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As confidentially submitted to the Securities and Exchange Commission on December 21, 2018.

Registration No. 333-

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

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Milestone Pharmaceuticals Inc.
(Exact name of registrant as specified in its charter)

Québec	**2834**	**Not applicable**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

1111 Dr. Frederik-Philips Boulevard, Suite 420
Montréal, Québec CA H4M 2X6
(514) 336-0444
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Joseph Oliveto
Chief Executive Officer
Milestone Pharmaceuticals USA Inc.
6000 Fairview Road, Suite 1200
Charlotte, NC 28210-2252
(514) 336-0444
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Ryan S. Sansom **Marc Recht** **Divakar Gupta** **Jaime L. Chase** **Cooley LLP** **500 Boylston Street, 14th Floor** **Boston, MA 02116** **(617) 937-2300**	**Nathalie Beauregard** **Robert Lando** **Francois Paradis** **Osler, Hoskin & Harcourt LLP** **1000 De La Gauchetière Street West, Suite 2100** **Montréal, Québec CA H3B 4W5** **(514) 904-8100**	**Joseph Oliveto** **Chief Executive Officer** **Milestone Pharmaceuticals USA Inc.** **6000 Fairview Road, Suite 1200** **Charlotte, NC 28210-2252** **(514) 336-0444**	**Lisa Firenze** **Steven D. Singer** **Ryan Mitteness** **Wilmer Cutler Pickering Hale and Dorr LLP** **7 World Trade Center** **250 Greenwich Street** **New York, NY 10007** **(212) 230-8800**

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this Registration Statement.

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o	Accelerated filer o	Non-accelerated filer ☒	Smaller reporting company ☒ Emerging growth company ☒

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

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price[1]	Amount of registration fee[2]
Common Shares, no par value per share		

(1) Estimated solely for the purpose of computing the amount of registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended. Includes the offering price of additional common shares that the underwriters have the option to purchase.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED

PRELIMINARY PROSPECTUS

Common Shares

We are offering common shares. This is our initial public offering and no public market currently exists for our common shares. We expect the initial public offering price to be between $ and $ per common share. We intend to apply to list our common shares on The Nasdaq Global Market under the symbol "MSPH."

We are an "emerging growth company" under the federal securities laws and will be subject to reduced public company reporting requirements for this prospectus and future filings.

Investing in our common shares involves a high degree of risk. See "Risk Factors" beginning on page 11 of this prospectus.

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

	PER SHARE	TOTAL
Public Offering Price	$	$
Underwriting Discount and Commissions[(1)]	$	$
Proceeds to Milestone Pharmaceuticals Inc. (before expenses)	$	$

(1) We refer you to "Underwriting" beginning on page 151 for additional information regarding underwriter compensation.

Delivery of the shares is expected to be made on or about , 2019. We have granted the underwriters an option for a period of 30 days to purchase up to additional common shares. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $, and the total proceeds to us, before expenses, will be $.

Joint Book-Running Managers

Jefferies **Cowen** **Piper Jaffray**

The date of this prospectus is , 2019

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"Milestone Pharmaceuticals" and the Milestone logo appearing in this prospectus are unregistered trademarks of Milestone Pharmaceuticals Inc. All other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus may be referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert their rights thereto.

Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of common shares. Our business, financial condition, results of operations and prospects may have changed since that date.

Neither we nor the underwriters have done anything that would permit this offering or possession or distribution of this prospectus or any free writing prospectus we may provide to you in connection with this offering in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus and any such free writing prospectus outside of the United States.

Pursuant to the applicable provisions of the Fixing America's Surface Transportation Act, we are not required to file our consolidated financial statements for the year ended December 31, 2016 because we expect to file our consolidated financial statements for the year ended December 31, 2018 when we first publicly file our registration statement.

This prospectus contains references to United States dollars and Canadian dollars. All dollar amounts referenced, unless otherwise indicated, are expressed in United States dollars. References to "$" are to United States dollars and references to "C$" are to Canadian dollars.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary is not complete and does not contain all of the information you should consider in making your investment decision. Before investing in our common shares, you should carefully read this entire prospectus, especially the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus. Unless the context otherwise requires, the terms "Milestone," "Milestone Pharmaceuticals," "the company," "we," "us," "our" and similar references in this prospectus refer to Milestone Pharmaceuticals Inc. and its consolidated subsidiary.

