management's Discussion and Analysis

December 31, 2022

MANAGEMENT'S DISCUSSION & ANALYSIS

2022

March 2, 2023

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

BASIS OF PRESENTATION

Our Management's Discussion and Analysis of Financial Condition and Results of Operations (“MD&A”) should be read in conjunction with our audited consolidated financial statements and notes thereto for the year ended December 31, 2022, which have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). Our IFRS accounting policies are set in note 3 of our audited consolidated financial statements for the year ended December 31, 2022. This MD&A, along with our consolidated financial statements for the year ended December 31, 2022, were authorized for issue in accordance with a resolution of the Board of Directors (the "Board") on March 2, 2023. Unless otherwise indicated, all references to "$" and "dollars" in this discussion and analysis mean thousands of Canadian dollars.

All references in this MD&A to "the Company", "Oncolytics", "we", "us", or "our" and similar expressions refer to Oncolytics Biotech Inc. and the subsidiaries through which it conducts its business, unless otherwise indicated.

FORWARD-LOOKING STATEMENTS

The following discussion contains forward-looking statements, within the meaning of Section 21E of the United States *Securities Exchange Act of 1934, as amended* and forward-looking information under applicable Canadian securities laws (such forward-looking statements and forward-looking information are collectively referred to herein as "forward-looking statements"). Forward-looking statements, including: our belief as to the potential and mode of action of pelareorep, an intravenously delivered immunotherapeutic agent, as a cancer therapeutic; our expectation that we will incur substantial losses and will not generate significant revenues until and unless pelareorep becomes commercially viable; our business strategy, goals, focus and objectives for the development of pelareorep, including our immediate primary focus on advancing our program in hormone receptor-positive / human epidermal growth factor 2-negative metastatic breast cancer to a phase 3 licensure-enabling study; our exploration of opportunities for registrational programs in gastrointestinal cancers through our GOBLET platform study; the impact of the COVID-19 pandemic and the global political conflict in Ukraine on our research and development activities, business operations and financial condition, our plans to monitor and mitigate any such impact; our expectations regarding the delivery of additional clinical data, the timing thereof and the anticipated benefits and value to us of such additional clinical data; our current clinical development approach; our plan to actively manage the development of our clinical trial program, our preclinical and collaborative programs, our manufacturing process and pelareorep supply; our plans respecting regulatory approval for pelareorep; our expectations as to the purpose, design, outcomes and benefits of our current or pending clinical trials involving pelareorep; our expectations regarding enrollment under our clinical trials; our anticipated milestones and catalysts; our planned 2023 development program for pelareorep and primary 2023 clinical objectives; our 2023 manufacturing program; our anticipated 2023 cash requirements to fund our operations; our anticipated 2023 expenses relating to clinical trials, manufacturing and related process development, intellectual property, translational science, personnel-related and other and operating expenses; our plans respecting the maintenance of adequate cash reserves to support our planned activities; our anticipated cash usage in 2023; our plans for funding our capital expenditure requirements; our approach to credit rate, interest rate, foreign exchange and liquidity risk mitigation; the effectiveness of our internal control systems; and other statements that are not historical facts or which are related to anticipated developments in our business and technologies. In any forward-looking statement in which we express an expectation or belief as to future results, such expectations or beliefs are expressed in good faith and are believed to have a reasonable basis, but there can be no assurance that the statement or expectation, or belief will be achieved. Forward-looking statements involve known and unknown risks and uncertainties, which could cause our actual results to differ materially from those in the forward-looking statements. We may be impacted by business interruptions resulting from COVID-19 coronavirus and the global political conflict in Ukraine, including manufacturing supply chain, clinical trial and project development delays and disruptions, labor shortages, travel and shipping disruption, and shutdowns (including as a result of government regulation and prevention measures). It is unknown whether and how the Company may be affected if the COVID-19 pandemic and the global political conflict in Ukraine persist for an extended period of time. 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.

Such risks and uncertainties include, among others, the need for and availability of funds and resources to pursue research and development projects, the efficacy of pelareorep as a cancer treatment, the success and timely completion of clinical studies and

trials, our ability to successfully commercialize pelareorep, uncertainties related to the research, development, and manufacturing of pelareorep, uncertainties related to competition, changes in technology, the regulatory process, and general changes to the economic environment.

With respect to the forward-looking statements made within this MD&A, we have made numerous assumptions regarding, among other things: our ability to recruit and retain talented employees, our continued ability to obtain financing to fund our clinical development plan, our ability to receive regulatory approval to commence enrollment in the clinical studies which are part of our clinical development plan, our ability to maintain our supply of pelareorep and future expense levels being within our current expectations.

Investors should consult our quarterly and annual filings with the Canadian and U.S. securities commissions for additional information on risks and uncertainties relating to the forward-looking statements. Forward-looking statements are based on assumptions, projections, estimates, and expectations of management at the time such forward-looking statements are made, and such assumptions, projections, estimates and/or expectations could change or prove to be incorrect or inaccurate. Investors are cautioned against placing undue reliance on forward-looking statements. We do not undertake any obligation to update these forward-looking statements except as required by applicable law.

Company Overview

We are a clinical-stage biopharmaceutical company developing pelareorep, a safe and well-tolerated intravenously delivered immunotherapeutic agent that activates the innate and adaptive immune systems and weakens tumor defense mechanisms. This improves the ability of the immune system to fight cancer, making tumors more susceptible to a broad range of oncology treatments.

Pelareorep is a proprietary isolate of a naturally occurring, non-pathogenic double-stranded RNA (dsRNA) virus commonly found in environmental waters, known as reovirus. Pelareorep has demonstrated the ability to create a more permissive tumor microenvironment (TME) and conditions the tumor for multiple treatment combinations, including chemotherapies, checkpoint inhibitors and other immuno-oncology drugs, like CAR T therapies, bispecific antibodies, and CDK4/6 and PARP inhibitors. Pelareorep creates a new army of tumor-reactive T cells, helps these cells to infiltrate the tumor through an inflammatory process, and promotes the overexpression of PD-1/PD-L1. By priming the immune system with pelareorep, we believe we can increase the proportion of patients who respond to immunotherapies and other cancer treatments, especially in cancers where immunotherapies have failed or provided limited benefit.

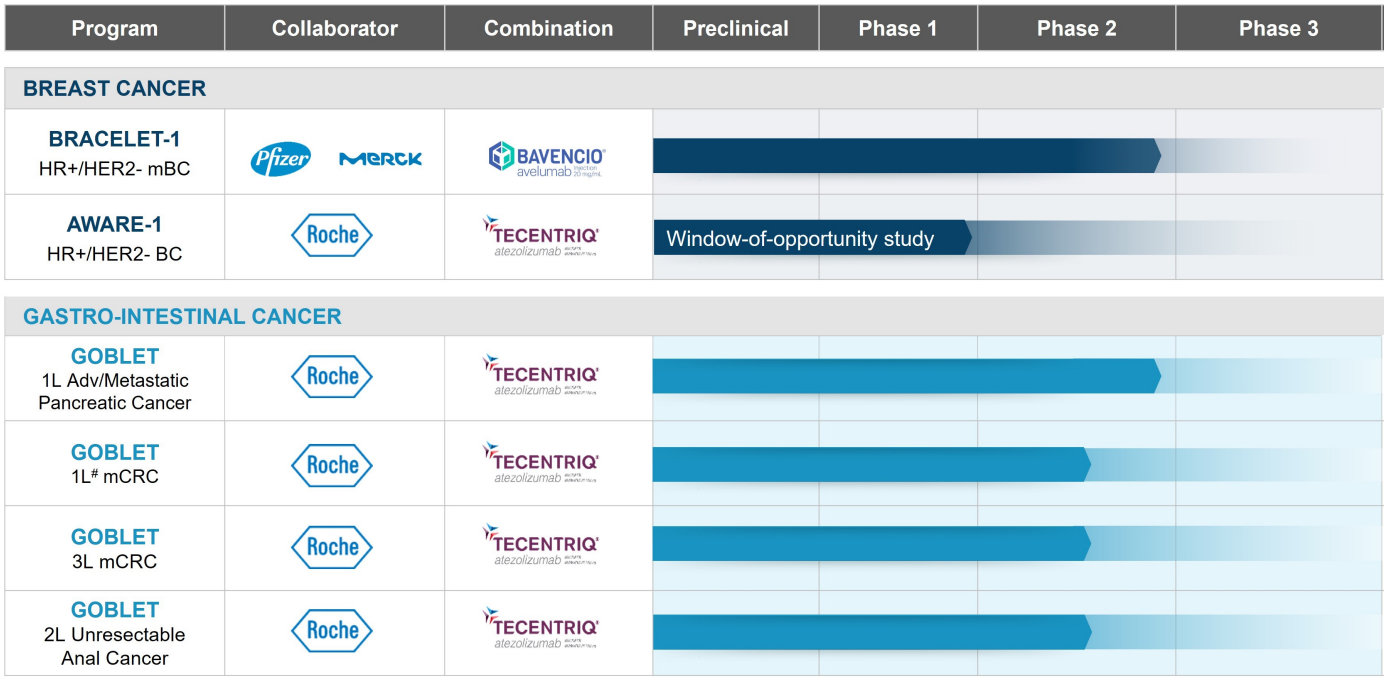
As our clinical development program advances, we anticipate pelareorep's ability to enhance innate and adaptive immune responses within the TME will play an increasingly important role. This greatly increases opportunities for expansion of our clinical program along with business development and partnering opportunities to address a broad range of cancers in combination with a variety of other therapies. We believe this approach has the most promise for generating clinically impactful data and offers the most expeditious path to regulatory approval.

Our primary focus is to advance our programs in hormone receptor-positive / human epidermal growth factor 2-negative (HR+/ HER2-) metastatic breast cancer (mBC) and advanced/metastatic pancreatic ductal adenocarcinoma (PDAC) to phase 3 licensure-enabling studies. In addition, we are exploring opportunities for registrational programs in gastrointestinal cancers through our GOBLET platform study.

We have not been profitable since our inception and expect to continue to incur substantial losses as we continue research and development efforts. We do not expect to generate significant revenues until and unless pelareorep becomes commercially viable. As at December 31, 2022, we had cash, cash equivalents, and marketable securities of $32,138. We believe we have sufficient existing cash resources to fund our presently planned operations for at least the next twelve months.

2022 Developments

Clinical Trial Program



*mBC: Metastatic Breast Cancer; BC: Breast Cancer; Adv: Advanced; L: Line; 1L#: First-line MSI-high focused; mCRC: Metastatic Colorectal Cancer

Breast cancer program

Co-development Agreement with Pfizer Inc. and Merck KGaA, Darmstadt, Germany: BRACELET-1 study

In 2019, we entered into a co-development agreement with Merck KGaA, Darmstadt, Germany and Pfizer Inc. to co-develop pelareorep in combination with paclitaxel and avelumab (Bavencio®), a human anti-PD-L1 antibody, for the treatment of HR+/HER2- mBC. This phase 2 clinical trial is jointly funded by Oncolytics and Pfizer. The study, known as BRACELET-1, is a randomised open-label study that enrolled 48 patients into three cohorts: paclitaxel alone, paclitaxel in combination with pelareorep, and paclitaxel in combination with both pelareorep and avelumab. PrECOG LLC, a leading cancer research network, is managing the BRACELET-1 study.

The study is examining the expression of immune-related biomarkers to identify changes in the T cell population between pretreatment and on-therapy biopsies and seeks to confirm our previously identified biomarker. It is designed to assess efficacy in terms of overall response rate at week 16 per RECIST 1.1. The safety of the combination is also being evaluated. The results of this study may provide an opportunity to add an arm to our proposed registration study that includes a checkpoint inhibitor in addition to the chemotherapy-pelareorep combination. Furthermore, the results of the BRACELET-1 study may provide important confirmatory data in the same patient population as our IND.213 study, for which we presented a statistically significant near doubling of overall survival with pelareorep treatment in HR+/HER2- mBC. These endpoints, including the biomarker data, are expected to further de-risk our contemplated registration study, permitting for a smaller study with a higher likelihood of clinical success.

In 2022, we concluded patient enrollment, continued re-treating patients still on-study, monitored those patients who came off treatment due to progression, and assisted with follow-up activities. These activities included analyzing data on the study's primary endpoint of week 16 overall response rate and secondary endpoints of progression-free survival (PFS) and overall survival.

Collaboration with SOLTI: AWARE-1 study

In February 2019, we received approval for our AWARE-1 study from the Spanish Agency for Medicine and Health Products. This clinical collaboration with SOLTI, an academic research group dedicated to breast cancer research, was a window of opportunity study in the neoadjuvant setting for breast cancer using pelareorep in combination with F. Hoffmann-La Roche (Roche)'s anti-PD-L1 checkpoint inhibitor, atezolizumab (Tecentriq®). We completed enrollment in 2022. Throughout 2020, 2021, and 2022, we published various clinical data which demonstrated most HR+/HER2- early breast cancer patients treated

with pelareorep showed an increase in CeLTIL score, a prognostic metric associated with improved overall and progression-free survival that is calculated based upon measures of (1) tumor cellularity (a measure of the proportion of cancerous vs. non-cancerous cells in a tumor tissue sample) and (2) the number of infiltrating lymphocytes in a tumor tissue sample. Importantly, the addition of atezolizumab to pelareorep increased both the magnitude of the increase in CeLTIL score and the proportion of patients with a positive CelTIL score, thereby achieving the study's primary endpoint. It was noted that patients treated with pelareorep and atezolizumab reached the primary endpoint of the study with 60% of the patients showing an increase of more than 30% in the CelTIL score. Biomarker data from AWARE-1 further demonstrated that pelareorep treatment reversed immunosuppressive tumor microenvironments, generated and expanded T cell clones, upregulated PD-L1 expression, and promoted CD8+ T cell tumor infiltration into tumors. Many of these effects were even more prominent when pelareorep was combined with atezolizumab demonstrating synergy between the two agents.

In 2022, we presented clinical biomarker analyses from AWARE-1's first two cohorts at the European Society for Medical Oncology Breast Cancer Meeting (ESMOBC), the Society for Immunotherapy of Cancer Annual Meeting 37th Meeting (SITC), and the San Antonio Breast Cancer Symposium (SABCS). The data demonstrated pelareorep's immunotherapeutic effects, synergy with checkpoint inhibition, and potential to improve the outlook for patients with HR+/HER2- breast cancer. Patients in AWARE-1's first two cohorts were treated with pelareorep and the aromatase inhibitor letrozole without (cohort 1), or with (cohort 2), the PD-L1 checkpoint inhibitor atezolizumab approximately 21 days prior to the surgical resection of their tumors.

