

**XORTX THERAPEUTICS INC.**  
**Management Discussion and Analysis**  
**For the three and nine months ended September 30, 2019**

This management discussion and analysis of financial position and results of operations (“MD&A”) is prepared as at November 28, 2019 and should be read in conjunction with the unaudited interim consolidated financial statements for the three and nine months ended September 30, 2019 of XORTX Therapeutics Inc. (the “Company” or “XORTX”), together with the audited financial statements of the Company for the year ended December 31, 2018, as well as the accompanying MD&A for the period then ended (the “Annual MD&A”).

The referenced unaudited condensed interim consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”), including International Standard 34, *Interim Financial Reporting*, as issued by the International Accounting Standards Board (“IAS”) and Interpretations of the IFRS Interpretations Committee (“IFRIC”). All dollar amounts included therein and in the following MD&A are expressed in Canadian dollars except where noted.

The Company’s critical accounting estimates, significant accounting policies and risk factors as disclosed in the Annual MD&A have remained substantially unchanged and are still applicable to the Company unless otherwise indicated.

In this discussion, unless the context requires otherwise, references to “we” or “our” are references to XORTX Therapeutics Inc.

**Forward Looking Statements**

This MD&A contains certain statements, other than statements of historical fact that are forward-looking statements, which reflect the current view of the Company with respect to future events including corporate developments, financial performance and general economic conditions which may affect the Company.

All statements other than statements of historical fact contained in this listing statement, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- our ability to obtain additional financing;
- the accuracy of our estimates regarding expenses, future revenues and capital requirements;
- the success and timing of our preclinical studies and clinical trials;
- our ability to obtain and maintain regulatory approval of XORLO and any other product candidates we may develop, and the labeling under any approval we may obtain;
- regulatory developments in the United States and other countries;
- the performance of third-party manufacturers;
- our plans to develop and commercialize our product candidates;

- our ability to obtain and maintain intellectual property protection for our product candidates;
- the successful development of our sales and marketing capabilities;
- the potential markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of any future products;
- the success of competing drugs that are or become available; and
- the loss of key scientific or management personnel.

XORTX relies on certain key expectations and assumptions in making the forecasts, projections, predictions or estimations set out in forward-looking information. These factors and assumptions are based on information available at the time that the forward-looking information is provided. These include, but are not limited to, expectations and assumptions concerning:

- the availability of capital to fund planned expenditures;
- prevailing regulatory, tax and environmental laws and regulations; and
- the ability to secure necessary personnel, equipment and services.

Undue reliance should not be placed on forward-looking information because a number of risks and factors may cause actual results to differ materially from those set out in such forward-looking information. These include:

- incorrect assessments of the value of acquisitions, licenses and development programs;
- technical, manufacturing and processing problems;
- actions by governmental authorities, including increases in taxes;
- the availability of capital on acceptable terms;
- fluctuations in foreign exchange, currency, or interest rates and stock market volatility;
- failure to realize the anticipated benefits from licenses or acquisitions;
- the other factors specifically identified as risk factors in this MD&A; and
- potential labour unrest.

Readers are cautioned that the foregoing list of factors should not be construed as exhaustive.

Except as may be required by applicable law or stock exchange regulation, we undertake no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this document or to reflect the occurrence of unanticipated events. Accordingly, readers should not place undue reliance on forward-looking statements. If we do update one or more forward-looking statements, no inference should be drawn that additional updates will be made with respect to those or other forward-looking statements. Additional information relating to our Company is available by accessing the SEDAR website at [www.sedar.com](http://www.sedar.com).

## **Business Overview**

XORTX is a bio-pharmaceutical company, dedicated to the development and commercialization of therapies to treat progressive kidney disease modulated by aberrant purine and uric acid metabolism in orphan disease indications such as autosomal dominant polycystic kidney disease, larger market type 2 diabetic nephropathy, and fatty liver disease. The Company's current focus is on developing two therapeutic products to slow and/or reverse the progression of kidney disease in patients at risk of end stage kidney failure.