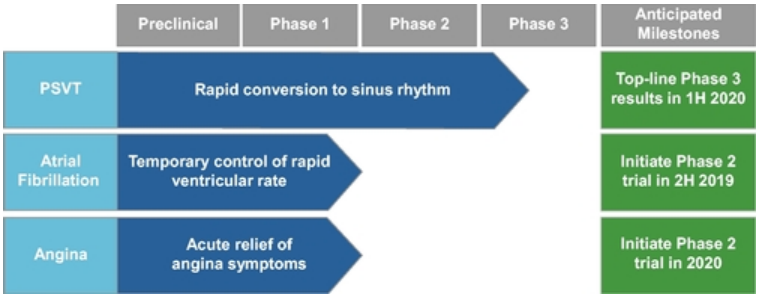
Overview

We are a Phase 3 clinical-stage biopharmaceutical company dedicated to developing and commercializing etripamil for the treatment of cardiovascular indications. Etripamil is a novel, potent and short-acting calcium channel blocker that we designed and are developing as a rapid-onset nasal spray to be administered by the patient to terminate episodes of paroxysmal supraventricular tachycardia, or PSVT, as they occur. PSVT is a rapid heart rate condition that starts and stops without warning, often experienced by patients with symptoms including palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, lightheadedness or dizziness, fainting and anxiety. Calcium channel blockers have long been approved for the treatment of PSVT as well as other cardiac conditions. For episodes of PSVT, however, calcium channel blockers are administered intravenously under medical supervision, usually in the emergency department. Etripamil's combination of convenient delivery, rapid onset and short duration of action has the potential to shift the current treatment paradigm away from the burdensome and costly emergency department setting. If approved, we believe that etripamil will be the first self-administered therapy for the rapid termination of episodes of PSVT wherever and whenever they occur.

We completed our Phase 2 clinical trial of etripamil for the treatment of PSVT in the United States and Canada, with results published in the Journal of the American College of Cardiology. Investigators reported a highly statistically significant 87% termination rate of PSVT within 15 minutes at the dose selected for Phase 3 versus a 35% termination rate for placebo. We are actively recruiting patients for the Phase 3 clinical trial of etripamil, which may serve as a single pivotal efficacy trial, and we expect top-line data in the first half of 2020. We are also planning to initiate a Phase 2 clinical trial in the second half of 2019 in atrial fibrillation, another rapid heart rate condition, and expect to subsequently initiate an additional Phase 2 clinical trial in angina to establish proof-of-concept for the broader use of etripamil in 2020.

Our Pipeline

The following table sets forth the status and initial focus of etripamil.



PSVT

PSVT is a serious and recurring disorder of the heart, which is caused by altered electrical conductivity, resulting in a rapid heart rate. PSVT originates in the heart's upper chambers, or atria, with abrupt onset and termination. There is an abnormal electrical pathway in patients with PSVT that allows the electrical signal to travel very rapidly in a circle, which sends impulses out to both the atria and the heart's lower chambers, or ventricles. The cycle continues repeatedly, resulting in the rapid heart rate, which often exceeds 200 beats per minute. Patients experiencing an episode of PSVT are usually highly symptomatic, with symptoms including palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, lightheadedness or dizziness, fainting and anxiety.

Uncertainty of the timing and duration of episodes of PSVT can significantly impact patient quality of life. These episodes can be debilitating for patients who can be left unable to focus on family or work during an episode. The symptoms can mimic other conditions and are often mistaken for anxiety or panic attacks, especially in women. Researchers have noted that up to 27% of PSVT patients stopped driving for fear of temporary loss of consciousness, fainting or passing out. Patients report that the duration of PSVT episodes varies widely from seconds to hours or more. Almost 40% of patients experience two or more episodes of PSVT per year that last more than 10 minutes each. We estimate that PSVT patients experience a median of four to six episodes of PSVT per year. It is generally believed that patients are born with the anomaly that causes PSVT, and, following their first episode, will experience periodic and unpredictable episodes for the rest of their lives.

We believe that PSVT is a large and under-recognized market that we estimate affects greater than 1.7 million Americans, and results in over 600,000 healthcare claims in the United States per year, including emergency department visits, hospital admissions and ablations. Current treatment approaches for PSVT consume significant healthcare resources. An analysis of longitudinal Medicare and employer-based medical claims data from a recent peer-reviewed abstract that we sponsored has shown that mean annual costs per PSVT patient increase by more than $17,000 after diagnosis to approximately $30,000, with the largest increases coming from outpatient hospital and inpatient spending. In addition, this analysis concluded that rates of emergency department visits and hospitalizations were 1.8 and 3.0 times higher, respectively, following diagnosis. We believe that, if approved, etripamil could prevent many of these healthcare encounters, saving the patient time and inconvenience, and potentially providing a cost-effective solution for the healthcare system.

Limitations of Current PSVT Treatments

Currently available pharmacological therapy for the treatment of an acute episode of PSVT includes intravenous, or IV, administration of drugs in an acute care setting. The current standard of care for treatment of episodes of PSVT is adenosine, but prior to its approval in 1990, episodes of PSVT were treated with IV calcium channel blockers, such as verapamil or diltiazem. When given as a rapid IV bolus, adenosine blocks conduction over the atrio-ventricular, or AV, node, a piece of electrical tissue in the heart, thereby interrupting the arrhythmia and restoring the heart rate back to normal, also known as sinus rhythm. Adenosine temporarily stops the heart and patients have reported experiencing chest tightness, flushing and a sense of impending death. Physicians report that patients tell them that they feel like they are going to die. Adenosine is eliminated from the body in less than one minute, but cannot be self-administered as it requires IV access. IV calcium channel blockers also slow conduction over the AV node during the course of several minutes. However, they are associated with the risk of excessive slowing of the heart rate and low blood pressure. In-hospital IV administrations are associated with higher health care costs, and are also unsettling and inconvenient for the patient.