Key data and conclusions presented at ESMOBC included:

- Gene expression analyses showed 100% of evaluable patients had a Risk of Recurrence Score (ROR-S) classified as "low" at surgery vs. 55% with a "low" ROR-S at baseline
- Pooled analysis of tumors from cohorts 1 and 2 shows a statistically significant 4-fold post-treatment increase in the average expression of caspase 3, which is a marker of apoptotic cell death
- Pooled analysis across cohorts 1 and 2 shows statistically significant increases in markers of T cell activation and no significant changes in markers of T cell exhaustion from baseline to surgery
- Treatment with pelareorep with (cohort 2) or without (cohort1) atezolizumab led to the conversion of tumors from the more aggressive luminal B to the luminal A subtype, which is associated with improved clinical outcomes
    - 100% of evaluable cohort 2 tumors were luminal A at surgery (21 days post-treatment) vs. 70% at baseline (pre-treatment)
    - 70% of evaluable cohort 1 patients had luminal A tumors at surgery vs. 40% at baseline

Data presented at SITC demonstrated that flow cytometry analyses of blood samples from these patients showed a statistically significant increase in anti-cancer natural killer (NK) cells on day 21 post-treatment in cohort 2 compared to cohort 1. In addition, cohort 2 patients showed higher levels of HLA-DR expression (a marker of T cell activation) in anti-cancer CD8+ T cells, and better maintained low levels of T cell exhaustion markers on day 21 compared to cohort 1 patients.

Data presented at SABCS demonstrated that based on the gene expression profiling data, it was shown that pelareorep primes the tumor for further checkpoint blockade therapy by activating the interferon-gamma pathway.

Licensing Agreement with Adlai Nortye Biopharma Co., Ltd: bridging clinical trial

Under our regional licensing agreement (the "Licensing Agreement") with our partner, Adlai Nortye Biopharma Co., Ltd. ("Adlai"), Adlai will have exclusive development and commercialization rights to pelareorep in certain Asian regions and we are entitled to certain milestone payments. The bridging clinical trial is evaluating the safety, tolerability, and preliminary efficacy of pelareorep-paclitaxel combination therapy in Chinese patients with advanced/metastatic HR+/HER2- breast cancer. Data from the bridging trial are expected to accelerate Adlai's development of pelareorep in China by allowing future regulatory submissions to include data from Oncolytics' North American metastatic breast cancer trials, IND.213 and BRACELET-1.

In 2022, Adlai advanced the bridging clinical trial to the third and final dose-escalation cohort. The trial's first two cohorts completed their dose escalation evaluation periods and indicated pelareorep in combination with paclitaxel was well-tolerated, with no new safety signals observed to date. The dosing regimens for the second and third cohorts are equivalent to those administered in the IND.213 study and the BRACELET-1 study, respectively.

Adlai further announced interim results at the 2022 SABCS meeting. Fifteen patients were treated in the trial, with fourteen having had at least one post-baseline tumor assessment (i.e., evaluable for efficacy). All patients enrolled into the trial were previously treated with at least one endocrine therapy and no more than one line of chemotherapy for recurrent/metastatic disease. The data and conclusions are summarized as follows:

- Disease control, partial response (PR), or stable disease (SD), was achieved in thirteen of fourteen evaluable patients (93%), with twelve (86%) showing tumor shrinkage from baseline

- Seven of fourteen evaluable patients achieved a PR (50%). Three of these patients achieved a confirmed PR (20%), while two patients are awaiting potential confirmatory scans
- One patient achieving a PR at week 8 has maintained the PR through week 48 and remains on study
- Evolving median PFS for trial participants as of the data cut-off date was 9.1 months (95% confidence interval: 3.8 - NA)
- The studied combination has been well tolerated, with no dose-limiting toxicities or serious adverse events (SAEs) reported to date

Gastrointestinal cancer program

Collaboration with Roche and AIO-Studien-gGmbH: GOBLET platform study

Our GOBLET platform study is a collaboration with Roche and AIO-Studien-gGmbH, a leading academic cooperative medical oncology group based in Germany. The study is investigating the use of pelareorep, in combination with Roche's anti-PD-L1 checkpoint inhibitor atezolizumab (Tecentriq®), in patients with first-line advanced/metastatic pancreatic, first- and third-line metastatic colorectal, and advanced anal cancers. Approximately 55 patients are planned for enrollment across these four separate cohorts and the study is being conducted at 14 centers in Germany. The study's co-primary endpoints are safety and objective response rate (ORR) at week 16. Key secondary and exploratory endpoints include additional efficacy assessments and evaluation of potential blood-based biomarkers (T cell clonality and CEACAM6). We received clearance from the Paul Ehrlich Institute (PEI; Germany's medical regulatory body) for full enrollment of the first-line metastatic pancreatic cancer and third-line metastatic colorectal cancer cohorts in the first and second quarters of 2022, respectively. As the trial's anal cancer and first-line metastatic colorectal cancer cohorts do not include safety run-ins, all of the trial's four cohorts were cleared for full enrollment.

During 2022, GOBLET's pancreatic cancer cohort met the efficacy expansion criteria for Stage 1 of the trial and interim clinical results were presented at SITC. Per the study's Simon two-stage design, any cohort meeting a pre-specified efficacy threshold in Stage 1 (defined as achieving a minimum number of objective radiologic responses by week 16) may be expanded to enroll additional patients in an optional Stage 2 study expansion. The initial results from the safety run-in of this cohort met the primary endpoint as all patients achieved a partial response (n = 3). Additional interim data presented at the SITC meeting included:

- ORR and clinical benefit rate (CBR) in GOBLET's PDAC cohort (n=13) were 69% and 85%, respectively;
- One of thirteen evaluable patients achieved a confirmed complete response;
- Eight of thirteen evaluable patients achieved a PR;
- Two of thirteen evaluable patients achieved SD;
- The observed ORR of 69% is substantially higher than the average ORR of ~25% reported in historical control trials of gemcitabine and nab-paclitaxel in pancreatic cancer;
- GOBLET's PDAC cohort exceeded the protocol-specified success criterion for Stage 1 of ≥ 3/12 objective responses;
- The studied treatment combination has been well tolerated, with no safety concerns identified to date; and
- On the strength of the data, Oncolytics and its stakeholders determined that the Stage 2 expansion will not be necessary.

Finally, we received the U.S. Food and Drug Administration (FDA) Fast Track designation for the treatment of advanced/ metastatic PDAC using pelareorep in combination with atezolizumab, gemcitabine, and nab-paclitaxel. Fast Track designation is designed to facilitate the development and expedite the review of therapies to treat serious conditions and fill an unmet medical need. A clinical program that receives Fast Track designation may benefit from more frequent meetings and communications with the FDA to discuss development plans and ensure the collection of appropriate data needed to support approval.

CAR T preclinical activities

In 2022, we published preclinical data demonstrating the synergistic anti-cancer activity of pelareorep combined with CAR T cell therapy in solid tumors in *Science Translational Medicine* in collaboration with researchers at several institutions, including the Mayo Clinic and Duke University. The paper, entitled "Oncolytic virus-mediated expansion of dual-specific CAR T cells improves efficacy against solid tumors in mice," evaluated the persistence and efficacy of pelareorep-loaded CAR T cells ("CAR/Pela therapy") in multiple murine solid tumor models. The effects of combining CAR/Pela therapy with a subsequent intravenous dose of pelareorep ("pelareorep boost") were also investigated. Key data and conclusions from the paper included:

- The persistence and anti-cancer activity of CAR T cells improved drastically when loaded with pelareorep. Compared to either treatment alone, treatment with CAR/Pela therapy led to statistically significant survival benefits in murine skin and brain cancer models.
- CAR/Pela therapy followed by a pelareorep boost led to enhanced efficacy in murine skin and brain cancer models and tumor cures in >80% of treated mice in each model.
- Loading CAR T cells with pelareorep led to improved cancer cell targeting and prevented antigen escape *in vivo* by generating CAR T cells with dual specificity that target their designed antigen and the native T cell receptor antigen. These results indicate that CAR/Pela therapy may provide longer-lasting therapeutic benefits compared to treatment with CAR T cells alone.

Manufacturing and Process Development

Throughout 2022, we continued distribution and storage activities, sourcing materials required for our planned product fills, and completed a product fill along with the applicable release testing. While we currently have sufficient drug product supply to support our clinical development program, we continued our activities to maintain our production capabilities. Ongoing bulk manufacturing and expanded filling capabilities are both part of the planned process validation. Continued process validation is required to ensure that the resulting product meets the required specifications and quality standards and will form part of our submission to regulators, including the FDA, for product approval.

Intellectual Property

At the end of 2022, we had been issued 243 patents, including 24 US and 11 Canadian patents, as well as issuances in other jurisdictions. We have an extensive patent portfolio covering the oncolytic reovirus and formulations that we use in our clinical trial program. These patent rights extend to at least the end of 2031.

Financing Activity

U.S. "at-the-market" (ATM) equity distribution agreement
In 2022, we sold 6,235,232 common shares for gross proceeds of US$10,192 at an average price of US$1.63. We received proceeds of US$9,886 after commissions of US$306. In total, we incurred share issue costs (including commissions) of $764.

Cash Resources

We ended 2022 with cash, cash equivalents, and marketable securities of $32,138 (see *"Liquidity and Capital Resources")*.

Global Business Conditions

During 2022, a variety of external factors, including the ongoing coronavirus infectious disease 2019 (COVID-19) pandemic and the global political conflict in Ukraine, have touched elements of our business operations. COVID-19, including its variants, has created challenges affecting our clinical trial activities, including delayed patient enrollment related to our BRACELET-1 study and contributed to the disruption of our manufacturing supply chain, while the conflict in Ukraine has increased market volatility and uncertainty. Some challenges included, among other things, patients choosing to delay treatments, clinical sites suspending study activity temporarily, vendor and collaborator staff shortages, and raw material and components delays. While these challenges have largely impacted the timing of certain activities, we believe the impact on our overall business to date has not been significant. We also believe our financial condition, liquidity, and longer-term strategic development remain on track. However, these events have caused and may continue to cause significant fluctuations in stock markets, global economic activity, including inflation and rising interest rates, and healthcare systems. The scale and duration of these developments remain uncertain and could affect our ability to finance and execute our operations.

The extent to which these events might prolong and/or cause significant disruptions to our business and materially impact our results of operations, including our ongoing and planned clinical studies and manufacturing activities, will depend on future developments. These future developments are highly uncertain, cannot be predicted, and could negatively impact our business.

We will continue to monitor these events and their impact on our industry and business. We are collaborating with our investigators, partners, and vendors to minimize its effect and ensure the safety of patients and employees, minimize the effect of supply chain challenges, and maintain the advancement of our clinical programs. We expect these measures will allow us to respond to future challenges that may arise adequately. Moving forward, we plan to remain in contact with relevant stakeholders and keep the market apprised of any new information that may materially impact clinical timelines.

Subsequent Events

Between January 1, 2023 and March 2, 2023, we issued 1,499,044 shares for gross proceeds of US$2,570 through our June 2022 ATM equity distribution agreement.

Expected Pelareorep Development For 2023

Our primary 2023 clinical objectives will focus on delivering interim data from our BRACELET-1 and GOBLET clinical studies and assessing our clinical data to help form the nature of our registration strategy, our path to approval, and other possible clinical development opportunities.

Our 2023 manufacturing program will focus on progressing a process development program implementing single-use equipment for our drug substance production process and executing a manufacturing production run. We also expect to fill product and perform the associated analytical testing, as well as labeling, packaging, and distribution of pelareorep to our various clinical sites for ongoing and upcoming activities. Additionally, we will advance other product and analytical development activities towards registration readiness. Finally, our intellectual property program includes filings for additional patents along with monitoring activities required to protect our patent portfolio.

Selected Annual Information

Unless otherwise indicated, all amounts below are presented in thousands of Canadian dollars, except for share amounts.

	2022	2021	2020
Revenue	**$ —**	$ —	$ —
Net loss[1][2][3]	**$ (24,835)**	$ (26,304)	$ (22,505)
Basic and diluted loss per share[1][2][3]	**$ (0.43)**	$ (0.49)	$ (0.56)
Total assets[4]	**$ 37,334**	$ 45,880	$ 34,346
Cash dividends declared per share[5]	**Nil**	Nil	Nil

Notes:

(1) Included in consolidated net loss and loss per common share for 2022, 2021, and 2020 are non-cash changes in fair value of warrant derivative (loss) gain of $(20), $17, and $3,492, respectively.

(2) Included in consolidated net loss and loss per common share for 2022, 2021, and 2020 are share-based compensation expenses of $2,378, $3,826, and $2,559, respectively.

(3) Included in consolidated net loss and loss per common share for 2022, 2021, and 2020 are foreign exchange gain (loss) of $1,665, $(136), and $(659), respectively.

(4) We issued 6,284,125 common shares for net cash proceeds of $12.6 million in 2022 (2021 - 8,876,809 common shares for net cash proceeds of $33.4 million; 2020 - 13,968,527 common shares for net cash proceeds of $40.2 million).

(5) We have not declared or paid any dividends since incorporation.

Components of Results of Operations

Research and Development Expenses ("R&D")

Our R&D expenses consist primarily of costs incurred to conduct research and development on pelareorep.

Clinical trial expenses include expenses related to the preparation and development of our breast and gastrointestinal cancer programs and immunotherapy combinations in other selected cancers. Clinical trial expenses include regulatory and consulting activities, contract research organization expenses, data management expenses, and other costs associated with our clinical trial program.

Manufacturing & related process development ("M&P") expenses include product manufacturing and process development activities. Product manufacturing expenses include third-party direct manufacturing costs, quality control testing, filling, labeling, packaging, and storage costs. Process development expenses include costs associated with studies examining components of our manufacturing and analytical processes and costs associated with planned process validation and related conformity testing.

Intellectual property expenses include legal and filing fees associated with our patent portfolio.

Translational science expenses are intended to expand our intellectual property related to pelareorep and identify potential licensing opportunities arising from our technology base.

Personnel-related, share-based compensation, and other expenses are employee-related expenses.

General and Administrative Expenses ("G&A")

Our G&A expenses consist primarily of public company-related expenses, office expenses, share-based compensation expense, and depreciation. Public company-related expenses include investor relations, business development, and financial advisory activities, legal and accounting fees, corporate insurance, director fees and transfer agent, and other fees relating to our U.S. and Canadian stock listings. Office expenses include compensation costs (excluding share-based compensation expense), rent related to short-term leases, and other office-related costs.