The primary development program for XORTX is at a late clinical stage and is focused on demonstrating the effectiveness and potential of a first-in-class therapy for autosomal dominant polycystic kidney disease

("ADPKD"), an orphan disease. XORTX has a second, clinical stage program that is currently evaluating three new chemical entities for the treatment of type 2 diabetic nephropathy ("T2DN").

## **Principal Products and Patents**

### **Products**

The Company's most advanced development program, XRx-008 (XORLO<sup>(1)</sup>) is at a late clinical stage and is focused on demonstrating the potential of our first-in-class therapy for ADPKD. XRx-008 is the development name given to XORTX's proprietary oral formulation of Oxypurinol, and shows substantially increased bioavailability compared to Oxypurinol alone. In addition, an Investigational new drug application (IND) and orphan drug designation (ODD) has been filed for the XRx-008 program.

XORTX also has a second clinical stage program for T2DN. The Company has entered into a letter of intent to co-develop TMX-049, a "next generation" xanthine oxidoreductase drug with Teijin Pharma Limited ("Teijin").

### **Patents**

XORTX has three U.S. granted patents with claims to the use of all uric acid lowering agents to treat high blood pressure, insulin resistance or diabetic nephropathy, and four U.S. patent applications with similar claims for the treatment of metabolic syndrome, diabetes, fatty liver disease as well as a composition of matter patent for formulations of xanthine oxidase inhibitors. Counterparts for some of these patent applications have also been submitted in Europe, Japan, and other jurisdictions. Additional patents to expand and extend coverage of uric acid lowering agents are currently under preparation.

### **Future Plans and Outlook**

XORTX intends to grow its business by initiating a pivotal phase 3 clinical trial in ADPKD and a phase 2b clinical trial in T2DN patients, to demonstrate the benefit of lowering elevated uric acid as a therapy, and then commercialize by out-licensing these programs to specialty and larger pharmaceutical companies. In addition, XORTX plans to grow by expanding its knowledge and technical expertise into new therapeutic programs to treat a variety of other orphan diseases, fatty liver disease and health issues related to diabetes. The Company will be seeking additional capital to enable it to undertake these programs.

XORTX's ADPKD program is poised to advance to a pivotal phase 3 clinical trial in 10 months assuming sufficient funding is raised by the Company and the secondary program in T2DN is planned to enter phase 2b proof of concept testing in 14 months, also assuming sufficient funding is in place. Based upon recently published and successful phase 2 clinical pilot trials, progression of kidney disease in ADPKD and chronic kidney disease (~50% T2DN) can be slowed or perhaps stopped by decreasing uric acid levels into the mid-normal range of serum concentration (Goicoechea et al. (2015) Allopurinol and Progression of CKD and Cardiovascular Events: A long-term Follow-up, Am J Kid Dis; Kim et al. (2014) High-normal serum uric acid predicts the development of chronic kidney disease in patients with T2DN mellitus and preserved kidney function, J Diabetes Complications). Given the existing, successful clinical trials and associated data that shows the benefit of lowering uric acid levels in progressive kidney disease, XORTX anticipates that the probability of translating its clinical trial testing will be increased.

The three year business objectives of XORTX are as follows:

With respect to ADPKD and subject to sufficient funding being available:

1. Manufacture Oxypurinol and formulation in preparation for pivotal phase 3 'registration' clinical trials.
2. Complete the Investigational New Drug application ("IND") process to advance XRx-008 and characterize bioavailability of XRx-008 in man.
3. Complete and receive 'orphan designation' for this program.
4. Submit the phase 3 pivotal trial protocol to demonstrate the effectiveness of uric acid lowering by XRx-008 in ADPKD patients and initiate the clinical trial under a special protocol assessment (SPA).
5. Complete licensing or co-development agreements for the ADPKD program within the next 24 months with global pharmaceutical company partners in Europe, Japan, Korean and/or North American partners resulting in upfront, milestone and royalty payments upon new drug application ("NDA") approval.