In an attempt to prophylactically control the frequency and duration of future PSVT episodes, many patients will take chronic daily oral medications that modulate AV nodal conduction, such as beta blockers, calcium channel blockers or antiarrhythmic drugs. Despite chronic daily oral medication, breakthrough PSVT episodes that require visits to the emergency department may still occur, albeit at a reduced frequency. Chronic medication can lead to side effects such as sexual dysfunction or fatigue in the case of beta

blockers and constipation in the case of verapamil. Some patients discontinue chronic oral medication due to intolerable side effects.

The only potentially curative treatment available at the present time for PSVT is ablation, an invasive procedure, which works by directly cauterizing the short circuit that is the cause of the abnormal rhythm. This is achieved via catheters that are run through the patient's groin vessels and into the heart and uses burning or freezing techniques to destroy the heart's abnormal electrical tissue. However, we estimate that less than 10% of patients with PSVT per year resort to this option.

Our Solution: Etripamil

We designed and are developing etripamil, a novel, potent, rapid-onset and short-acting calcium channel blocker, as a nasal spray to be administered by the patient to terminate episodes of transient cardiovascular conditions as they occur. Short pharmacological action is sufficient to resolve an episode of PSVT. Accordingly, long-lasting drugs that remain in the body at significant concentrations long after the episode is resolved subject patients to unnecessary risk, given the potential for prolonged adverse events. Currently, we are in Phase 3 clinical development for PSVT. We are also developing etripamil to provide rapid rate control and associated symptom relief for patients with acute episodes of atrial fibrillation and as an acute therapy for angina.

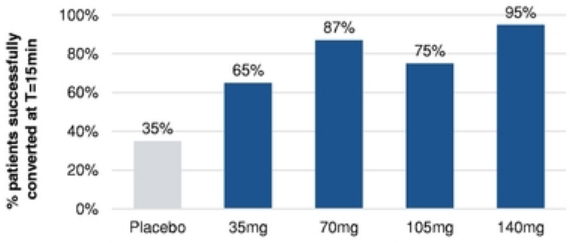
In our effort to develop potential therapies, we sought to create new chemical entities as analogs of known molecular classes with clinically-validated mechanisms of action. Our goal was to preserve the beneficial pharmacology of existing molecules while altering their pharmacokinetic profile with focused medicinal chemistry to produce drugs that are fast-acting and rapidly inactivated in the blood to minimize potential side effects. As a result, we created a series of novel non-dihydropyridine L-type calcium channel blockers with the desired properties. Etripamil resulted from this effort as a new chemical entity with a very short effective half-life of less than 25 minutes in humans, compared with other calcium channel blockers, which have longer half-lives of several hours.

We believe that the following qualities of etripamil make it a better treatment for certain episodic cardiovascular conditions than current standards of care:

- *Short half-life:* As etripamil is a short-acting drug product, any adverse side effects that might occur should be short lived.
- *Fast onset:* Etripamil is designed to be rapidly absorbed into the bloodstream with a clinically meaningful concentration, allowing it to act quickly on the desired target (electrical conduction system or coronary blood vessels).
- *Convenient administration:* We developed etripamil as a convenient nasal spray that can be administered by patients to deliver a single dose of drug via a nasal spray device.

We completed a Phase 2 multi-center, randomized, double-blind, placebo-controlled clinical trial in the United States and Canada to evaluate the effects of four different doses of etripamil in 104 patients with PSVT. The primary objective of the trial was to demonstrate the superiority of at least one dose of etripamil over placebo in terminating PSVT. The secondary objectives included determining the Phase 3 dose of etripamil. The primary endpoint in this clinical trial was the conversion of PSVT to sinus rhythm within 15 minutes after administration of etripamil or placebo. As shown in the figure below, the percentage of patients in whom PSVT converted to sinus rhythm within 15 minutes of study drug administration was 65%

with 35 mg etripamil, 87% with 70 mg, 75% with 105 mg and 95% with 140 mg, compared with 35% in the placebo arm.



# patients converted at 15 min	7/20	13/20	20/23	15/20	20/21
p-value		0.1128	0.0006	0.0248	<.0001

Additional Pipeline Indications: Atrial Fibrillation and Angina

Atrial fibrillation is a common form of arrhythmia with an irregular and often rapid heart rate that can increase the risk of stroke, heart failure and other heart-related complications. There are currently two pharmacological approaches to managing atrial fibrillation: rate control to lower a rapid heart rate and rhythm control to restore and maintain the regular rhythm between heart beats. Oral rate control drugs do not provide immediate ventricular rate control due to the delayed 30 to 60 minute onset of action by the oral route. Breakthrough episodes of symptomatic atrial fibrillation often require urgent medical treatment with IV calcium channel blockers or beta blockers, usually in the emergency department to quickly reduce heart rate. We believe that etripamil can be used by patients to rapidly reduce their heart rate in the outpatient setting in combination with the oral rate or rhythm control strategy their physician has already prescribed.