Change in Fair Value of Warrant Derivative

We issued warrants in connection with our August 2019 underwritten public offering. Warrants issued with an exercise price denominated in a foreign currency are reported as a liability until they are exercised or expire. These warrants are adjusted to fair value at each exercise date and at each reporting period and any change in fair value is recorded in the consolidated statements of loss and comprehensive loss. Gains and losses resulting from the revaluation of the warrant derivative are non-cash and do not impact our cash flows.

Results of Operations

Unless otherwise indicated, all amounts below are presented in thousands of Canadian dollars, except for share amounts.

Net loss for the year ended December 31, 2022, was $24,835 compared to $26,304 and $22,505 for the years ended December 31, 2021, and December 31, 2020, respectively.

Research and Development Expenses ("R&D")

Our R&D expenses increased by $2,512 for the year ended December 31, 2022, compared to 2021, and decreased by $25 for the year ended December 31, 2021, compared to 2020. The following table summarizes our R&D expenses for the years ended December 31, 2022, 2021, and 2020:

	Year Ended December 31,			Change	Change
	2022	2021	2020	2021 to 2022	2020 to 2021
Clinical trial expenses	**$ 4,970**	$ 3,205	$ 3,055	$ 1,765	$ 150
M&P expenses	**2,148**	1,547	3,384	601	(1,837)
Intellectual property expenses	**544**	618	907	(74)	(289)
Translational science expenses	**264**	673	318	(409)	355
Personnel-related expenses	**6,023**	4,754	4,135	1,269	619
Share-based compensation expense	**1,371**	2,087	1,043	(716)	1,044
Other expenses	**112**	36	103	76	(67)
Research and development expenses	**$ 15,432**	$ 12,920	$ 12,945	$ 2,512	$ (25)

The increase in our R&D expenses for the year ended December 31, 2022 was primarily due to the following:

- Increased clinical trial expenses as a result of an increase in our clinical study costs due to higher GOBLET set-up, patient enrollment, and sample analysis costs and increased clinical and safety data management consulting costs, partly offset by lower AWARE-1 patient activities as study closure began in 2022;
- Increased personnel-related expenses due to higher salaries and annual incentive awards, the strengthening of the U.S. dollar, and additional headcount to support our R&D program; and
- Increased M&P expenses associated with higher production process and analytical activities as we focus on ensuring our active drug substance and finished drug product meet the regulatory specifications and standards. The increase was partly offset by lower routine testing activities.

The above increases were partly offset by the following:

- Decreased share-based compensation expense as a result of a lower number of options granted in 2022 and the impact of the vesting of options granted in prior periods; and
- Decreased translational science expenses as our bispecific antibodies and CAR T studies ongoing throughout 2021 were largely completed by the end of the first quarter of 2022.

The decrease in our R&D expenses for the year ended December 31, 2021 was primarily due to the following:

- Decreased M&P expenses as a result of the completion of a production run, two product fills, and the associated release testing activities in 2020; and
- Decreased intellectual property expenses as a result of the lapsing of non-core patents in certain jurisdictions and foreign exchange fluctuations.

The above decreases were partly offset by the following:

- Increased share-based compensation expense due to the impact of the vesting of options granted in prior periods;
- Increased personnel-related expenses caused by a change in salary level and an increase in headcount as we expanded our U.S. office, partly offset by lower recruitment-related costs; and
- Increased translational science expenses as a result of the bispecific antibodies and CAR T studies initiated in 2021.

General and Administrative Expenses ("G&A")

Our G&A expenses decreased by $1,823 for the year ended December 31, 2022, compared to 2021, and increased by $801 for the year ended December 31, 2021, compared to 2020. The following table summarizes our G&A expenses for the years ended December 31, 2022, 2021, and 2020:

	Year Ended December 31,			Change	Change
	2022	**2021**	**2020**	**2021 to 2022**	**2020 to 2021**
Public company-related expenses	**$ 6,790**	$ 8,161	$ 7,432	$ (1,371)	$ 729
Office expenses	**3,303**	2,963	3,120	340	(157)
Share-based compensation expense	**1,007**	1,739	1,516	(732)	223
Depreciation - property and equipment	**93**	130	89	(37)	41
Depreciation - right-of-use assets	**299**	322	357	(23)	(35)
General and administrative expenses	**$ 11,492**	$ 13,315	$ 12,514	$ (1,823)	$ 801

The decrease in our G&A expenses for the year ended December 31, 2022 was primarily due to the following:

- Decreased public company-related expenses as a result of lower investor relations activities, partly offset by increased travel expenses with the easing of COVID-19-related restrictions and higher board of directors advisory costs; and
- Decreased share-based compensation expense caused by a lower number of options granted in 2022 and the impact of the vesting of options and share awards granted in prior periods.

Increased office expenses partly offset the above decreases as a result of higher salaries and annual incentive awards, and additional headcount to support our administrative activities.

The increase in our G&A expenses for the year ended December 31, 2021 was primarily due to the following:

- Increased public company-related expenses due to an increase in directors and officers insurance premiums and investor relations activities, partly offset by lower business development consulting activities; and
- Increased share-based compensation expense on account of the impact of the vesting of options granted in prior periods, partly offset by a lower number of vesting share awards granted to independent board members due to a change in compensation arrangement.

Change in Fair Value of Warrant Derivative

For the year ended December 31, 2022, we recognized a loss of $20 on the change in fair value of our warrant derivative compared to gains of $17 and $3,492 for the years ended December 31, 2021, and December 31, 2020, respectively. The change in fair value in 2021 and 2020 was based on several factors, including changes in the market price of our shares and the revaluation of warrants exercised. The number of outstanding warrants was 64,035, 64,035, and 265,757 as at December 31, 2022, December 31, 2021, and December 31, 2020, respectively.

Foreign Exchange

For the year ended December 31, 2022, our foreign exchange gain was $1,665 compared to losses of $136 and $659 for the years ended December 31, 2021, and December 31, 2020, respectively. The foreign exchange gain/loss incurred in all three years was primarily due to unrealized translation gain/loss on U.S. dollar-denominated cash balances as a result of the fluctuation of the U.S. dollar versus the Canadian dollar throughout the respective periods.

Summary of Quarterly Results

Historical patterns of expenditures cannot be taken as an indication of future expenditures. Our current and future expenditures are subject to numerous uncertainties, including the duration, timing, and costs of R&D activities ongoing during each period and the availability of funding from investors and prospective partners. As a result, the amount and timing of expenditures and, therefore, liquidity and capital resources may vary substantially from period to period.

	2022				2021			
	Dec.[3]	Sept.	June	March	Dec.[3]	Sept.	June	March
Revenue	—	—	—	—	—	—	—	—
Net loss[1][2]	(8,554)	(4,407)	(5,095)	(6,779)	(7,751)	(4,872)	(7,246)	(6,435)
Basic and diluted loss per common share[1][2]	$ (0.14)	$ (0.08)	$ (0.09)	$ (0.12)	$ (0.14)	$ (0.09)	$ (0.13)	$ (0.13)
Total assets[4]	37,334	38,959	40,239	44,446	45,880	52,593	56,309	54,180
Total cash, cash equivalents, and marketable securities[4]	32,138	32,362	33,689	39,483	41,262	48,087	50,799	50,362
Total long-term debt	—	—	—	—	—	—	—	—
Cash dividends declared[5]	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

(1) Included in consolidated net loss and loss earnings per common share are share-based compensation expenses of $749, $500, $490, $639, $1,129, $1,007, $1,032, and $658, respectively.
(2) Included in consolidated net loss and loss per common share are foreign exchange (loss) gain of $(274), $1,526, $888, $(474), $(326), $1,212, $(631), and $(391), respectively.
(3) Included in consolidated net loss and loss per common share were annual short-term incentive awards.
(4) We issued 6,284,125 common shares for net cash proceeds of $12.6 million in 2022 (2021 - 8,876,809 common shares for net cash proceeds of $33.4 million).
(5) We have not declared or paid any dividends since incorporation.

Fourth Quarter

Statement of loss for the three months ended December 31, 2022, and 2021 was as follows:

	2022	2021
Expenses		
Research and development	**$ 4,841**	$ 3,679
General and administrative	**3,667**	3,776
Loss before the following	**(8,508)**	(7,455)
Change in fair value of warrant derivative	**(29)**	50
Foreign exchange loss	**(274)**	(326)
Interest income, net	**314**	22
Loss before income taxes	**(8,497)**	(7,709)
Income tax expense	**(57)**	(42)
Net loss	**(8,554)**	(7,751)
Other comprehensive loss - translation adjustment	**(61)**	(19)
Net comprehensive loss	**$ (8,615)**	$ (7,770)
Basic and diluted loss per common share	**$ (0.14)**	$ (0.14)
Weighted average number of shares (basic and diluted)	**59,512,765**	55,025,655

Fourth Quarter Review of Operations

Net loss for the three months ended December 31, 2022, was $8,554 compared to $7,751 for the three months ended December 31, 2021.

Research and Development Expenses ("R&D")

Our R&D expenses increased by $1,162 from $3,679 for the three months ended December 31, 2021, to $4,841 for the three months ended December 31, 2022. The following table summarizes our R&D expenses for the three months ended December 31, 2022, and 2021:

	Three Months Ended December 31,		
	2022	**2021**	**Change**
Clinical trial expenses	**$ 1,295**	$ 628	$ 667
M&P expenses	**477**	270	207
Intellectual property expenses	**129**	93	36
Translational science expenses	**13**	222	(209)
Personnel-related expenses	**2,431**	1,848	583
Share-based compensation expense	**460**	616	(156)
Other expenses	**36**	2	34
Research and development expenses	**$ 4,841**	$ 3,679	$ 1,162

The increase in our R&D expenses for the three months ended December 31, 2022 was primarily due to the following:

- Increased clinical trial expenses as a result of higher GOBLET patient costs and safety data management consulting costs;
- Increased personnel-related expenses attributable to higher salaries and annual incentive awards, the strengthening of the U.S. dollar, and additional headcount to support our R&D program; and
- Increased M&P expenses associated with higher production process and analytical activities as we focus on ensuring our active drug substance and finished drug product meet the regulatory specifications and standards plus higher distribution costs related to GOBLET.

The above increases were partly offset by the following:

- Decreased translational sciences expenses as our bispecific antibodies and CAR T studies ongoing in the fourth quarter of 2021 were largely completed by the end of the first quarter of 2022; and
- Decreased share-based compensation expense as a result of the impact of the vesting of options granted in prior periods.

General and Administrative Expenses ("G&A")

Our G&A expenses decreased by $109 from $3,776 for the three months ended December 31, 2021, to $3,667 for the three months ended December 31, 2022. The following table summarizes our G&A expenses for the three months ended December 31, 2022, and 2021:

	2022	**2021**	**Change**
Public company-related expenses	**$ 2,003**	$ 2,095	$ (92)
Office expenses	**1,276**	1,071	205
Share-based compensation expense	**289**	513	(224)
Depreciation - property and equipment	**22**	23	(1)
Depreciation - right-of-use assets	**77**	74	3
General and administrative expenses	**$ 3,667**	$ 3,776	$ (109)

The decrease in our G&A expenses for the three months ended December 31, 2022 was primarily due to the following:

- Decreased share-based compensation expense attributable to the impact of the vesting of options granted in prior periods;

- Partly offset by increased office expenses as a result of higher salaries and annual incentive awards, and additional headcount to support our administrative activities.

Liquidity and Capital Resources

As a clinical-stage biopharmaceutical company, we have not been profitable since our inception. We expect to continue to incur substantial losses as we continue our research and development efforts. We do not expect to generate significant revenues until and unless pelareorep becomes commercially viable. To date, we have funded our operations mainly through the issuance of additional capital via public offerings, equity distribution arrangements, and the exercise of warrants and stock options. In 2022, we were able to raise funds through our U.S. ATM equity distribution agreement.

We have no assurances that we will be able to raise additional funds through the sale of our common shares. Consequently, we will continue to evaluate all types of financing arrangements. On June 16, 2022, we renewed our short form base shelf prospectus (the "Base Shelf") that qualifies for distribution of up to $150.0 million of common shares, subscription receipts, warrants, or units (the "Securities") in either Canada, the U.S. or both. Under a Base Shelf, we may sell Securities to or through underwriters, dealers, placement agents, or other intermediaries. We may also sell Securities directly to purchasers or through agents, subject to obtaining any applicable exemption from registration requirements. The distribution of Securities may be affected from time to time in one or more transactions at a fixed price or prices, which may be subject to change, at market prices prevailing at the time of sale or at prices related to such prevailing market prices to be negotiated with purchasers and as set forth in an accompanying Prospectus Supplement.

Renewing our Base Shelf provides us with additional flexibility when managing our cash resources as, under certain circumstances, it shortens the time required to close a financing and is expected to increase the number of potential investors that may be prepared to invest in the Company. Funds received as a result of using our Base Shelf would be used in line with our Board approved budget and multi-year plan. Our renewed Base Shelf will be effective until July 16, 2024.

Our Base Shelf allowed us to enter into our ATM equity distribution agreements (see Note 9 of our audited consolidated financial statements). We use these equity arrangements to assist us in achieving our capital objective. These arrangements provide us with the opportunity to raise capital and better manage our cash resources. Our current ATM equity distribution agreement provides us with access to, subject to terms and conditions, US$65.0 million, of which we have raised gross proceeds of approximately US$5.6 million at December 31, 2022. We expect to continue to access our equity arrangement to help support our operations.

As at December 31, 2022, and 2021, we had cash and cash equivalents, marketable securities, and working capital ratios as follows:

	2022	2021
Cash and cash equivalents	**$ 11,666**	$ 41,262
Marketable securities	**$ 20,472**	$ —
Working capital ratio	**9.05**	16.69

We define working capital ratio as current assets divided by current liabilities, as presented on our audited consolidated statement of financial position. The change in our cash and cash equivalents between December 31, 2021, and December 31, 2022, reflects the cash used in our operating activities of $23.4 million, cash used in our investing activities of $20.4 million, and cash provided by our financing activities of $12.2 million for the year ended December 31, 2022. We have no debt other than accounts payable and accrued liabilities and lease liabilities. We have commitments and contingent obligations relating to the completion of our research and development of pelareorep.