A number of specialty pharmaceutical companies have expressed an interest in the ADPKD program suggesting an increased probability of partnering of the ADPKD program once phase 3 clinical trial, under SPA, is finalized or in the early stages of recruiting the phase 3 trial.

With respect to T2DN and subject to sufficient funding being available:

1. Complete a definitive agreement for exclusive global rights to develop TMX-049 with Teijin Pharma for renal disease, including type 2 diabetic nephropathy.
2. Submit phase 2b clinical trial protocol to advance the TMX-049 into a phase 2b clinical trial in patients with progressive T2DN.
3. Initiate and complete that phase 2b proof of concept trial for T2DN within the next 36 months.
4. Complete a licensing or co-development agreement with a large market pharmaceutical partner for phase 3a and 3b co-development of T2DN followed by NDA submission to the FDA.

Tertiary programs of interest to XORTX include several orphan disease indications where aberrant purine and uric acid metabolism could be anticipated to accelerate kidney and liver disease progression. Those orphan diseases include "Follow-On Orphan Market Opportunities": IgA Nephropathy, and Nephropathy associated with Cystic Fibrosis as available funding, staff and time capacity permit. In addition, XORTX anticipates activities to advance a therapy for diabetes associated liver disease.

## Recent Developments

On March 12, 2019, XORTX announced that it had signed a non-binding Letter of Intent (the "LOI") with Japan's Teijin Pharma Limited ("Teijin") for the exclusive global rights (excluding Japan) to develop TMX-049, a new generation of xanthine oxidoreductase inhibitor, for the treatment of progressive kidney disease. The overall goal of the LOI recognizes the mutual interest of Teijin and XORTX to advance together to a definitive license agreement which will grant XORTX the exclusive global rights to develop TMX-049 for progressive kidney disease and the option to use this molecule for other therapeutic programs (the "Definitive Agreement"). Teijin will retain the rights to the Japanese market and Teijin and XORTX will share future development costs. Teijin has already devoted considerable time, funding and resources toward the development of TMX-049. In conjunction with the proposed co-development deal Teijin and XORTX simultaneously announced the results from recently completed phase 2a study of the effects of TMX-049 on proteinuria in type 2 diabetic nephropathy (T2DN). This phase 2a study in individuals with moderate to severe T2DN showed substantial and statistically significant decreases in serum uric acid and

proteinuria after 12 weeks of treatment with TMX-049. Individuals in this study received the current standard of care available for kidney disease associated with T2DN. Teijin and XORTX are arm's length parties and no finder's fees are payable in respect to this transaction. The Definitive Agreement contemplated by the LOI will include several milestone payments to Teijin to be confirmed at the time of signing of the Definitive Agreement. These milestone payments will be based on key value creating clinical milestones and represent checkpoints where the TMX-049 program is further de-risked and advanced toward marketing approval. After signing the LOI and once the phase 2b clinical trial protocol in T2DN is finalized, XORTX will make an initial payment to Teijin to accelerate manufacturing of a clinical supply of drug for this study. This payment will underscore the commitment of both parties to prioritize the development of this phase 2b clinical program for the treatment of T2DN.

### Summary of Quarterly Results

The table below sets forth unaudited quarterly results prepared by management for the eight previous quarters to September 30, 2019:

(unaudited)	2019 Q3	2019 Q2	2019 Q1	2018 Q4
Accretion	415	406	397	401
Amortization of Intangible Assets	5,008	4,961	4,922	4,922
Foreign Exchange (gain) loss	(6,569)	5,651	17,189	(27,051)
Consulting	6,000	8,000	7,125	6,000
General and administrative	12,027	1,088	2,000	5,208
Interest	4,830	9,112	7,595	7,011
Investor Relations	5,346	3,385	11,344	8,836
Listing fees	10,479	14,870	8,370	9,010
Professional Fees	24,557	24,072	21,054	22,414
Research and Development	6,434	15,235	16,696	20,175
Share Based Payments	10,416	13,752	(6,406)	8,652
Travel	4,910	6,887	12,385	4,478
Wages and Benefits	48,000	48,000	50,166	46,904
Charge related to public company listing	-	-	-	30,503
Total Comprehensive Loss	131,853	155,419	152,837	147,463
Loss per Share	(0.00)	(0.00)	(0.00)	(0.00)
(unaudited)	2018 Q3	2018 Q2	2018 Q1	2017 Q4
Accretion	397	462	661	3,878
Amortization of Intangible Assets	4,873	4,760	4,761	4,309
Foreign Exchange loss (gain)	9,192	(10,239)	(14,280)	758
Consulting	12,720	43,569	46,575	-
General and administrative	2,491	479	3,506	4,007
Interest	3,262	7,673	2,431	6,514
Investor Relations	10,807	1,139	5,780	7,800
Listing fees	8,372	15,052	9,561	-
Professional Fees	19,593	13,050	27,837	56,089
Research and Development	137,921	121,953	62,202	66,367
Share Based Payments	18,983	24,904	222,555	23,169
Travel	30,214	3,730	14,972	8,397
Wages and Benefits	48,000	48,347	51,914	71,576
Charge related to public company listing	-	-	2,608,281	-
Total Comprehensive Loss	306,825	274,879	3,046,756	252,864
Loss per Share	(0.00)	(0.00)	(0.05)	(0.01)

### Three months ended September 30, 2019

The Company incurred a comprehensive loss of \$131,853 (\$0.00 per share) for the three months ended September 30, 2019 compared to \$306,825 (\$0.00 per share) in the three months ended September 30, 2018. Variances within the loss items are as follows:

**Foreign exchange gain/loss** – gain of \$6,569 (2018 – loss of \$9,192) – During the three months ended September 30, 2019 the Canadian dollar weakened against the US dollar with the foreign exchange rate changing from 1.3087 CAD: 1 USD at June 30, 2019 to 1.3243 CAD: 1 USD at September 30, 2019. During the prior period quarter, the Canadian dollar strengthened from 1.3168 CAD: 1 USD at June 30, 2018 to 1.2945 CAD: 1 USD at September 30, 2018.

**Consulting** - \$6,000 (2018 - \$12,720) – Consulting decreased during the three months ended September 30, 2019 as during the prior period quarter the Company was using consulting services to assist with its transition to a public company. These consulting services were no longer being used during Q3 2019.

**Research and development** - \$6,434 (2018 - \$137,921) – The research and development activity decreased during the third quarter of 2019 as less research work was performed by Cato Research Canada (“Cato”) during the period.

**Share-based payments** – \$10,416 (2018 - \$18,983) – The decrease in share-based payments during the three months ended September 30, 2019 is due to less options granted. In Q1 2018, there were 2,250,000 options granted to directors, officers, and consultants.

**Travel** - \$4,910 (2018 - \$30,214) – Travel increased in Q3 2018 as the Company increased corporate activity after the RTO. In Q3 2019, the travel has decreased due to the Company conserving funds.

### Nine months ended September 30, 2019

The Company incurred a comprehensive loss of \$440,109 (\$0.01 per share) for the nine months ended September 30, 2019 compared to \$3,628,460 (\$0.06 per share) in the nine months ended September 30, 2018. The main reason for the decrease in the comprehensive loss is due to the charge related to public company listing of \$2,608,281 in Q1 2018 as a result of the reverse takeover transaction (“RTO”) with APAC Resources Inc. (“APAC”) on January 10, 2018 as a means of becoming a public company. Other variances within the loss items are as follows:

**Foreign exchange gain/loss** – loss of \$16,271 (2018 – gain of \$15,327) – During the nine months ended September 30, 2019 the Canadian dollar strengthened against the US dollar with the foreign exchange rate changing from 1.3642 CAD: 1 USD at December 31, 2018 to 1.3243 CAD: 1 USD at September 30, 2019. During the prior period, the Canadian dollar weakened from 1.2545 CAD: 1 USD at December 31, 2017 to 1.2945 CAD: 1 USD at September 30, 2018.