Angina is a type of chest pain caused by an imbalance between the supply of oxygen to and the demand for oxygen by the heart. It may be due to a number of factors, but is primarily caused by either occlusion or spasm of the coronary arteries. Nitrates are prescribed to provide immediate relief of angina due to occlusion. Nitroglycerin is a common form of nitrate that is available primarily in sublingual formulations. In up to 20% of patients, nitroglycerin is not tolerated and additional patients do not respond to the treatment. It can also cause severe hypotension, circulatory collapse, and death if used together with phosphodiesterase type 5 inhibitor drugs that are prescribed for erectile dysfunction, such as Viagra, Cialis and Levitra. Calcium channel blockers are used to treat angina associated with coronary spasm, however, they do not provide immediate relief. We are not aware of any approved rapid-onset, short acting treatments for coronary spasm. We believe that etripamil can be used to rapidly reduce angina symptoms in the outpatient setting in patients with angina who cannot tolerate or do not respond to nitrates, and in patients experiencing coronary spasm.

Our Strategy

Our goal is to develop and commercialize etripamil for the treatment of PSVT and other cardiovascular indications, and to expand our pipeline to include additional clinical-stage compounds for other acute and/or episodic medical conditions. The key elements of our business strategy to achieve this goal include the following:

- ***Successfully complete development and obtain regulatory approval of etripamil for the treatment of PSVT.*** We are focused on efficiently developing and obtaining approval for etripamil to treat patients with PSVT. We are actively recruiting patients for the Phase 3 clinical trial of etripamil, which may serve as a single pivotal efficacy trial in the United States. We expect top-line data in the first half of 2020. We intend to first seek regulatory approval in the United States, followed by Europe and other major markets.

- ***Expand the scope of cardiovascular indications for etripamil beyond PSVT.*** We are exploring the use of etripamil for the treatment of patients with atrial fibrillation, another condition associated with a fast heart rate. We believe that etripamil could benefit patients with atrial fibrillation based on the approved use of IV calcium channel blockers in these indications. We are also exploring the use of etripamil for the treatment of angina, which is chest pain typically associated with an imbalance between the supply of oxygen to and the demand for oxygen by the heart. Calcium channel blockers have already been approved for chronic management of angina. We believe there is an opportunity to treat angina with etripamil. We plan to test etripamil in Phase 2 proof-of-concept clinical trials in patients with atrial fibrillation and angina.
- ***Maximize the value of our programs by maintaining flexibility to commercialize our product candidates independently or through collaborative partnerships.*** We currently have exclusive development and commercialization rights for etripamil for our initial indications of PSVT, atrial fibrillation and angina. We plan to establish commercialization and marketing capabilities using a direct sales force to commercialize etripamil in the United States. Outside of the United States, we are considering commercialization strategies that may include collaborations with other companies.
- ***Leverage our expertise and experience to expand our pipeline of product candidates.*** We seek to maximize our commercial opportunities by acquiring or in-licensing product candidates for indications with significant unmet need with a focus on clinically validated mechanisms that can yield novel treatments. We believe this approach may provide a more rapid path to regulatory approval, faster adoption by medical professionals, nearer-term commercial value and more immediate clinical benefit for patients with significant need. Our leadership team has extensive experience in developing and commercializing successful drugs. We intend to leverage the collective talent within our organization and our network to guide our development plans and pipeline expansion.

Intellectual Property

We developed etripamil as a new chemical entity. Our composition-of-matter claims for etripamil provide us an intellectual property position with patents issued in the United Stated through 2028, and with patent term extensions possible to 2031. In addition, we have corresponding issued patients in Europe and other major markets. We also have an issued U.S. patent that extends the exclusivity period for the commercial formulation of etripamil to 2036 and we have corresponding pending patent applications in Europe and other major markets.

Management

We are led by a team of executives who have extensive experience in successfully developing and commercializing therapies in cardiovascular and other indications at both major pharmaceutical and emerging life sciences companies. These therapies include Vytorin (ezetimibe & simvastatin), Ranexa (ranolazine), Effient (prasugrel), Northera (droxidopa), and Cologuard as well as several ACE Inhibitors, ARBs, and novel oral anticoagulants. We have raised approximately $139.2 million in gross proceeds from equity financings with a number of United States, Canadian and European healthcare specialist investment firms, including BDC Capital, Inc., Boxer Capital of Tavistock Group, Domain Associates, LLC, Fonds de solidarité FTQ, Forbion Capital Partners, iNovia Capital, Novo Holdings A/S, Pappas Ventures, RTW Investments, LP, Tekla Capital Management LLC, and Venrock Healthcare Capital Partners.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common shares. These risks are more fully described in the section titled "Risk Factors," including the following:

- We have a limited operating history, have never generated any revenues from product sales and have incurred significant operating losses since inception.
- We anticipate that we will continue to incur substantial operating losses for the foreseeable future and may never achieve or maintain profitability.