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31,			Change	Change
	2022	2021	2020	2021 to 2022	2020 to 2021
Cash used in operating activities	**$ (23,355)**	$ (22,433)	$ (22,068)	$ (922)	$ (365)
Cash used in investing activities	**(20,403)**	(286)	(29)	(20,117)	(257)
Cash provided by financing activities	**12,205**	33,015	39,773	(20,810)	(6,758)
Impact of foreign exchange on cash and cash equivalents	**1,957**	(254)	(604)	2,211	350
(Decrease) increase in cash and cash equivalents	**$ (29,596)**	$ 10,042	$ 17,072	$ (39,638)	$ (7,030)

Cash used in operating activities

The change between 2022 and 2021 was primarily related to higher net operating activities and non-cash working capital changes. The change between 2021 and 2020 reflected lower net operating activities and non-cash working capital changes.

Net cash used in operating activities for the year ended December 31, 2022, consisted of a net loss of $24,835 less non-cash adjustments of $1,089 and non-cash working capital changes of $391. Non-cash items primarily included share-based compensation expense and unrealized foreign exchange gain. Non-cash working capital changes were mainly due to additions to accounts payable and accrued liabilities and prepaid expenses and deposits.

Net cash used in operating activities for the year ended December 31, 2021, included a net loss of $26,304 less non-cash adjustments of $4,779 offset by non-cash working capital changes of $908. Non-cash items mainly consisted of share-based compensation expense and unrealized foreign exchange loss. An increase in other receivables primarily caused the non-cash working capital changes.

Net cash used in operating activities for the year ended December 31, 2020, comprised a net loss of $22,505 less non-cash adjustments of $227 and non-working capital changes of $210. Non-cash items primarily included share-based compensation expense, change in fair value of warrant derivative, and unrealized foreign exchange loss. Non-cash working capital changes were mainly attributable to a decrease in other receivables, accounts payable and accrued liabilities, and other liabilities.

Cash used in investing activities

The change between 2022 and 2021 was principally related to acquiring marketable securities. The change between 2021 and 2020 directly related to leasehold improvements and furnishing of our Calgary headquarters in 2021.

Cash provided by financing activities

The changes were mainly due to our U.S. ATM activities. During the year ended December 31, 2022, we sold 6,235,232 common shares for gross proceeds of US$10,192 at an average price of US$1.63. During the year ended December 31, 2021, we sold 8,401,029 common shares for gross proceeds of US$27,158 at an average price of US$3.23. During the year ended December 31, 2020, we sold 12,182,532 common shares for gross proceeds of US$30,167 at an average price of US$2.48, and 1,418,369 warrants in connection with our August 2019 underwritten public offering were exercised for gross proceeds of US$1,277.

We desire to maintain adequate cash reserves to support our planned activities, including our clinical trial program, product manufacturing, administrative costs, and intellectual property protection. To do so, we estimate our future cash requirements by preparing a budget and a multi-year plan annually for review and approval by our Board. The budget establishes the approved activities for the upcoming year and estimates the associated costs. The multi-year plan estimates future activity along with the potential cash requirements and is based on our assessment of our current clinical trial progress along with the expected results from the coming year's activity. Budget to actual variances are prepared and reviewed by management and are presented quarterly to the Board.

We continue to manage our research and development plan to ensure optimal use of our existing resources as we expect to fund our expenditure requirements and commitments with existing working capital. Additional activities continue to be subject to adequate resources, and we believe we will have sufficient existing cash resources to fund our presently planned operations for at least the next twelve months. Factors that will affect our anticipated cash usage for which additional funding might be required include, but are not limited to, expansion of our clinical trial program, the timing of patient enrollment in our approved clinical trials, the actual costs incurred to support each clinical trial, the number of treatments each patient will receive, the timing of R&D activity with our clinical trial research collaborations, the number, timing and costs of manufacturing runs required to conclude the validation process and supply product to our clinical trial program, and the level of collaborative activity undertaken.

We are not subject to externally imposed capital requirements, and there have been no changes in how we define or manage our capital in 2022.

Contractual Obligations and Commitments

The following table summarizes our significant contractual obligations as at December 31, 2022:

	Total	Less than 1 year	2 -3 years	4 - 5 years	More than 5 years
Accounts payable and accrued liabilities	$ 3,650	$ 3,650	$ —	$ —	$ —
Lease obligations	447	251	130	66	—
Total contractual obligations	$ 4,097	$ 3,901	$ 130	$ 66	$ —

In addition, we are committed to payments totaling approximately $16,775 for activities mainly related to our clinical trial and manufacturing programs, which are expected to occur over the next three years. We are able to cancel most of these agreements with notice. The ultimate amount and timing of these payments are subject to changes in our research and development plan.

Off-Balance Sheet Arrangements

As at December 31, 2022, we had not entered into any off-balance sheet arrangements.

Transactions with Related Parties

For the years ended December 31, 2022, 2021, and 2020, we did not enter into any related party transactions other than compensation paid to key management personnel. Key management personnel are those persons having authority and responsibility for planning, directing, and controlling our activities as a whole. We have determined that key management personnel consists of the Board of Directors, the President and Chief Executive Officer, and the executives who report directly to the President and Chief Executive Officer.

	2022	2021	2020
Short-term employee compensation and benefits	**$ 4,308**	$ 3,919	$ 3,515
Termination benefits	**—**	—	495
Share-based compensation expense	**1,615**	2,703	1,758
	$ 5,923	$ 6,622	$ 5,768

Critical Accounting Estimates

In preparing our audited consolidated financial statements, we use IFRS as issued by the IASB. IFRS requires us to make certain estimates, judgements, and assumptions that we believe are reasonable based upon the information available in applying our accounting policies. These estimates and assumptions affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the audited consolidated financial statements, and the reported amounts of revenue and expenses during the reporting periods presented. Actual results could differ from those estimates, and such differences could be material.

Judgment, estimates and assumptions made by management that are significant to the financial statements are described below and in Note 4 of our audited consolidated financial statements for the year ended December 31, 2022.

Revenue recognition
We entered into a Licensing Agreement with Adlai, which provides, among other payments, upfront license fees in exchange for a regional license to our intellectual property. Management uses its judgment in applying the input method when determining the extent of progress toward completion of the performance obligation. Revenue recognition requires assumptions and estimates regarding total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

Clinical trial and manufacturing expenses

Clinical trial and manufacturing expenses represent significant components of our research and development expenses, and we outsource a significant portion of these activities to third-party contract research/manufacturing organizations. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows to these organizations. Payments under the contracts depend on factors such as achieving certain milestones. As part of preparing our audited consolidated financial statements, we estimate the expense to recognize based on services that the contract research/ manufacturing organizations have performed. When making these estimates, we use operational and contractual information from third-party service providers, operational data from internal personnel, and considerable judgment. We base our estimates on the best information available at the time. However, additional information may become available to us which may allow us to make a more accurate estimate in future periods. In this event, we may be required to record adjustments to research and development expenses in future periods when the actual level of activity becomes more certain. Such increases or decreases in cost are generally considered to be changes in estimates and will be reflected in research and development expenses in the period identified.

Valuation of share-based compensation

Estimating the fair value for stock options granted requires determining the most appropriate valuation model which is dependent on the terms and conditions of the grant. We have chosen to use the Black-Scholes valuation model ("Black-Scholes" or the "Model") to calculate the fair value of our stock options. Black-Scholes is widely used and accepted by other publicly traded companies. Therefore, we have concluded that Black-Scholes is the appropriate option pricing model to use for our stock options at this time. This estimate also requires determining the most appropriate inputs to the model, including the expected life, share price volatility, and dividend yield, and making assumptions about them. The assumptions and inputs used for estimating fair value for stock options granted issued are disclosed in Note 10 of our audited consolidated financial statements. Consequently, in complying with IFRS and selecting what we believe are the most appropriate assumptions under the circumstances, we have recorded non-cash share-based compensation expense for the years ended December 31, 2022, 2021, and 2020, of $2,378, $3,826, and $2,559, respectively.

Valuation of warrant derivative

Estimating the fair value of the warrant derivative at initial measurement, at each exercise date and at each reporting period requires determining the most appropriate valuation model. We have chosen to use Black-Scholes to calculate the fair value of our warrant derivative. This estimate also requires determining the most appropriate inputs to the model including, the expected life, share price volatility, and dividend yield, and making assumptions about them, as discussed in Note 16 of our audited consolidated financial statements. Consequently, in complying with IFRS and selecting what we believe are the most appropriate assumptions under the circumstances, we have recorded a non-cash change in fair value of warrant derivative for the years ended December 31, 2022, 2021, and 2020, of $(20), $17, and $3,492, respectively.

Income taxes

Uncertainties exist with respect to the interpretation of complex tax regulations and the amount and timing of future taxable income. Currently, we are accumulating tax loss carry-forward balances in various tax jurisdictions creating a deferred tax asset. Deferred tax assets are recognized for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Management's judgment is required to determine the amount of deferred tax assets that can be recognized based on the likely timing and the level of future taxable profits together with future tax planning strategies.

To date, we have determined that none of our deferred tax assets should be recognized. Our deferred tax assets are mainly comprised of our net operating losses from prior years, prior year research and development expenses, and non-refundable investment tax credits. These tax pools relate to entities that have a history of losses, have varying expiry dates, and may not be used to offset taxable income within our other subsidiaries. There are also no taxable temporary differences or any tax planning opportunities available that could partly support the recognition of these losses as deferred tax assets.

Accounting Policies

Our significant accounting policies are described in Note 3 of our audited consolidated financial statements for the year ended December 31, 2022.

Accounting Standards and Interpretations Issued but Not Yet Effective

IAS 1 *Presentation of Financial Statements*
In February 2021, the IASB issued amendments to IAS 1 *Presentation of Financial Statements* and IFRS Practice Statement 2 *Making Materiality Judgements,* in which it provides guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments apply to annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The adoption of this standard is not expected to have a material impact on our consolidated financial statements.

IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*
In February 2021, the IASB issued amendments to IAS 8, in which it introduced a new definition of 'accounting estimates'. The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. Also, the amendments clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments apply to annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The adoption of this standard is not expected to have a material impact on our consolidated financial statements.

IAS 12 *Income Taxes*
In May 2021, the IASB issued amendments to IAS 12, which narrowed the scope of the initial recognition exception under IAS 12, so that it no longer applies to transactions that give rise to equal taxable and deductible temporary differences. The amendments apply to annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The amendments apply prospectively to transactions that occur on or after the beginning of the earliest comparative period presented. The adoption of this standard is not expected to have a material impact on our consolidated financial statements.

Financial Instruments and Other Instruments

Fair value of financial instruments

Our financial instruments consist of cash and cash equivalents, marketable securities, other receivables, accounts payable and accrued liabilities, and warrant derivative. As at December 31, 2022, the carrying amount of our cash and cash equivalents, marketable securities, other receivables, and accounts payable and accrued liabilities approximated their fair value due to their short-term maturity.

Warrants with an exercise price denominated in a currency that differs from an entity's functional currency are treated as a derivative, initially measured at fair value, with subsequent changes in fair value at each reporting period end recognized through profit and loss. Our warrants with an exercise price of US$0.90 (see Note 9(b) of our audited consolidated financial statements) meet this requirement, and we have presented the fair value of these warrants as a current liability on the consolidated statement of financial position. As these warrants are exercised, the fair value at the date of exercise and the associated non-cash liability will be included in our share capital along with the proceeds from the exercise. If these warrants expire, the non-cash warrant liability is reversed through the consolidated statement of loss and comprehensive loss. There is no cash flow impact as a result of the accounting treatment for changes in the fair value of the warrant derivative or when warrants expire unexercised. The warrant derivative is a recurring Level 2 fair value measurement as these warrants have not been listed on an exchange and therefore do not trade on an active market. As at December 31, 2022, the fair value of our warrant derivative was $79 (December 31, 2021 - $56). We use the Black-Scholes valuation model to estimate fair value.

Financial risk management

Credit risk
Credit risk is the risk of a financial loss if a counterparty to a financial instrument fails to meet its contractual obligations. We are exposed to credit risk on our cash and cash equivalents, marketable securities, and other receivable from Pfizer in connection with the BRACELET-1 study (see Note 5 of our audited consolidated financial statements) in the event of non-performance by counterparties, but we do not anticipate such non-performance. Our maximum exposure to credit risk at the end of the period is the carrying value of our cash and cash equivalents, marketable securities, and other receivable from Pfizer.

We mitigate our exposure to credit risk connected to our cash and cash equivalents by maintaining our primary operating and investment bank accounts with Schedule I banks in Canada. For our foreign-domiciled bank accounts, we use referrals or recommendations from our Canadian banks to open foreign bank accounts. Our foreign bank accounts are used solely for the purpose of settling accounts payable and accrued liabilities or payroll.

We also mitigate our exposure to credit risk by restricting our portfolio to investment-grade securities with short-term maturities and monitoring counterparties' credit risk and credit standing.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. We hold our cash and cash equivalents in bank accounts or high-interest savings accounts that have variable interest rates. Our marketable securities have fixed interest rates. We mitigate interest rate risk through our investment policy that only allows the investment of excess cash resources in investment-grade vehicles while matching maturities with our operational requirements.

Fluctuations in market interest rates do not have a significant impact on our results of operations due to the short term to maturity of the investments held.

Foreign exchange risk

Foreign exchange risk arises from changes in foreign exchange rates that may affect the fair value or future cash flows of our financial assets or liabilities. We are primarily exposed to the risk of changes in the Canadian dollar relative to the U.S. dollar and the Euro as a portion of our financial assets and liabilities are denominated in such currencies. The impact of a $0.01 increase in the value of the U.S. dollar against the Canadian dollar would have decreased our net comprehensive loss in 2022 by approximately $170. The impact of a $0.01 increase in the value of the Euro against the Canadian dollar would have increased our net comprehensive loss in 2022 by approximately $22.

We mitigate our foreign exchange risk by maintaining sufficient foreign currencies through the purchase of foreign currencies or receiving foreign currencies from financing activities to settle our foreign accounts payable and accrued liabilities.

Significant balances in foreign currencies at December 31, 2022, are as follows:

	U.S. dollar	Euro
Cash and cash equivalents	$ 6,635	$ —
Marketable securities	15,115	—
Accounts payable and accrued liabilities	(1,093)	(1,035)
	$ 20,657	$ (1,035)

Liquidity risk

Liquidity risk is the risk that we will encounter difficulty in meeting obligations associated with financial liabilities. We manage liquidity risk through the management of our capital structure as outlined in the notes to our audited financial statements. Accounts payable and accrued liabilities are all due within the current operating period.

Other MD&A Requirements

We have 62,826,958 common shares outstanding at March 2, 2023. If all of our options (5,963,185) and common share purchase warrants with a US$0.90 exercise price (64,035) were exercised or were to vest, we would have 68,854,178 common shares outstanding.