**Consulting** - \$21,125 (2018 - \$102,864) – Consulting decreased during the nine months ended September 30, 2019 as during the prior period the Company was using consulting services to assist with its transition to a public company. These consulting services were no longer being used during the nine months ended September 30, 2019.

**Research and development**- \$38,365 (2018 - \$322,076) – The research and development activity decreased during 2019 as less research work was performed by Cato Research Canada (“Cato”) during the period.



**Share-based payments** –\$17,762 (2018 – expense of \$266,442) – The decrease in share-based payments during the nine months ended September 30, 2019 is due to less options granted. In Q1 2018, there were 2,250,000 options granted to directors, officers, and consultants resulting in a \$266,442 share-based payment charge.

**Travel** - \$24,182 (2018 - \$48,916) – Travel increased in 2018 as the Company increased corporate activity after the RTO. In 2019, the travel has decreased due to the Company conserving funds.

### **Comparison of cash flows for the nine months ended September 30, 2019 and 2018**

The Company realized a net cash outflow of \$151,532 for the nine months ended September 30, 2019 compared to a net cash inflow of \$326,390 for the nine months ended September 30, 2018. The variances in the cash flow for the nine months ended September 30, 2019 compared to September 30, 2018 were as follows:

**Operating activities** – Cash used in operating activities for the nine months ended September 30, 2019 was \$144,650 (2018 - \$1,431,009). The decrease of cash used of \$1,286,359 was primarily due to the operating cash outflow before working capital changes of \$752,264 and the deposit paid to Cato of \$631,866 in 2018, compared to an operating cash flow before working capital changes of \$384,631 offset by an increase in accounts payable balances of \$230,575 during 2019.

**Investing activities** – Cash used in investing activities for the nine months ended September 30, 2019 was \$6,882 (2018 - \$150,846). The cash used in the prior period was primarily due to the transaction costs of the reverse takeover transaction with APAC net of cash acquired of \$280,955, offset by the deferred transaction costs of \$167,220 that were recorded as at December 31, 2017 related to the transaction.

**Financing activities** – Cash provided by financing activities in the nine months ended September 30, 2019 was \$nil (2018 - \$1,908,245). The cash provided in the prior period was due primarily to the private placement that took place during the period raising gross proceeds of \$1,957,370 through the issuance of 3,914,740 units (the “Units”), at a price of \$0.50 per Unit.

### **Liquidity and Capital Resources**

As at September 30, 2019, the Company had a cash balance of \$108,487 and a working capital deficiency of \$329,483 as compared to a cash balance of \$260,019 and a working capital position of \$79,201 as at December 31, 2018. The Company’s primary source of funding is by way of raising capital through the issuance of equity to third party investors. As part of the reverse-takeover transaction between the Company and APAC, the Company raised gross proceeds of \$1,957,370 through the issuance of units. Given the nature of the Company’s low monthly expenses and that favorable repayment agreements relating to existing outstanding accounts payable, including that \$486,053 of the existing accounts payable and accrued liability balances are due to a related party, the Company believes that its current cash resources are sufficient for it to meet its existing monthly expenses however additional funding to meet its obligations with regard to current outstanding accounts payable and for the Company to undertake its business plan will be required.