- We will require additional capital to finance our operations, which may not be available on acceptable terms, if at all.
- Our future success is dependent on the successful clinical development, regulatory approval and commercialization of etripamil, which is currently our only product candidate and without which our ability to generate revenue will be adversely affected.
- Success in preclinical studies or earlier clinical trials may not be indicative of results in future clinical trials and we cannot assure you that any ongoing, planned or future clinical trials will lead to results sufficient for the necessary regulatory approvals.
- We have never completed pivotal clinical trials, and we may be unable to do so for any product candidates we may develop, including our pivotal Phase 3 clinical trial for the treatment of PSVT.
- Etripamil is intended to be used with a nasal spray device, which may result in additional regulatory and supply risks.
- If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell etripamil or any future product candidates, or achieve market acceptance we may not be successful in commercializing etripamil or any future product candidates, if and when they are approved.
- If we are unable to obtain and maintain patent protection for etripamil or any future product candidates, or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.
- If we are a passive foreign investment company following this offering, there could be adverse U.S. federal income tax consequences to U.S. Holders.
- We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common shares less attractive to investors.

Our Corporate Information

We were incorporated under the laws of the province of Québec in 2003. Our principal executive offices are located at 1111 Dr. Frederik-Philips Blvd., Suite 420, Montréal, Québec, Canada H4M 2X6, and our telephone number is (514) 336-0444. In January 2017, we incorporated our wholly owned subsidiary, Milestone Pharmaceuticals USA, Inc., a Delaware corporation. Our corporate website address is www.milestonepharma.com. Information contained on, or accessible through, our website is not a part of this prospectus. We have included our website in this prospectus solely as an inactive textual reference.

Implications of Being an Emerging Growth Company

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012, and we may remain an emerging company for up to five years after the completion of this offering. For so long as we remain an emerging growth company, we are permitted and intend to rely on certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold shares.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of delayed adoption of new or revised accounting standards, and therefore we will be subject to the same requirements to adopt new or revised accounting standards as other public companies that are not emerging growth companies.

THE OFFERING

Common shares to be offered	shares
Common shares to be outstanding after this offering	shares
Option to purchase additional common shares	shares
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise in full their option to purchase up to additional common shares), based on an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, as follows: § approximately $ million for our Phase 3 clinical trials of etripamil in PSVT; § approximately $ million for pre-commercialization activities; and § the remainder to fund other research and development activities, working capital and other general corporate purposes. See "Use of Proceeds" for additional information.
Risk factors	You should read the section titled "Risk Factors" for a discussion of factors to consider carefully, together with all the other information included in this prospectus, before deciding to invest in our common shares.
Proposed Nasdaq Global Market symbol	"MSPH"

The number of common shares to be outstanding after this offering is based on common shares outstanding as of December 31, 2018, and excludes:

§ common shares issuable upon the exercise of outstanding options as of December 31, 2018, at a weighted-average exercise price of $ per share;

§ common shares reserved for future issuance under our 2019 Equity Incentive Plan, or the 2019 Plan, which will become effective immediately prior to the execution of the underwriting agreement related to this offering, as well as any future increases in the number of common shares reserved for issuance under our 2019 Plan; and

§ common shares reserved for future issuance under our 2019 Employee Share Purchase Plan, or ESPP, which will become effective immediately prior to the execution of the underwriting

agreement related to this offering, as well as any future increases in the number of common shares reserved for issuance under our ESPP.

Unless otherwise indicated, all information contained in this prospectus assumes or gives effect to:

- the filing and effectiveness of our amended and restated articles of incorporation immediately after the completion of this offering and the adoption of our amended and restated bylaws immediately prior to the completion of this offering;
- the automatic conversion of all outstanding preferred shares as of December 31, 2018 into an aggregate of 93,378,267 common shares immediately prior to the completion of this offering;
- a -for- reverse split of our common shares and preferred shares to be completed prior to the completion of this offering;
- no exercise of the outstanding options described above; and
- no exercise by the underwriters of their option to purchase up to additional common shares.

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables set forth our summary consolidated statements of operations data for the years ended December 31, 2017 and 2018, which has been derived from our audited consolidated financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of the results to be expected in the future. You should read this consolidated summary financial data together with our consolidated financial statements and related notes to those statements, as well as the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," which are included elsewhere in this prospectus.

(In thousands, except share and per share amounts)	YEAR ENDED DECEMBER 31, 2017	2018
Summary of Consolidated Operations Data:		
Operating expenses:		
Research and development, net of tax credits	$ 5,636	$
General and administrative	2,632	
Total operating expenses	8,268	
Loss from operations	(8,268)	
Interest income, net of bank charges	186	
Net loss and comprehensive loss before income taxes	(8,082)	
Income tax expense	4	
Net loss and comprehensive loss	$ (8,086)	$
Net loss per share:(1)		
Basic and diluted	$ (6.42)	$
Weighted average shares used in computing net loss per share:(1)		
Basic and diluted	1,259,346	
Pro forma net loss per share (unaudited):(1)		
Basic and diluted		$
Weighted average shares outstanding used in computing pro forma net loss per share (unaudited):(1)		
Basic and diluted		

(1) See Note 2 to our audited consolidated financial statements included elsewhere in this prospectus for an explanation of the calculations of our basic and diluted net loss per share, pro forma net loss per share and the weighted-average number of shares used in the computation of the per share amounts.