Our 2022 annual report on Form 20-F is available on SEDAR at www.sedar.com and EDGAR at www.sec.gov.

Disclosure Controls and Procedures

Evaluation of Disclosure Controls and Procedures:
Our chief executive and financial officers reviewed and evaluated our disclosure controls and procedures. Based on that evaluation, they have concluded that our disclosure controls and procedures are effective in providing timely material information relating to the Company.

Management's Annual Report on Internal Control Over Financial Reporting:
Our management is responsible for establishing and maintaining adequate internal control over financial reporting and has designed such internal control over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of financial statements for external purposes in accordance with International Financial Reporting Standards.

Management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our internal controls and procedures over financial reporting will prevent all errors and all fraud. A control system can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple errors or mistakes. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving our stated goals under all potential future conditions. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that the controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Management has evaluated the design and operation of our internal control over financial reporting as of December 31, 2022, and has concluded that such internal control over financial reporting is effective as of December 31, 2022. There are no material weaknesses that have been identified by management in this regard. This assessment was based on criteria for effective internal control over financial reporting described in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework).

Changes in Internal Controls over Financial Reporting
There were no changes in our internal control over financial reporting that occurred during the year ended December 31, 2022, that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting.

Risks and Uncertainties

We are a clinical-stage biopharmaceutical company. Prospects for biotechnology companies in the research and development stage should generally be regarded as speculative. It is not possible to predict, based on studies in animals, or early studies in humans, whether a new therapeutic will ultimately prove to be safe and effective in humans, or whether necessary and sufficient data can be developed through the clinical trial process to support a successful product application and approval. If a product is approved for sale, product manufacturing at a commercial scale and significant sales to end users at a commercially reasonable price may not be successful. There can be no assurance that we will generate adequate funds to continue development, or will ever achieve significant revenues or profitable operations. Many factors (e.g., competition, patent protection, appropriate regulatory approvals) can influence the revenue and product profitability potential. In developing a pharmaceutical product, we rely on our employees, contractors, consultants and collaborators, and other third-party relationships, including the ability to obtain appropriate product liability insurance. There can be no assurance that this reliance and these relationships will continue as required. In addition to developmental and operational considerations, market prices for securities of biotechnology

companies generally are volatile, and may or may not move in a manner consistent with the progress we have made or are making.

Investment in our common shares involves a high degree of risk. An investor should carefully consider, among other matters, the risk factors in addition to the other information in our annual report on Form 20-F filed with the U.S. Securities and Exchange Commission (the "SEC"), as well as our other public filings with the Canadian securities regulatory authorities and the SEC, when evaluating our business because these risk factors may have a significant impact on our business, financial condition, operating results or cash flow. If any of the described material risks in our annual report or in subsequent reports we file with the regulatory authorities actually occur, they may materially harm our business, financial condition, operating results or cash flow. Additional risks and uncertainties that we have not yet identified or that we presently consider to be immaterial may also materially harm our business, financial condition, operating results, or cash flow. For information on risks and uncertainties, please refer to the "Risk Factors" section of our most recent annual report on Form 20-F and our other public filings available on www.sedar.com and www.sec.gov/edgar.shtml.

Consolidated Financial Statements

Oncolytics Biotech® Inc.
For the year ended December 31, 2022

STATEMENT OF MANAGEMENT'S RESPONSIBILITY

Management is responsible for the preparation and presentation of the consolidated financial statements, Management's Discussion and Analysis ("MD&A"), and all other information in the annual report.

In management's opinion, the accompanying consolidated financial statements have been properly prepared within reasonable limits of materiality and in accordance with the appropriately selected International Financial Reporting Standards as issued by the International Accounting Standards Board consistently applied and summarized in the consolidated financial statements.

The consolidated financial statements include estimates that are necessary when transactions affecting the current accounting period cannot be finalized with certainty until after the balance sheet date. Based on careful judgments by management, such estimates have been properly reflected in the accompanying consolidated financial statements. The financial information presented elsewhere in the annual report has been reviewed to ensure consistency with that in the consolidated financial statements. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources, and risks and uncertainty. Actual results in the future may differ materially from our present assessment of this information because future events and circumstances may not occur as expected.

Systems of internal controls, including organizational and procedural controls and internal controls over financial reporting, assessed as reasonable and appropriate in the circumstances, are designed and maintained by management to provide reasonable assurance that assets are safeguarded from loss or unauthorized use and to produce reliable records for preparation of financial statements.

Ernst & Young LLP, an independent firm of Chartered Professional Accountants, has been engaged, as approved by a vote of the shareholders' at the Company's most recent Annual General Meeting, to audit and provide their independent audit opinion on the Company's consolidated financial statements as at and for the year ended December 31, 2022.

Ernst & Young has full and free access to our Board of Directors and its Committees to discuss audit, financial reporting, and related matters.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal control. The Board exercises this responsibility through the Audit Committee of the Board, which is comprised entirely of independent directors. This Committee meets with management and the external auditors to satisfy itself that management's responsibilities are properly discharged and to review the consolidated financial statements and MD&A before they are presented to the Board of Directors for approval. The consolidated financial statements have been approved by the Board on the recommendation of the Audit Committee.

/s/Matthew Coffey	/s/Kirk Look
Dr. Matthew Coffey, PhD, MBA	Kirk Look, CA
President and Chief Executive Officer	Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Oncolytics Biotech Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Oncolytics Biotech Inc. (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of loss and comprehensive loss, changes in equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with International Financial Reporting Standards (IFRSs) as issued by the International Accounting Standards Board.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's 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 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 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

Critical audit matters are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/Ernst & Young LLP
Chartered Professional Accountants

We have served as the Company's auditor since 1999.

Calgary, Canada
March 2, 2023

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
(in thousands of Canadian dollars, except share amounts)

As at December 31,	2022	2021
Assets		
Current assets		
Cash and cash equivalents	**$ 11,666**	$ 41,262
Marketable securities	**20,472**	—
Other receivables (note 5)	**521**	866
Prepaid expenses (note 5)	**3,025**	2,776
Total current assets	**35,684**	44,904
Property and equipment (note 6)	**356**	392
Right-of-use assets (note 8)	**296**	584
Prepaid expenses (note 5)	**998**	—
Total assets	**$ 37,334**	$ 45,880
Liabilities And Shareholders' Equity		
Current liabilities		
Accounts payable and accrued liabilities (note 7)	**$ 3,650**	$ 1,988
Other liabilities (note 5)	**—**	352
Lease liabilities (note 8)	**216**	294
Warrant derivative (notes 9(b), 16)	**79**	56
Total current liabilities	**3,945**	2,690
Contract liability (note 12)	**6,730**	6,730
Lease liabilities (note 8)	**157**	361
Total liabilities	**10,832**	9,781
Commitments and contingencies (notes 13)		
Shareholders' equity		
Share capital (note 9) Authorized: unlimited Issued: December 31, 2022 – 61,327,914 December 31, 2021 – 55,043,789	**404,040**	391,348
Warrants (note 9)	**—**	3,618
Contributed surplus (note 10)	**40,051**	34,161
Accumulated other comprehensive income	**662**	388
Accumulated deficit	**(418,251)**	(393,416)
Total shareholders' equity	**26,502**	36,099
Total liabilities and shareholders' equity	**$ 37,334**	$ 45,880

See accompanying notes

On behalf of the Board:

/s/Angela Holtham
Director

/s/Wayne Pisano
Director

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF LOSS AND COMPREHENSIVE LOSS
(in thousands of Canadian dollars, except share amounts)

For the years ended December 31,	2022	2021	2020
Expenses			
Research and development (note 19)	**$ 15,432**	$ 12,920	$ 12,945
General and administrative (note 19)	**11,492**	13,315	12,514
Loss before the following	**(26,924)**	(26,235)	(25,459)
Change in fair value of warrant derivative (notes 9(b), 16)	**(20)**	17	3,492
Foreign exchange gain (loss)	**1,665**	(136)	(659)
Interest income, net	**528**	99	121
Loss before income taxes	**(24,751)**	(26,255)	(22,505)
Income tax expense (note 14)	**(84)**	(49)	—
Net loss	**(24,835)**	(26,304)	(22,505)
Other comprehensive income (loss) items that may be reclassified to net loss			
Translation adjustment	**274**	(12)	(64)
Net comprehensive loss	**$ (24,561)**	$ (26,316)	$ (22,569)
Basic and diluted loss per common share (note 11)	**$ (0.43)**	$ (0.49)	$ (0.56)
Weighted average number of shares (basic and diluted) (note 11)	**58,029,745**	53,513,225	40,338,789

See accompanying notes

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(in thousands of Canadian dollars)

	Share Capital	Warrants	Contributed Surplus	Accumulated Other Comprehensive Income	Accumulated Deficit	Total
As at December 31, 2019	$ 311,078	$ 3,618	$ 29,339	$ 464	$ (344,607)	$ (108)
Net loss and other comprehensive loss	—	—	—	(64)	(22,505)	(22,569)
Issued pursuant to stock option plan (note 10)	385	—	(144)	—	—	241
Issued pursuant to incentive share award plan (note 10)	732	—	(732)	—	—	—
Issued pursuant to "At the Market" Agreement (note 9)	40,038	—	—	—	—	40,038
Issued pursuant to warrant derivative exercised (note 9)	6,333	—	—	—	—	6,333
Share-based compensation expense (note 10)	—	—	2,559	—	—	2,559
Share issue costs (note 9)	(1,742)	—	—	—	—	(1,742)
As at December 31, 2020	$ 356,824	$ 3,618	$ 31,022	$ 400	$ (367,112)	$ 24,752
Net loss and other comprehensive loss	—	—	—	(12)	(26,304)	(26,316)
Issued pursuant to stock option plan (note 10)	381	—	(143)	—	—	238
Issued pursuant to incentive share award plan (note 10)	544	—	(544)	—	—	—
Issued pursuant to "At the Market" Agreement (note 9)	34,168	—	—	—	—	34,168
Issued pursuant to warrant derivative exercised (note 9)	687	—	—	—	—	687
Share-based compensation expense (note 10)	—	—	3,826	—	—	3,826
Share issue costs (note 9)	(1,256)	—	—	—	—	(1,256)
As at December 31, 2021	$ 391,348	$ 3,618	$ 34,161	$ 388	$ (393,416)	$ 36,099
Net loss and other comprehensive income	—	—	—	274	(24,835)	(24,561)
Issued pursuant to stock option plan (note 10)	20	—	(8)	—	—	12
Issued pursuant to incentive share award plan (note 10)	98	—	(98)	—	—	—
Expiry of equity warrant agreement (note 9)	—	(3,618)	3,618	—	—	—
Issued pursuant to "At the Market" Agreement (note 9)	13,338	—	—	—	—	13,338
Share-based compensation expense (note 10)	—	—	2,378	—	—	2,378
Share issue costs (note 9)	(764)	—	—	—	—	(764)
As at December 31, 2022	**$ 404,040**	**$ —**	**$ 40,051**	**$ 662**	**$ (418,251)**	**$ 26,502**

See accompanying notes

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands of Canadian dollars)

For the years ended December 31,	**2022**	**2021**	**2020**
Operating Activities			
Net loss for the year	**$ (24,835)**	$ (26,304)	$ (22,505)
Depreciation - property and equipment (notes 6, 19)	**93**	130	89
Depreciation - right-of-use assets (notes 8, 19)	**299**	322	357
Share-based compensation expense (notes 10, 19, 20)	**2,378**	3,826	2,559
Interest (income) expense, net	**(76)**	92	69
Unrealized foreign exchange (gain) loss	**(1,625)**	426	645
Change in fair value of warrant derivative (note 16)	**20**	(17)	(3,492)
Net change in non-cash working capital (note 17)	**391**	(908)	210
Cash used in operating activities	**(23,355)**	(22,433)	(22,068)
Investing Activities			
Acquisition of marketable securities	**(20,348)**	—	—
Acquisition of property and equipment (note 6)	**(55)**	(286)	(29)
Cash used in investing activities	**(20,403)**	(286)	(29)
Financing Activities			
Proceeds from exercise of stock options (note 10)	**12**	238	241
Proceeds from exercise of warrants (note 9)	**—**	231	1,697
Proceeds from "At the Market" equity distribution agreement (note 9)	**12,574**	32,912	38,296
Payment of lease liabilities (note 8)	**(381)**	(366)	(461)
Cash provided by financing activities	**12,205**	33,015	39,773
(Decrease) increase in cash and cash equivalents	**(31,553)**	10,296	17,676
Cash and cash equivalents, beginning of year	**41,262**	31,220	14,148
Impact of foreign exchange on cash and cash equivalents	**1,957**	(254)	(604)
Cash and cash equivalents, end of year	**$ 11,666**	$ 41,262	$ 31,220

See accompanying notes

Note 1: Nature of Operations

Oncolytics Biotech Inc. was incorporated on April 2, 1998, under the Business Corporations Act (Alberta) as 779738 Alberta Ltd. On April 8, 1998, we changed our name to Oncolytics Biotech Inc. We are a limited company incorporated and domiciled in Canada. Our shares are publicly traded on the Nasdaq Capital Market and the Toronto Stock Exchange. Our principal place of business is located at 804, 322 11th Avenue S.W., Calgary, Alberta, Canada.

We are a clinical-stage biopharmaceutical company developing pelareorep, a safe and well-tolerated intravenously delivered immunotherapeutic agent that activates the innate and adaptive immune systems and weakens tumor defense mechanisms. This improves the ability of the immune system to fight cancer, making tumors more susceptible to a broad range of oncology treatments. Our primary focus is to advance our programs in hormone receptor-positive / human epidermal growth factor 2-negative (HR+/HER2-) metastatic breast cancer and advanced/metastatic pancreatic ductal adenocarcinoma to phase 3 licensure-enabling studies. In addition, we are exploring opportunities for registrational programs in gastrointestinal cancers through our GOBLET platform study.

We have not been profitable since our inception and expect to continue to incur substantial losses as we continue our research and development efforts. As at December 31, 2022, we had an accumulated deficit of $418,251. We do not expect to generate significant revenues until and unless pelareorep becomes commercially viable. To date, we have funded our operations mainly through the issuance of additional capital via public offerings, equity distribution arrangements, and the exercise of warrants and stock options. There can be no assurance that we will be able to raise additional funds through the sale of our common shares. Failure to raise additional capital would have a material adverse impact on our business, results of operations, and financial condition. As at December 31, 2022, we had cash and cash equivalents and marketable securities of $32,138. We believe we have sufficient existing cash resources to fund our presently planned operations for at least the next twelve months.