Although there is no certainty, management is of the opinion that additional funding for future projects and operations can be raised as needed. The Company is subject to a number of risks associated with the successful development of new products and their marketing and the conduct of its clinical studies and their results. The Company will have to finance its research and development activities and its clinical studies. To achieve the objectives in its business plan, the Company plans to raise the necessary capital and to generate revenues. It is anticipated that the products developed by the Company will require approval from

the FDA and equivalent organizations in other countries before their sale can be authorized. If the Company is unsuccessful in obtaining adequate financing in the future, research activities will be postponed until market conditions improve. These circumstances and conditions may cast significant doubt about the Company's ability to continue as a going concern.

### Commitments

The Company has long-term arrangements with commitments as at September 30, 2019 and December 31, 2018 as follows:

	September 30 2019	December 31 2018
	\$	\$
Management services – officers	192,000	192,000

The President, CEO and a director of the Company has a long-term employment agreement with the Company. The agreement has a termination clause whereby he is entitled to the equivalent of 12 times his then current monthly salary which, as of September 30, 2019 equated to \$192,000.

### Off Balance Sheet Arrangements

The Company has no off balance sheet arrangements.

### Transactions with Related Parties

All related party transactions were measured at the amount of consideration established and agreed to by the related parties. All amounts due from/payable to related parties are unsecured, non-interest bearing and have no fixed terms of repayment.

During the three months and nine months ended September 30, 2019 and 2018, the Company incurred the following transactions with related parties:

- a) Wages and benefits were paid or accrued to an officer of the Company in the amount of \$48,000 and \$146,166 (2018 - \$48,000 and \$148,261).
- b) Professional fees were paid or accrued to an officer of the Company in the amount of \$7,500 and \$22,500 (2018 - \$2,500 and \$13,750).
- c) Consulting fees were paid or accrued to an officer of the Company in the amount of \$nil and \$nil (2018 - \$nil and \$4,000).
- d) As at September 30, 2019, \$24,443 (December 31, 2018 - \$6,881) was payable to directors and officers of the Company. The balance is unsecured, non-interest bearing, and has no fixed terms of repayment.
- e) As at September 30, 2019, \$461,610 (December 31, 2018 - \$340,110) was accrued to directors, former directors, and officers of the Company. The balance is unsecured, non-interest bearing and has no fixed terms of repayments.



- f) Management compensation transactions for the three and nine months ended September 30, 2019 and 2018 are summarized as follows:

	<b>Short-term employee benefits</b>	<b>Share-based payments</b>	<b>Total</b>
	\$	\$	\$
Three months ended September 30, 2018			
Directors and officers	50,500	3,651	54,151
<b>Three months ended September 30, 2019</b>			
Directors and officers	<b>55,500</b>	<b>6,261</b>	<b>61,761</b>
	<b>Short-term employee benefits</b>	<b>Share-based payments</b>	<b>Total</b>
	\$	\$	\$
Nine months ended September 30, 2018			
Directors and officers	166,011	163,062	329,073
<b>Nine months ended September 30, 2019</b>			
Directors and officers	<b>168,666</b>	<b>24,662</b>	<b>193,328</b>

#### **Changes in accounting policies – IFRS 16**

The Company adopted all of the requirements of IFRS 16 *Leases* as of January 1, 2019. IFRS 16 replaces IAS 17 *Leases* (“IAS 17”). IFRS 16 provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. The Company has adopted IFRS 16 using the modified retrospective application method, where the 2018 comparatives are not restated and a cumulative catch up adjustment is recorded on January 1, 2019 for any differences identified, including adjustments to opening retained earnings balance.

The Company analyzed its contracts to identify whether they contain a lease arrangement for the application of IFRS 16. No such contracts were identified, and as a result, the adoption of IFRS 16 resulted in no impact to the opening retained earnings on January 1, 2019.

The following is the Company’s new accounting policy for leases under IFRS 16:

#### **Leases**

At inception of a contract, the Company assesses whether the contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Leases of right-of-use assets are recognized at the lease commencement date at the present value of the lease payments that are not paid at that date. The lease payments are discounted using the interest rate implicit in the lease, if that rate can be readily determined, and otherwise at the Company’s incremental

borrowing rate. At the commencement date, a right-of-use asset is measured at cost, which is comprised of the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any decommissioning and restoration costs, less any lease incentives received.