(In thousands)	AS OF DECEMBER 31, 2018 ACTUAL	PRO FORMA(1)	PRO FORMA AS ADJUSTED(2)
Consolidated Balance Sheet Data:			
Cash, cash equivalents and short-term investments	$	$	$
Working capital			
Total assets			
Preferred shares			
Accumulated deficit			
Total shareholders' (deficit) equity			

(1) The pro forma column reflects the conversion of all of the outstanding preferred shares into an aggregate of common shares upon completion of this offering.

(2) The pro forma as adjusted column reflects the pro forma adjustments set forth above and: (i) the sale of common shares in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us; and (ii) the filing and effectiveness of our amended and restated articles of incorporation.

The pro forma as adjusted information discussed above is illustrative only and will depend on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease each of the amount of cash and cash equivalents, working capital, total assets and total shareholders' equity by $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each increase or decrease of 1.0 million in the number of common shares offered by us would increase or decrease each of cash and cash equivalents, working capital, total assets and shareholders' (deficit) equity by $ million, assuming the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions.

RISK FACTORS

Investing in our common shares involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common shares. The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations and prospects. In such an event, the market price of our common shares could decline and you may lose all or part of your investment.

Risks Related to Our Financial Position and Capital Needs

We have incurred significant operating losses since inception and anticipate that we will continue to incur substantial operating losses for the foreseeable future and may never achieve or maintain profitability.

Since inception in 2003, we have incurred significant operating losses. Our net loss was $8.1 million and $ million for the years ended December 31, 2017 and 2018, respectively. As of December 31, 2018, we had an accumulated deficit of $ million. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. Since inception, we have devoted substantially all of our efforts to research and preclinical and clinical development of etripamil, as well as to expanding our management team and infrastructure. It could be several years, if ever, before we have a commercialized drug. The net losses we incur may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially if, and as, we:

- continue our ongoing and planned development of etripamil, including our Phase 3 clinical trials of etripamil for the treatment of paroxysmal supraventricular tachycardia, or PSVT;
- seek marketing approvals for etripamil for the treatment of PSVT and other cardiovascular indications and any future product candidates that successfully complete clinical trials;
- establish a sales, marketing, manufacturing and distribution capability to commercialize etripamil or any future product candidate for which we may obtain marketing approval;
- build a portfolio of product candidates through development, or the acquisition or in-license of drugs, product candidates or technologies;
- initiate preclinical studies and clinical trials for etripamil for any additional indications we may pursue, including the Phase 2 clinical trials for the treatment of atrial fibrillation and angina, and for any additional product candidates that we may pursue in the future;
- maintain, protect and expand our intellectual property portfolio;
- hire additional clinical, regulatory and scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts; and
- incur additional legal, accounting and other expenses associated with operating as a public company.

To become and remain profitable, we must succeed in developing and eventually commercializing drugs that generate significant revenue. This will require us to be successful in a range of challenging activities, including completing clinical trials of etripamil and any future product candidates that way may pursue, obtaining regulatory approval, procuring commercial-scale manufacturing, marketing and selling etripamil and any future products for which we may obtain regulatory approval, as well as discovering or acquiring and then developing additional product candidates. We are only in the preliminary stages of some of these activities. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability.

Because of the numerous risks and uncertainties associated with drug development, we are unable to accurately predict the timing or amount of expenses or when, or if, we will be able to achieve profitability.

Our expenses could increase beyond our expectations if we are required by the U.S. Food and Drug Administration, or FDA, the European Medicines Agency or other regulatory authorities to perform studies in addition to those we currently expect, or if there are any delays in the initiation and completion of our clinical trials or the development of etripamil or any future product candidates.

Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our common shares could also cause you to lose all or part of your investment.

Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We are a clinical-stage company founded in 2003, and our operations to date have been largely focused on raising capital, organizing and staffing our company, and undertaking preclinical studies and conducting clinical trials for etripamil. As an organization, we have not yet demonstrated an ability to successfully complete clinical development, obtain regulatory approvals, manufacture a commercial-scale product or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Consequently, any predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history.

We may encounter unforeseen expenses, difficulties, complications, delays and other known or unknown factors in achieving our business objectives. We will need to transition at some point from a company with a research and development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

Additionally, we expect our financial condition and operating results to continue to fluctuate from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. Accordingly, you should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

We will require substantial additional funding to finance our operations. If we are unable to raise capital when needed, we could be forced to delay, reduce or terminate our development of etripamil or other operations.