Note 2: Basis of Presentation

Statement of compliance

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

Our consolidated financial statements for the year ended December 31, 2022, were authorized for issue in accordance with a resolution of the Board of Directors (the "Board") on March 2, 2023.

Basis of presentation

Our consolidated financial statements include our financial statements and the financial statements of our subsidiaries, Oncolytics Biotech (Barbados) Inc. and Oncolytics Biotech (U.S.) Inc., and are presented in Canadian dollars, our functional currency.

Subsidiaries are entities over which we have control which is achieved when we are exposed, or have the rights, to variable returns from our involvement with the investee and have the ability to affect those returns through our power to govern. The accounting policies of our subsidiaries are consistent with our accounting policies and all intercompany transactions, balances, income, and expenses are eliminated on consolidation.

Our accounts are prepared on the historical cost basis, except for certain assets and liabilities which are measured at fair value as explained in the notes to these financial statements.

Note 3: Summary of Significant Accounting Policies

The consolidated financial statements have, in management's opinion, been properly prepared within reasonable limits of materiality and within the framework of the significant accounting policies summarized below.

Cash and cash equivalents and marketable securities

Cash equivalents include interest-bearing deposits with our bank totaling $9,501 as at December 31, 2022 (December 31, 2021 - $39,902). Marketable securities include foreign currency term deposits with a maturity of greater than 90 days and less than one year.

Deferred income taxes

We follow the liability method of accounting for income taxes. Under the liability method, deferred income taxes are recognized for the difference between the financial statement carrying values and the respective income tax basis of assets and liabilities (temporary differences). Deferred income tax assets and liabilities are measured using substantively enacted income tax rates and laws expected to apply in the years in which temporary differences are expected to be recovered or settled. The effect on deferred income tax assets and liabilities of a change in tax rates is charged or credited to income, except when it is related to items charged or credited to either other comprehensive income or directly to equity.

Financial instruments

Classification and measurement

Financial assets

Financial assets are initially measured at fair value. In the case of a financial asset not at fair value through profit or loss, the financial asset is initially measured at fair value plus or minus transaction costs.

Financial assets are subsequently measured at amortised cost, fair value through profit or loss (FVPL), or fair value through other comprehensive income (FVOCI). The classification is based on two criteria: the Company’s business model for managing the assets; and whether the financial asset’s contractual cash flows represent 'solely payments of principal and interest' on the principal amount outstanding (the 'SPPI criterion').

Our financial assets include cash and cash equivalents, marketable securities, and other receivables. The classification and measurement of these financial assets are at amortized cost, as these assets are held within our business model with the objective to hold the financial assets in order to collect contractual cash flows that meet the SPPI criterion.

Financial liabilities

Financial liabilities are initially measured at fair value and are subsequently measured at amortised cost or FVPL. Our financial liabilities include accounts payable and accrued liabilities and warrant derivative. The classification and measurement of accounts payable and accrued liabilities are at amortized cost. The classification and measurement of the warrant derivative is at FVPL.

Impairment

Accounting for impairment losses for financial assets uses a forward-looking expected credit loss (ECL) approach. We are required to record a loss allowance for ECLs on all financial assets not held at FVPL. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Company expects to receive. The shortfall is then discounted at an approximation to the asset’s original effective interest rate.

Derecognition

A financial asset is derecognized when the contractual rights to the cash flows from the financial asset expire, or we transfer the financial asset and substantially all the risks and rewards of ownership of the financial asset to another entity.

A financial liability is derecognized when our obligations specified in the contract are discharged or canceled, or expired.

Fair Value Measurement

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. In determining the fair value measurement of our financial instruments, we prioritize the related inputs used in measuring fair value into the following hierarchy:

Level 1 - Quoted prices (unadjusted) in active markets for identical assets or liabilities;
Level 2 - Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable;
Level 3 - Unobservable inputs in which little or no market activity exists, therefore requiring an entity to develop its own assumptions about the assumptions that market participants would use in pricing.

Foreign currency translation

The financial statements for each of our subsidiaries are prepared using their functional currency. Our functional and presentation currency is the Canadian dollar. Foreign currency transactions are translated into the functional currency using exchange rates prevailing at the dates of the transactions. Exchange differences resulting from the settlement of such transactions and from the translation at exchange rates ruling at the statement of financial position date of monetary assets and liabilities denominated in currencies other than the functional currency are recognized directly in the consolidated statement of loss and comprehensive loss.

Exceptions to this are where the monetary items form part of the net investment in a foreign operation, and the foreign operation's functional currency is the local currency. These exchange differences are initially recognized in equity. The statement of financial position of foreign operations is translated into Canadian dollars using the exchange rate at the statement of financial position date and the income statements are translated into Canadian dollars using the average exchange rate for the period. Where this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, the exchange rate on the transaction date is used. Exchange differences on translation into Canadian dollars are recognized as a separate component of equity. On disposal of a foreign operation, any cumulative exchange differences held in equity are transferred to the consolidated statement of loss and comprehensive loss.

Leases

At the inception of a contract, we assess whether a contract is, or contains a lease by determining whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, we assess whether:

- the contract involves the use of an identified asset;
- we have the right to obtain substantially all of the economic benefits from the use of the identified asset throughout the period of use; and
- we have the right to direct the use of the identified asset.

A right-of-use asset and corresponding lease liability are recognized on the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received. The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term. In addition, the right-of-use asset is reduced by impairment losses and adjusted for certain remeasurements of the lease liabilities, if any.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date. The lease payments are discounted using the implicit interest rate in the lease. If the rate cannot be readily determined, our incremental rate of borrowing is used. The lease liability is subsequently measured at amortized cost using the effective interest method. The lease liability is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in our estimate of the amount expected to be payable under a residual value guarantee, if we change our

assessment of whether we will exercise a purchase, extension or termination option, or if the underlying lease contract is amended.

We have elected not to separate fixed non-lease components from lease components and instead account for each lease component and associated fixed non-lease components as a single lease component.

We have elected not to recognize right-of-use assets and lease liabilities for short-term leases that have a lease term of 12 months or less. We recognize the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

Loss per common share

Basic loss per common share is determined using the weighted average number of common shares outstanding during the year.

We use the treasury stock method to calculate diluted loss per common share. Under this method, diluted loss per common share is computed in a manner consistent with basic loss per common share except that the weighted average common shares outstanding are increased to include additional common shares from the assumed exercise of options and warrants if dilutive. The number of additional common shares is calculated by assuming that any outstanding "in the money" options, restricted share units, performance share units, and warrants were exercised at the later of the beginning of the period or the date of issue and that the proceeds from such exercises were used to acquire shares of common stock at the average market price during the reporting period.

Property and equipment

Property and equipment are recorded at cost. Depreciation is provided on bases and at rates designed to amortize the cost of the assets over their estimated useful lives. Depreciation is recorded using the declining balance method at the following annual rates:

Office equipment and furniture	20%
Medical equipment	20%
Computer equipment	30%
Leasehold improvements	Straight-line over the term of the lease

Research and development costs

Research and development costs are expensed as incurred, net of recoveries. We record accruals for the estimated costs of our research and development activities performed by third parties. Advance payments for goods or services that will be used or rendered for future research and development activities are capitalized as prepaid expenses and recognized as an expense as the related goods are delivered or the related services are performed. Development costs that meet specific criteria related to technical, market, and financial feasibility will be capitalized. To date, all development costs have been expensed.

Revenue recognition

Revenue relates to a long-term contract associated with a regional licensing agreement (the "Licensing Agreement") with Adlai Nortye Biopharma Co., Ltd. ("Adlai"). The pricing for the contract was based on the specific negotiations with Adlai and included non-refundable upfront license fees, development and regulatory milestone payments, royalties, and sales-based milestone payments. We account for a contract with a customer when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and the collectability of consideration is probable.

Under the Licensing Agreement, we have granted a regional license to our intellectual property. The granting of this license is accounted for as one performance obligation. We have determined that we provide Adlai with a right to access our intellectual property, and therefore recognize revenue related to the upfront license fee over time. Revenue is recognized based on the extent of progress toward completion of the performance obligation using the input method. Under the input method, the extent of progress toward completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion

of the performance obligation. We use this method because Adlai receives and consumes the benefit of our intellectual property as we undertake activities that impact the intellectual property. Management must use judgment in making assumptions and estimates regarding total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

The contract also provides for development and regulatory milestone payments, royalties, and sales-based milestone payments. These amounts are contingent on the occurrence of a future event and therefore give rise to variable consideration. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts in the transaction price when it becomes highly probable that the amount will not be subject to significant reversal when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current, and forecasted) that is reasonably available to us. Based on this information and related analysis, any quarterly adjustments to revenue are recognized as necessary in the period they become known.

The upfront license fee is not considered a significant financing component because it is used to meet working capital demands that can be higher in the early stages of a contract and to protect us from the other party failing to adequately complete some or all of its obligations under the contract.

Revenue from sales-based royalties and the achievement of annual sales volumes will be recognized when the subsequent sale occurs, as the license of the intellectual property is the predominant item to which the royalty relates. We consider payments associated with the achievement of annual sales volumes to be, in substance, royalty payments, and we will recognize such sales-based payments upon achievement of such sales volumes, provided that collection is reasonably assured.

Contract liability - Our contract liability includes upfront license fees and billings in excess of the revenue recognized. Contract liabilities are recognized as revenue as or when we perform under the contract. We classify our contract liability as current or non-current based on the timing of when we expect to recognize revenue.

Share-based compensation

Stock option plan

We have one stock option plan (the "Option Plan") available to officers, directors, employees, and consultants with grants under the Option Plan approved from time to time by our Board of Directors (the "Board"). Under the Option Plan, the exercise price of each option is set at equal to or higher than the trading price of our stock on the date of grant in accordance with Toronto Stock Exchange guidelines. Vesting is provided at the discretion of the Board, and the expiration of options is to be no greater than ten years from the date of grant. Exercised stock options are settled with common shares issued from treasury.

We use the fair value-based method of accounting for stock option awards granted under the Option Plan. We recognize compensation expense and a corresponding adjustment to contributed surplus equal to the fair value of the stock options granted using the Black-Scholes valuation model and is recognized over the vesting periods of the respective options. Compensation expense is adjusted for subsequent changes in management’s estimate of the number of options that are expected to vest.

Incentive share award plan

Our incentive share award plan (the "Share Plan") is available to directors, officers, and employees. Under our Share Plan, performance and restricted share units may be approved from time to time by the Board. Performance share units ("PSUs") are awarded to certain officers and employees to which common shares shall be issued based upon achieving the applicable performance criteria. Restricted share units ("RSUs") are awarded to certain officers and employees and non-employee directors to which common shares shall be issued in accordance with the Share Plan.

We recognize compensation expense and a corresponding adjustment to contributed surplus equal to the market value of our common shares at the grant date based on the number of PSUs/RSUs expected to vest, recognized over the vesting period. Compensation expense is adjusted for subsequent changes in management’s estimate of the number of PSUs/RSUs that are expected to vest. The effect of these changes is recognized in the period of the change.

Accounting Standards and Interpretations Issued but Not Yet Effective

IAS 1 *Presentation of Financial Statements*

In February 2021, the IASB issued amendments to IAS 1 *Presentation of Financial Statements* and IFRS Practice Statement 2 *Making Materiality Judgements,* in which it provides guidance and examples to help entities apply materiality judgements to accounting policy disclosures. The amendments apply to annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The adoption of this standard is not expected to have a material impact on our consolidated financial statements.

IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*

In February 2021, the IASB issued amendments to IAS 8, in which it introduced a new definition of 'accounting estimates'. The amendments clarify the distinction between changes in accounting estimates and changes in accounting policies, and the correction of errors. Also, the amendments clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments apply to annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The adoption of this standard is not expected to have a material impact on our consolidated financial statements.

IAS 12 *Income Taxes*

In May 2021, the IASB issued amendments to IAS 12, which narrowed the scope of the initial recognition exception under IAS 12, so that it no longer applies to transactions that give rise to equal taxable and deductible temporary differences. The amendments apply to annual reporting periods beginning on or after January 1, 2023, with earlier application permitted. The amendments apply prospectively to transactions that occur on or after the beginning of the earliest comparative period presented. The adoption of this standard is not expected to have a material impact on our consolidated financial statements.

Note 4: Significant Judgments, Estimates, and Assumptions

The full extent to which external factors outside of our control, including those related to the coronavirus infectious disease 2019 ("COVID-19") pandemic and the global political conflict in Ukraine, may directly or indirectly impact our business, results of operations and financial condition, including our ability to finance our operations, expenses, clinical trials, and research and development costs, will depend on future developments that are evolving and highly uncertain. We considered the potential impact of these events, including global supply chain disruptions, inflation, and rising interest rates, when making certain estimates and judgments relating to the preparation of these audited consolidated financial statements. While there was no material impact to our consolidated financial statements as of and for the year ended December 31, 2022, our future assessment of the magnitude and duration of COVID-19 and conflict in Ukraine, as well as other factors, could result in a material impact to our consolidated financial statements in future reporting periods.

Judgments

The preparation of our consolidated financial statements requires us to make judgments, estimates, and assumptions that affect the reported amount of revenue, expenses, assets, liabilities, and the disclosure of contingent liabilities at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

Estimates and assumptions

Because a precise determination of many assets and liabilities is dependent upon future events, the preparation of financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting periods. Actual results could differ from those estimates, and such differences could be material. Significant estimates made by management affecting our consolidated financial statements include:

Revenue recognition
We entered into a Licensing Agreement which provides, among other payments, upfront license fees in exchange for a regional license to our intellectual property. Management uses its judgment in applying the input method when determining the extent of progress toward completion of the performance obligation. Revenue recognition requires assumptions and estimates regarding total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

Clinical trial and manufacturing expenses
Clinical trial and manufacturing expenses represent significant components of our research and development expenses, and we outsource a significant portion of these activities to third-party contract research/manufacturing organizations. The financial terms of these agreements are subject to negotiation, vary from contract to contract, and may result in uneven payment flows to these organizations. Payments under the contracts depend on factors such as achieving certain milestones. As part of preparing the consolidated financial statements, we estimate the expense to recognize based on services that the contract research/ manufacturing organizations have performed. When making these estimates, we use operational and contractual information from third-party service providers, operational data from internal personnel, and considerable judgment. We base our estimates on the best information available at the time. However, additional information may become available to us which may allow us to make a more accurate estimate in future periods. In this event, we may be required to record adjustments to research and development expenses in future periods when the actual level of activity becomes more certain. Such increases or decreases in cost are generally considered to be changes in estimates and will be reflected in research and development expenses in the period identified.