Each lease payment is allocated between repayment of the lease principal and interest. Interest on the lease liability in each period during the lease term is allocated to produce a constant periodic rate of interest on the remaining balance of the lease liability. Except where the costs are included in the carrying amount of another asset, the Company recognizes in profit or loss (a) the interest on a lease liability and (b) variable lease payments not included in the measurement of a lease liability in the period in which the event or condition that triggers those payments occurs. The Company subsequently measures a right-of-use asset at cost less any accumulated depreciation and any accumulated impairment losses; and adjusted for any remeasurement of the lease liability. Right-of-use assets are depreciated over the shorter of the asset's useful life and the lease term, except where the lease contains a bargain purchase option a right-of-use asset is depreciated over the asset's useful life.

### Financial and Capital Risk Management

The Company's financial instruments consist of cash, accounts payable and accrued liabilities, loans payable, and the liability component on convertible loans. These financial instruments are classified as financial assets at FVTPL and financial liabilities at amortized cost. The fair values of these financial instruments approximate their carrying values at September 30, 2019, due to their short-term nature.

The Company thoroughly examines the various financial instruments and risks to which it is exposed and assesses the impact and likelihood of those risks. These risks include foreign currency risk, interest rate risk, market risk, credit risk, and liquidity risk. Where material, these risks are reviewed and monitored by the Board of Directors.

There have been no changes in any risk management policies since December 31, 2018.

### Capital Management

The Company defines capital that it manages as equity. The Company manages its capital structure in order to have funds available to support its research and development and sustain the future development of the business. When managing capital, the Company's objective is to ensure the entity continues as a going concern as well as to maintain optimal returns to shareholders and benefits for other stakeholders. Management adjusts the capital structure as necessary in order to support its activities.

The Company includes the following items in its managed capital as at the following periods:

<b>Equity is comprised of:</b>	<b>September 30 2019</b>	<b>December 31 2018</b>
	<b>\$</b>	<b>\$</b>
Share capital	5,863,872	5,863,872
Share-based payments and warrants reserve	599,248	581,486
Equity component on convertible loans	5,202	5,202
Deficit	(6,569,131)	(6,129,022)

Since inception, the Company's objective in managing capital is to ensure sufficient liquidity to finance its research and development activities, general and administrative expenses, expenses associated with

intellectual property protection and its overall capital expenditures. The Company is not exposed to external requirements by regulatory agencies regarding its capital.

### Outstanding Share Data

As at November 28, 2019, the Company had the following shares outstanding:

- Class	Class A Common Shares
- Authorized	Unlimited, without par value
- Issued and outstanding	62,919,691

### Options Outstanding:

The following table summarizes information on stock options outstanding at November 28, 2019:

Exercise Price	Number Outstanding	Expiry Date
\$0.50	1,750,000	March 19, 2023
\$0.50	174,000	October 9, 2023
\$0.50	250,000	November 5, 2023

### Warrants Outstanding:

The following table summarizes information on outstanding warrants as at November 28, 2019:

Exercise Price	Number Outstanding	Expiry date
\$0.80	4,004,740	January 9, 2020

### Management's Responsibility for Financial Statements

The Company's management is responsible for presentation and preparation of the financial statements and the MD&A. The MD&A have been prepared in accordance with the requirements of securities regulators, including National Instrument 51-102 of the Canadian Securities Administrators.

The financial statements and information in the MD&A necessarily include amounts based on informed judgments and estimates of the expected effects of current events and transactions with appropriate consideration to materiality. In addition, in preparing the financial information, we must interpret the requirements described above, make determinations as to the relevancy of information included, and make estimates and assumptions that affect reported information. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources, operating trends, risks and uncertainties. Actual results in the future may differ materially from our present assessment of this information because future events and circumstances may not occur as anticipated.