Based on our research and development plans, we expect that the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, will be sufficient to fund our operations through . However, we will need to obtain substantial additional funding in connection with our continuing operations and planned activities. Our future capital requirements will depend on many factors, including:

- the timing, progress and results of our ongoing and planned clinical trials of etripamil in PSVT and in other cardiovascular indications;
- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials of etripamil for additional indications or any future product candidates that we may pursue;
- our ability to establish collaborations on favorable terms, if at all;
- the costs, timing and outcome of regulatory review of etripamil and any future product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for etripamil and any future product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of etripamil and any future product candidates for which we receive marketing approval;

- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the extent to which we acquire or in-license other product candidates and technologies; and
- the costs of operating as a public company.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results required to obtain regulatory approval and achieve product sales. In addition, etripamil and any future product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of drugs that we do not expect to be commercially available for several years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all. In addition, we may seek additional capital due to favorable market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or altogether terminate our research and development programs or future commercialization efforts.

Raising additional capital may cause dilution to our shareholders, including purchasers of our common shares in this offering, restrict our operations or require us to relinquish rights to our product candidates.

Until such time, if ever, as we can generate substantial product revenue, we expect to finance our cash needs through public or private equity or debt financings, third-party funding, marketing and distribution arrangements, as well as other collaborations, strategic alliances and licensing arrangements, or any combination of these approaches. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest may be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a shareholder. Debt and equity financings, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as redeeming our shares, making investments, incurring additional debt, making capital expenditures, declaring dividends or placing limitations on our ability to acquire, sell or license intellectual property rights.

If we raise additional capital through future collaborations, strategic alliances or third-party licensing arrangements, we may have to relinquish valuable rights to our intellectual property, future revenue streams, research programs or product candidates, or grant licenses on terms that may not be favorable to us. If we are unable to raise additional capital when needed, we may be required to delay, limit, reduce or terminate our drug development or future commercialization efforts, or grant rights to develop and market product candidates that we would otherwise develop and market ourselves.

Our ability to use our non-capital loss carryforwards to offset future taxable income may be subject to certain limitations.

In general, where control of a corporation has been acquired by a person or group of persons, subsection 111(5) of the Income Tax Act (Canada), or the Canadian Tax Act, and equivalent provincial income tax legislation restrict the corporation's ability to carry forward non-capital losses from preceding taxation years. We have not performed a detailed analysis to determine whether an acquisition of control for the purposes of subsection 111(5) of the Canadian Tax Act has occurred after each of our previous issuances of common shares or preferred shares. In addition, if we undergo an acquisition of control after this public offering, our ability to utilize non-capital losses could be limited by subsection 111(5) of the Canadian Tax Act. As of December 31, 2017, we had Canadian federal and provincial non-capital loss carry forwards of $25.4 million and $24.4 million, respectively, which expire beginning in 2027 through 2037. In addition, we also have scientific research and experimental development expenditures of approximately $4.3 million and $6.4 million, respectively, for Canadian federal and provincial income tax purposes, which

have not been deducted. These expenditures are available to reduce future taxable income and have an unlimited carry-forward period. Research and development tax credits and expenditures are subject to verification by the tax authorities, and, accordingly, these amounts may vary. Future changes in our share ownership, some of which are outside of our control, could result in an acquisition of control for the purposes of subsection 111(5) of the Canadian Tax Act. Furthermore, our ability to utilize non-capital losses (or U.S. equivalents) of companies that we may acquire in the future may be subject to limitations. As a result, even if we attain profitability, we may be unable to use a material portion of our non-capital losses and other tax attributes, which could negatively impact our future cash flows.

Risks Related to the Development of Our Product Candidates

We have only one product candidate, etripamil, for which we are currently pursuing clinical development. Our future success is substantially dependent on the successful clinical development and regulatory approval of etripamil. If we are not able to obtain required regulatory approvals for etripamil or any future product candidates, we will not be able to commercialize etripamil or any future product candidates and our ability to generate revenue will be adversely affected.

Etripamil is currently our only product candidate. We have not obtained regulatory approval for etripamil or any product candidate, and it is possible that neither etripamil nor any product candidates we may seek to develop in the future will ever obtain regulatory approval. Neither we nor any future collaborator is permitted to market any drug product candidates in the United States or abroad until we receive regulatory approval from the FDA or applicable foreign regulatory agency. The time required to obtain approval or other marketing authorizations by the FDA and comparable foreign regulatory authorities is unpredictable but typically takes many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. In addition, approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions.

Prior to obtaining approval to commercialize etripamil and any other drug product candidate in the United States or abroad, we must demonstrate with substantial evidence from well controlled clinical trials, and to the satisfaction of the FDA or comparable foreign regulatory authorities, that such product candidates are safe and effective for their intended uses. Results from nonclinical studies and clinical trials can be interpreted in different ways. Even if we believe the nonclinical or clinical data for our product candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. The FDA may also require us to conduct additional nonclinical studies, including human factor studies, or clinical trials for our product candidates either prior to or post-approval, or it may object to elements of our clinical development program. Our current Phase 3 program involves only one efficacy trial, with a threshold p-value of $p<0.01$ as is the common standard when single efficacy trials are used to support an NDA submission. While we believe that this is sufficient to support our NDA submission based on our end-of-Phase 2 meeting with the FDA, the typical guidelines generally involve two efficacy trials with a threshold p-value of $p<0.05$. Accordingly, there is a risk that additional clinical trials could be required. In addition, the FDA typically refers applications for novel drugs, like etripamil and potentially any future product candidates, to an advisory committee composed of outside experts. The FDA is not bound by the recommendation of the advisory committee, but it considers such recommendation when making its decision.