Valuation of share-based compensation
Estimating the fair value for stock options granted requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model, including the expected life, share price volatility, and dividend yield, and making assumptions about them. The assumptions and inputs used for estimating fair value for stock options granted are disclosed in Note 10.

Valuation of warrant derivative
Estimating the fair value of the warrant derivative at initial measurement, at each exercise date and at each reporting period requires determining the most appropriate valuation model. This estimate also requires determining the most appropriate inputs to the valuation model, including the expected life, share price volatility, and dividend yield, and making assumptions about them.

Income taxes
Uncertainties exist with respect to the interpretation of complex tax regulations and the amount and timing of future taxable income. Currently, we are accumulating tax loss carry-forward balances in various tax jurisdictions creating a deferred tax asset. Deferred tax assets are recognized for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Management's judgment is required to determine the amount of deferred tax assets that can be recognized based on the likely timing and the level of future taxable profits together with future tax planning strategies.

To date, we have determined that none of our deferred tax assets should be recognized. Our deferred tax assets are mainly comprised of our net operating losses from prior years, prior year research and development expenses, and non-refundable investment tax credits. These tax pools relate to entities that have a history of losses, have varying expiry dates, and may not be used to offset taxable income within our other subsidiaries. There are also no taxable temporary differences or any tax planning opportunities available that could partly support the recognition of these losses as deferred tax assets.

Note 5: Other Assets and Liabilities

(a) In 2019, we entered into a co-development agreement with Merck KGaA, Darmstadt, Germany, and Pfizer Inc ("Pfizer"), known as BRACELET-1. This phase 2 clinical trial is jointly funded by Oncolytics and Pfizer. As at December 31, 2022, we recorded US$360 ($488) (December 31, 2021 - US$617 ($782)) in other receivables related to unbilled BRACELET-1 cost from Pfizer and nil (December 31, 2021 - US$278 ($352)) in other liabilities representing unused payments received from Pfizer.

(in thousands of Canadian dollars, except share amounts and where indicated)

(b) In 2022, we paid deposits to our manufacturer related to the production of pelareorep required for our clinical trial program. We classify the related prepaid expenses as current or non-current based on the timing of when we expect to receive services. As at December 31, 2022, we recorded $1,327 in current prepaid expenses and $998 in non-current prepaid expenses.

Note 6: Property and Equipment

	Medical Equipment	Computer Equipment	Office Equipment and Furniture	Leasehold Improvements	Total
Cost					
As at December 31, 2020	$ 62	$ 366	$ 353	$ 497	$ 1,278
Additions, net of foreign exchange impact	—	40	141	105	286
Disposals	—	—	(277)	(374)	(651)
As at December 31, 2021	62	406	217	228	913
Additions, net of foreign exchange impact	—	23	31	3	57
As at December 31, 2022	$ 62	$ 429	$ 248	$ 231	$ 970
Amortization					
As at December 31, 2020	$ 48	$ 249	$ 263	$ 482	$ 1,042
Depreciation expense	3	36	72	19	130
Disposals	—	—	(277)	(374)	(651)
As at December 31, 2021	51	285	58	127	521
Depreciation expense	2	36	34	21	93
As at December 31, 2022	$ 53	$ 321	$ 92	$ 148	$ 614
Net book value					
As at December 31, 2021	11	121	159	101	392
As at December 31, 2022	**$ 9**	**$ 108**	**$ 156**	**$ 83**	**$ 356**

Note 7: Accounts payable and accrued liabilities

	December 31, 2022	December 31, 2021
Trade payables	**$ 2,252**	$ 594
Accrued liabilities	**1,398**	1,394
	$ 3,650	$ 1,988

(in thousands of Canadian dollars, except share amounts and where indicated)

Note 8: Leases

Our portfolio of leases consists of office spaces with lease terms generally between 3 to 6 years. We currently do not have leases with residual value guarantees or leases not yet commenced to which we are committed. We have variable lease payments related to office space lease operating costs that are not material. Lease liabilities have been measured by discounting future lease payments using our incremental borrowing rate as rates implicit in the leases were not readily determinable. The weighted-average rate applied was 15%.

In 2021, we recorded an addition for a new office space lease for our Canadian head office and a lease modification related to the office lease extension for one of our subsidiaries.

The following table summarizes our right-of-use assets activity for the years ended December 31:

	2022	2021
As at beginning of year	**$ 584**	$ 372
Additions	**—**	210
Lease modification	**—**	324
Depreciation expense	**(299)**	(322)
Foreign exchange impact	**11**	—
As at end of year	**$ 296**	$ 584

The following table summarizes our lease liabilities activity for the years ended December 31:

	2022	2021
As at beginning of year	**$ 655**	$ 402
Additions	**—**	203
Lease modification	**—**	324
Payment of lease liabilities	**(381)**	(366)
Interest expense on lease liabilities	**80**	92
Foreign exchange impact	**19**	—
As at end of year	**$ 373**	$ 655

Our total undiscounted lease liability as at December 31, 2022 was as follows:

	December 31, 2022
Less than one year	$ 251
One to five years	196
More than five years	—
Total undiscounted lease liability	$ 447

(in thousands of Canadian dollars, except share amounts and where indicated)

Note 9: Share Capital

Authorized:
Unlimited number of no par value common shares

	Shares	
	Number	Amount
As at December 31, 2019	32,198,453	$ 311,078
Issued pursuant to stock option plan	133,454	385
Issued pursuant to incentive share award plan	234,172	732
Issued pursuant to "At the Market" (ATM) equity distribution agreement[(a)(c)]	12,182,532	40,038
Issued pursuant to warrant derivative exercised[(b)]	1,418,369	6,333
Share issue costs	—	(1,742)
As at December 31, 2020	46,166,980	$ 356,824
Issued pursuant to stock option plan	123,159	381
Issued pursuant to incentive share award plan	150,899	544
Issued pursuant to "At the Market" (ATM) equity distribution agreement[(c)(d)]	8,401,029	34,168
Issued pursuant to warrant derivative exercised[(b)]	201,722	687
Share issue costs	—	(1,256)
As at December 31, 2021	55,043,789	$ 391,348
Issued pursuant to stock option plan	8,333	20
Issued pursuant to incentive share award plan	40,560	98
Issued pursuant to "At the Market" (ATM) equity distribution agreement[(d)(e)]	6,235,232	13,338
Share issue costs	—	(764)
As at December 31, 2022	**61,327,914**	**$ 404,040**

(a) On October 24, 2018, we entered into an ATM equity offering sales agreement with Canaccord Genuity Inc. The ATM allowed us to issue common shares, at prevailing market prices, with an aggregate offering value of up to US$30,000 over a 19-month period through the facilities of the Nasdaq Capital Market in the United States. This sales agreement expired on June 4, 2020. In 2020, we sold 6,741,518 common shares for gross proceeds of US$17,538 at an average price of US$2.42. We received, net of commissions of US$526, proceeds of US$17,012. In total, we incurred share issue costs (including commissions) of $857.

(b) On August 16, 2019, pursuant to an underwritten public offering, 4,619,773 units were sold at a purchase price of US$0.81 per unit for gross proceeds of US$3,742. Each unit included one common share with a fair value of US$0.54 and one common share purchase warrant with a fair value of US$0.27. These warrants were classified as a financial liability (see Note 16). Each common share purchase warrant entitled the holder to purchase one common share at an exercise price of US$0.90 until August 16, 2024. In 2022, no warrants were exercised. In 2021, 201,722 (2020 - 1,418,369) warrants with a fair value of $456 (2020 - $4,636) were exercised for gross proceeds of US$182 (2020 - US$1,277). As at December 31, 2022, there were 64,035 warrants outstanding (December 31, 2021 - 64,035).

(c) On June 15, 2020, we entered into an ATM equity distribution agreement with Canaccord Genuity Inc. The ATM allowed us to issue common shares, at prevailing market prices, with an aggregate offering value of up US$40,000 over a 25-month period through the facilities of the Nasdaq Capital Market in the United States. This sales agreement was terminated on March 4, 2021. In 2021, we sold 5,685,097 (2020 - 5,441,014) common shares for gross proceeds of US$18,503 (2020 - US$12,629) at an average price of US$3.25 (2020 - US$2.11). We received, net of commissions of US$555 (2020 - US$379), proceeds of US$17,948 (2020 - US$12,250). In total, we incurred share issue costs (including commissions) of $707 (2020 - $885).

(d) On March 5, 2021, we entered into an ATM equity distribution agreement with Canaccord Genuity Inc. The ATM allows us to issue common shares, at prevailing market prices, with an aggregate offering value of up to US$80,000 over a 16-

(in thousands of Canadian dollars, except share amounts and where indicated)

month period through the facilities of the Nasdaq Capital Market in the United States. In 2022, we sold 2,719,770 (2021 - 2,715,932) common shares for gross proceeds of US$4,560 (2021 - US$8,655) at an average price of US$1.68 (2021 - US$3.19). We received, net of commissions of US$137 (2021 - US$260), proceeds of US$4,423 (2021 - US$8,395). In total, we incurred share issue costs (including commissions) of $209 (2021 - $549). This sales agreement was terminated on June 16, 2022.

(e) On June 17, 2022, we entered into an ATM equity distribution agreement with Canaccord Genuity Inc. The ATM allows us to issue common shares, at prevailing market prices, with an aggregate offering value of up to US$65,000 over a 25-month period through the facilities of the Nasdaq Capital Market in the United States. In 2022, we sold 3,515,462 common shares for gross proceeds of US$5,632 at an average price of US$1.60. We received, net of commissions of US$169, proceeds of US$5,463. In total, we incurred share issue costs (including commissions) of $555.

Equity Warrants

On June 1, 2017, pursuant to an underwritten public offering, 16,445,000 units were sold for gross proceeds of $11,512. Each unit included one common share and one common share purchase warrant. Following the 2018 share consolidation, 9.5 common share purchase warrants entitled the holder to purchase one common share in the capital of the Company until June 1, 2022, at an exercise price of approximately $9.025. These warrants were classified as equity. These warrants expired on June 1, 2022, and were transferred to contributed surplus on the consolidated statement of financial position upon expiry. There was no cash flow impact as a result of the warrant expiry.

The following table summarizes our outstanding equity warrants:

	Number of Warrants Outstanding	Warrant
As at December 31, 2019	16,445,000	$ 3,618
As at December 31, 2020	16,443,500	$ 3,618
As at December 31, 2021	16,443,500	$ 3,618
Expired	(16,443,500)	(3,618)
As at December 31, 2022	**—**	**$ —**

Note 10: Share-Based Compensation

Stock Option Plan

We have granted stock options to acquire common stock through our stock option plan. Our stock option activity for the years ended December 31 was as follows:

	2022		2021		2020	
	Number of options	Weighted Average Exercise Price $	Number of options	Weighted Average Exercise Price $	Number of options	Weighted Average Exercise Price $
Outstanding, beginning of year	**5,334,420**	**3.53**	3,764,055	4.08	2,246,947	5.31
Granted	**1,005,000**	**2.04**	1,832,500	2.99	1,817,500	3.19
Forfeited	**(62,962)**	**3.83**	(110,612)	6.21	(141,418)	3.84
Expired	**(304,940)**	**10.80**	(28,364)	37.63	(25,520)	62.49
Exercised	**(8,333)**	**1.45**	(123,159)	1.94	(133,454)	1.81
Outstanding, end of year	**5,963,185**	**2.91**	5,334,420	3.53	3,764,055	4.08
Exercisable, end of year	**4,420,482**	**3.01**	3,165,679	3.82	2,164,551	4.84

(in thousands of Canadian dollars, except share amounts and where indicated)

The following table summarizes information about the stock options outstanding and exercisable at December 31, 2022:

Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price $	Number Exercisable	Weighted Average Exercise Price $
$0.54 - $1.89	1,002,498	1.76	1.39	799,998	1.40
$1.90 - $3.05	1,724,442	3.31	2.34	1,001,738	2.37
$3.06 - $3.29	1,532,500	1.95	3.17	1,532,500	3.17
$3.30 - $3.75	1,393,131	2.87	3.42	775,632	3.43
$3.76 - $27.46	310,614	2.19	7.39	310,614	7.39
	5,963,185	2.54	2.91	4,420,482	3.01

Option grants vest either immediately or annually over periods ranging from one to three years.

We use the Black-Scholes valuation model to estimate fair value. We use historical data to estimate the expected dividend yield and expected volatility of our stock in determining the fair value of the stock options. The risk-free interest rate is based on the Government of Canada benchmark bond yield rates in effect at the time of grant and the expected life of the options represents the estimated length of time the options are expected to remain outstanding.

The estimated fair value of stock options granted during the years ended December 31 were determined using the following weighted average assumptions:

	2022	2021	2020
Risk-free interest rate	**3.35%**	0.66%	0.34%
Expected life	**3.0 years**	3.0 years	3.0 years
Expected share price volatility	**96.02%**	110.45%	110.82%
Expected dividend yield	**Nil**	Nil	Nil
Weighted average fair value of options	**$1.24**	$1.99	$2.12

Incentive Share Award Plan

Restricted Share Units

We have granted RSUs to non-employee directors through our incentive share award plan. Grants of RSUs to non-employee directors vest either immediately, on the third anniversary date from the grant date, or when the director ceases to be a member of the board. We have also granted RSUs to certain officers and employees of the Company. Grants of RSUs to certain officers and employees of the Company vest over a three-year period.

Our RSU activity for the years ended December 31 was as follows:

	2022	2021	2020
Outstanding, beginning of year	**40,560**	134,618	209,657
Granted	**—**	—	154,923
Released	**(40,560)**	(94,058)	(229,962)
Outstanding, end of year	**—**	40,560	134,618

(1) The weighted average fair value of the RSUs granted was nil in 2022 (2021 - nil; 2020 - $2.41).

We have reserved 6,132,791 common shares for issuance relating to our outstanding equity compensation plans. Our share-based compensation expense for the year ended December 31, 2022, was $2,378 (2021 - $3,826; 2020 - $2,559).

(in thousands of Canadian dollars, except share amounts and where indicated)

Note 11: Loss Per Common Share

Loss per common share is calculated by dividing net loss for the year by the weighted average number of common shares outstanding for the year ended December 31, 2022, of 58,029,745 (2021 - 53,513,225; 2020 - 40,338,789). The effect of any potential exercise of our stock options and warrants outstanding during the year has been excluded from the calculation of diluted loss per common share, as it would be anti-dilutive.

Note 12: Contract Liability

Regional licensing agreement
We entered into a regional licensing agreement (the "Licensing Agreement") with Adlai Nortye Biopharma Co., Ltd. ("Adlai") in November 2017. Under the terms of the Licensing Agreement, Adlai will have exclusive development and commercialization rights to pelareorep in China, Hong Kong, Macau, Singapore, South Korea, and Taiwan. We are entitled to receive upfront license fees, development and regulatory milestone payments, royalties, and sales-based milestone payments.

Contract liability
Our contract liability balance at December 31, which we expect to record in revenue over the next five years, is as follows:

	2022	2021
Balance, beginning of year	**$ 6,730**	$ 6,730
Revenue recognized	**—**	—
Balance, end of year	**$ 6,730**	$ 6,730

Note 13: Commitments and Contingencies

We are committed to payments totaling approximately $16,775 for activities mainly related to our clinical trial and manufacturing programs, which are expected to occur over the next three years. We are able to cancel most of these agreements with notice.

Indemnification of Officers and Directors
Our corporate by-laws require that, except to the extent expressly prohibited by law, we will indemnify our officers and directors against all costs, charges, and expenses, including an amount paid to settle an action or satisfy a judgment reasonably incurred in respect of any civil, criminal, or administrative action or proceeding as it relates to their services to the Company. The by-laws provide no limit to the amount of the indemnification. We have purchased directors' and officers' insurance coverage to cover claims made against the directors and officers during the applicable policy periods. The amounts and types of coverage have varied from period to period as dictated by market conditions. We believe that we have adequate insurance coverage; however, there is no guarantee that all indemnification payments will be covered under our existing insurance policies.

There is no pending litigation or proceeding involving any of our officers or directors as to which indemnification is being sought, nor are we aware of any threatened litigation that may result in claims for indemnification

(in thousands of Canadian dollars, except share amounts and where indicated)

Note 14: Income Taxes

The provision for income taxes recorded in the consolidated financial statements differs from the amount which would be obtained by applying the statutory income tax rate to the loss before income taxes as follows:

	2022	2021	2020
Loss before income taxes	**$ (24,751)**	$ (26,255)	$ (22,505)
Statutory Canadian corporate tax rate	**23.00%**	23.00%	24.00%
Anticipated tax recovery	**(5,693)**	(6,039)	(5,401)
Difference in tax rates	**3,552**	2,716	3,334
Share-based compensation expense	**547**	880	614
Revaluation of tax pools	**(338)**	(552)	21
Other permanent differences	**(368)**	45	108
Expiry of tax benefits	**1,614**	1,661	—
Change in fair value of warrant derivative	**5**	(4)	(838)
Provision to offset deferred tax asset	**765**	1,342	2,162
Current income taxes	**$ 84**	$ 49	$ —

At December 31, 2022, we have non-capital losses of $98,475 and $145,405 in Canada and Barbados, respectively (December 31, 2021 - $89,537 and $162,986, respectively). These losses are expected to expire between 2023 and 2042, if not utilized. At December 31, 2022, we have Canadian investment tax credits of $4,368 (December 31, 2021 - $4,834) that are expected to expire between 2023 and 2040, if not utilized. As well, we have unclaimed Canadian scientific research and experimental development expenditures available to reduce future years' taxable income of $27,663 (December 31, 2021 - $27,663). We also have unclaimed U.S. credits for increasing research activities available to reduce future years' taxable income of $1,285 (December 31, 2021 - $1,343) expiring between 2031 and 2041. We have not recorded the potential benefits of these tax pools in these consolidated financial statements.

Deferred tax assets are recognized, to the extent that it is probable that taxable income will be available to utilize the deductible temporary differences. The components of our unrecognized deferred tax asset are as follows:

	2022	2021	2020
Non-capital losses carried forward	**$ 26,726**	$ 25,158	$ 21,488
Scientific research and experimental development	**7,648**	7,705	6,362
Investment tax credits	**3,363**	3,716	4,068
Property and equipment	**366**	351	1,928
Share issue costs	**518**	648	689
Net capital losses carried forward	**6**	6	6
Unrecognized deferred tax asset	**$ 38,627**	$ 37,584	$ 34,541

The Company currently files income tax returns in the various jurisdictions in which it operates. These tax returns are subject to periodic examinations in the normal course by the applicable tax authorities. Management is not aware of any material income tax examinations currently in progress by any taxing jurisdiction.

Note 15: Capital Disclosures

Our objective when managing capital is to maintain a strong statement of financial position. We achieve our objective by obtaining adequate cash resources to support planned activities which include the clinical trial program, product manufacturing, administrative costs, and intellectual property expansion and protection. We include shareholders' equity, cash and cash equivalents, and marketable securities in the definition of capital.

(in thousands of Canadian dollars, except share amounts and where indicated)

	December 31, 2022	December 31, 2021
Cash and cash equivalents	**$ 11,666**	$ 41,262
Marketable securities	**$ 20,472**	$ —
Shareholders' equity	**$ 26,502**	$ 36,099

We have no debt other than accounts payable and accrued liabilities and lease liabilities. We also have commitments and potential contingent obligations relating to the completion of our research and development of pelareorep.

In managing our capital, we estimate our future cash requirements by preparing a budget and a multi-year plan annually for review and approval by our Board. The budget establishes the approved activities for the upcoming year and estimates the costs associated with these activities. The multi-year plan estimates future activity along with the potential cash requirements and is based on our assessment of our current clinical trial progress along with the expected results from the coming year's activity. Budget to actual variances are prepared and reviewed by management and are presented quarterly to the Board.

Historically, funding for our plan is primarily managed through the issuance of additional common shares and common share purchase warrants that upon exercise are converted to common shares. Management regularly monitors the capital markets attempting to balance the timing of issuing additional equity with our progress through our clinical trial program, general market conditions, and the availability of capital. There are no assurances that funds will be made available to us when required.

On June 12, 2022, we renewed our short form base shelf prospectus (the "Base Shelf") that qualifies for distribution of up to $150,000 of common shares, subscription receipts, warrants, or units (the "Securities") in either Canada, the U.S. or both. Under a Base Shelf, we may sell Securities to or through underwriters, dealers, placement agents, or other intermediaries. We may also sell Securities directly to purchasers or through agents, subject to obtaining any applicable exemption from registration requirements. The distribution of Securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be subject to change, at market prices prevailing at the time of sale, or at prices related to such prevailing market prices to be negotiated with purchasers and as set forth in an accompanying Prospectus Supplement.

Renewing our Base Shelf provides us with additional flexibility when managing our cash resources as, under certain circumstances, it shortens the time required to close a financing and is expected to increase the number of potential investors that may be prepared to invest in the Company. Funds received as a result of using our Base Shelf would be used in line with our Board approved budget and multi-year plan. Our renewed Base Shelf will be effective until July 16, 2024.

Our Base Shelf allowed us to enter into our ATM equity distribution agreements (see Note 9). We use these equity arrangements to assist us in achieving our capital objective. These arrangements provide us with the opportunity to raise capital and better manage our cash resources.

We are not subject to externally imposed capital requirements, and there have been no changes in how we define or manage our capital in 2022.

Note 16: Financial Instruments

Fair value of financial instruments

Our financial instruments consist of cash and cash equivalents, marketable securities, other receivables, accounts payable and accrued liabilities, and warrant derivative. As at December 31, 2022, the carrying amount of our cash and cash equivalents, marketable securities, other receivables, and accounts payable and accrued liabilities approximated their fair value due to their short-term maturity.

Warrants with an exercise price denominated in a currency that differs from an entity's functional currency are treated as a derivative, initially measured at fair value, with subsequent changes in fair value at each reporting period end recognized through profit and loss. Our warrants with an exercise price of US$0.90 (see Note 9(b)) meet this requirement, and we have presented the fair value of these warrants as a current liability on the consolidated statement of financial position. As these warrants are exercised, the fair value at the date of exercise and the associated non-cash liability will be included in our share

(in thousands of Canadian dollars, except share amounts and where indicated)

capital along with the proceeds from the exercise. If these warrants expire, the non-cash warrant liability is reversed through the consolidated statement of loss and comprehensive loss. There is no cash flow impact as a result of the accounting treatment for changes in the fair value of the warrant derivative or when warrants expire unexercised. The warrant derivative is a recurring Level 2 fair value measurement as these warrants have not been listed on an exchange and therefore do not trade on an active market. As at December 31, 2022, the fair value of our warrant derivative was $79 (December 31, 2021 - $56). We use the Black-Scholes valuation model to estimate fair value.

Financial risk management

Credit risk

Credit risk is the risk of a financial loss if a counterparty to a financial instrument fails to meet its contractual obligations. We are exposed to credit risk on our cash and cash equivalents, marketable securities, and other receivable from Pfizer in connection with the BRACELET-1 study (see Note 5) in the event of non-performance by counterparties, but we do not anticipate such non-performance. Our maximum exposure to credit risk at the end of the period is the carrying value of our cash and cash equivalents, marketable securities, and other receivable from Pfizer.

We mitigate our exposure to credit risk connected to our cash and cash equivalents by maintaining our primary operating and investment bank accounts with Schedule I banks in Canada. For our foreign-domiciled bank accounts, we use referrals or recommendations from our Canadian banks to open foreign bank accounts. Our foreign bank accounts are used solely for the purpose of settling accounts payable and accrued liabilities or payroll.

We also mitigate our exposure to credit risk by restricting our portfolio to investment-grade securities with short-term maturities and monitoring counterparties' credit risk and credit standing.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. We hold our cash and cash equivalents in bank accounts or high-interest savings accounts that have variable interest rates. Our marketable securities have fixed interest rates. We mitigate interest rate risk through our investment policy that only allows the investment of excess cash resources in investment-grade vehicles while matching maturities with our operational requirements.

Fluctuations in market interest rates do not have a significant impact on our results of operations due to the short term to maturity of the investments held.

Foreign exchange risk

Foreign exchange risk arises from changes in foreign exchange rates that may affect the fair value or future cash flows of our financial assets or liabilities. We are primarily exposed to the risk of changes in the Canadian dollar relative to the U.S. dollar and the Euro as a portion of our financial assets and liabilities are denominated in such currencies. The impact of a $0.01 increase in the value of the U.S. dollar against the Canadian dollar would have decreased our net comprehensive loss in 2022 by approximately $170. The impact of a $0.01 increase in the value of the Euro against the Canadian dollar would have increased our net comprehensive loss in 2022 by approximately $22.

We mitigate our foreign exchange risk by maintaining sufficient foreign currencies through the purchase of foreign currencies or receiving foreign currencies from financing activities to settle our foreign accounts payable and accrued liabilities.

Significant balances in foreign currencies at December 31, 2022, are as follows:

	U.S. dollar	Euro
Cash and cash equivalents	$ 6,635	$ —
Marketable securities	15,115	—
Accounts payable and accrued liabilities	(1,093)	(1,035)
	$ 20,657	$ (1,035)

(in thousands of Canadian dollars, except share amounts and where indicated)

Liquidity risk

Liquidity risk is the risk that we will encounter difficulty in meeting obligations associated with financial liabilities. We manage liquidity risk through the management of our capital structure as outlined in Note 15. Accounts payable and accrued liabilities are all due within the current operating period.

Note 17: Additional Cash Flow Disclosures

Net Change In Non-Cash Working Capital

	2022	2021	2020
Change in:			
Other receivables	**$ 345**	$ (776)	$ 1,979
Prepaid expenses and deposits	**(1,247)**	(349)	286
Accounts payable and accrued liabilities	**1,662**	183	(1,368)
Other liabilities	**(352)**	228	(723)
Non-cash impact of foreign exchange	**(17)**	(194)	36
Change in non-cash working capital related to operating activities	**$ 391**	$ (908)	$ 210

Other Cash Flow Disclosures

	2022	2021	2020
Cash interest received	**$ 452**	$ 190	$ 190
Cash taxes paid	**$ 46**	$ 35	$ 12

Note 18: Economic Dependence

We are economically dependent on our toll manufacturers. We primarily use one toll manufacturer in the U.S. to produce the clinical-grade pelareorep active ingredient and a second toll manufacturer to formulate finished product required for our clinical trial program. Any significant disruption of the services provided by our primary toll manufacturers has the potential to delay the progress of our clinical trial program. We have used another toll manufacturer in the U.K. that has also produced clinical-grade pelareorep at a smaller scale. We have attempted to mitigate this risk by identifying an alternative toll manufacturer, establishing stability profiles for long-term storage of pelareorep, and producing sufficient pelareorep in advance of patient enrollment in a particular clinical trial.

(in thousands of Canadian dollars, except share amounts and where indicated)

Note 19: Components of Expenses

	2022	2021	2020
Research and development expenses			
Clinical trial expenses	**$ 4,970**	$ 3,205	$ 3,055
Manufacturing & related process development expenses	**2,148**	1,547	3,384
Intellectual property expenses	**544**	618	907
Translational science expenses	**264**	673	318
Personnel-related expenses	**6,023**	4,754	4,135
Share-based compensation expense	**1,371**	2,087	1,043
Other expenses	**112**	36	103
	$ 15,432	$ 12,920	$ 12,945
General and administrative expenses			
Public company-related expenses	**$ 6,790**	$ 8,161	$ 7,432
Office expenses	**3,303**	2,963	3,120
Share-based compensation expense	**1,007**	1,739	1,516
Depreciation - property and equipment	**93**	130	89
Depreciation - right-of-use assets	**299**	322	357
	$ 11,492	$ 13,315	$ 12,514

In 2022, our research and development personnel-related expenses included employee compensation and benefits of $5,983 (2021 - $4,645; 2020 - $3,775).

In 2022, our general and administrative office expenses included employee compensation and benefits of $2,870 (2021 - $2,542; 2020 - $2,635).

Note 20: Related Party Transactions

Compensation of Key Management Personnel
Key management personnel are those persons having authority and responsibility for planning, directing, and controlling our activities as a whole. We have determined that key management personnel consists of the Board of Directors, the President and Chief Executive Officer, and the executives who report directly to the President and Chief Executive Officer.

	2022	2021	2020
Short-term employee compensation and benefits	**$ 4,308**	$ 3,919	$ 3,515
Termination benefits	**—**	—	495
Share-based compensation expense	**1,615**	2,703	1,758
	$ 5,923	$ 6,622	$ 5,768

Note 21: Subsequent Events

Between January 1, 2023 and March 2, 2023, we issued 1,499,044 shares for gross proceeds of US$2,570 through our June 2022 ATM equity distribution agreement.

Shareholder Information

Our public company filings are available on SEDAR at www.sedar.com and EDGAR at www.sec.gov or contact us at:

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Kirk Look, CA, MSJ
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Thomas C. Heineman, MD, PhD
Chief Medical Officer
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Directors

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