Of the large number of products in development, only a small percentage successfully complete the FDA or comparable foreign regulatory authorities' approval processes and are commercialized. The lengthy approval or marketing authorization process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval or marketing authorization to market etripamil or any future product candidates, which would significantly harm our business, financial condition, results of operations and prospects.

We have invested a significant portion of our time and financial resources in the development of etripamil. Our business is dependent on our ability to successfully complete development of, obtain regulatory approval for, and, if approved, successfully commercialize etripamil and any future product candidates in a timely manner.

Even if we eventually complete clinical testing and receive approval of a new drug application, or NDA, or foreign marketing application for etripamil and any future product candidates, the FDA or the comparable foreign regulatory authorities may grant approval or other marketing authorization contingent on the performance of costly additional clinical trials, including post-market clinical trials. The FDA or the comparable foreign regulatory authorities also may approve or authorize for marketing a product candidate for a more limited indication or patient population that we originally request, and the FDA or comparable foreign regulatory authorities may not approve or authorize the labeling that we believe is necessary or desirable for the successful commercialization of a product candidate. Any delay in obtaining, or inability to obtain, applicable regulatory approval or other marketing authorization would delay or prevent commercialization of that product candidate and would materially adversely impact our business and prospects.

In addition, the FDA and comparable foreign regulatory authorities may change their policies, adopt additional regulations or revise existing regulations or take other actions, which may prevent or delay approval of our future products under development on a timely basis. Such policy or regulatory changes could impose additional requirements upon us that could delay our ability to obtain approvals, increase the costs of compliance or restrict our ability to maintain any marketing authorizations we may have obtained.

We may not be successful in our efforts to expand our pipeline of product candidates beyond etripamil for PSVT.

We intend to build a pipeline of product candidates beyond etripamil for PSVT and progress these product candidates through clinical development. We may not be able to expand the scope of cardiovascular indications for etripamil beyond PSVT, or leverage our expertise and experience with etripamil in PSVT to other product candidates. We may not be able to in-license, acquire or develop future product candidates that are safe and effective. Even if we are successful in continuing to expand etripamil to other indications and further build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of safety, tolerability, efficacy or other characteristics that indicate that they are unlikely to be drugs that will receive marketing approval, achieve market acceptance or obtain reimbursements from third-party payors. If we do not successfully execute on our strategy of expanding our product pipeline, it could significantly harm our financial position and adversely affect the trading price of our common shares.

The development of additional product candidates is risky and uncertain.

Efforts to identify, acquire or in-license, and then develop product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. Our efforts may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development, approved products or commercial revenues for many reasons, including the following:

- the methodology used may not be successful in identifying potential product candidates;
- competitors may develop alternatives that render any product candidates we develop obsolete;
- any product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- a product candidate may be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective or otherwise does not meet applicable regulatory criteria;

- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
- a product candidate may not be accepted as safe and effective by physicians, patients, the medical community or third-party payors.

We have limited financial and management resources and, as a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater market potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial drugs or profitable market opportunities. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration, licensing or other royalty arrangements in circumstances under which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. If we are unsuccessful in identifying and developing additional product candidates or are unable to do so, our business may be harmed.

Success in preclinical studies or earlier clinical trials may not be indicative of results in future clinical trials and we cannot assure you that any ongoing, planned or future clinical trials will lead to results sufficient for the necessary regulatory approvals.

Success in preclinical testing and earlier clinical trials does not ensure that later clinical trials will generate the same results or otherwise provide adequate data to demonstrate the efficacy and safety of a product candidate. Preclinical tests and Phase 1 and Phase 2 clinical trials are primarily designed to test safety, to study pharmacokinetics and pharmacodynamics and to understand the side effects of product candidates at various doses and schedules. Success in preclinical studies and earlier clinical trials does not ensure that later efficacy trials will be successful, nor does it predict final results. For example, our Phase 2 clinical trial of etripamil for PSVT was conducted in an electrophysiology lab, a controlled setting, in which PSVT episodes were induced. Our Phase 3 clinical trials will be conducted in an outpatient setting with patients administering etripamil and monitoring their cardiac activity as episodes of PSVT occur. Accordingly, the results of our Phase 2 trial of etripamil may not be replicated in the outpatient setting of our Phase 3 clinical trials. Etripamil and any future product candidates may fail to show the desired safety and efficacy in clinical development despite positive results in preclinical studies or having successfully advanced through earlier clinical trials.

In addition, the design of a clinical trial can determine whether its results will support approval of a product, and flaws in the design of a clinical trial may not become apparent until the clinical trial is well advanced. As an organization, we have limited experience designing clinical trials and may be unable to design and execute a clinical trial to support regulatory approval. Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in preclinical testing and earlier clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including changes in regulatory policy during the period of our product candidate development. Any such delays could negatively impact our business, financial condition, results of operations and prospects.

We may encounter substantial delays or difficulties in our clinical trials.

We may not commercialize, market, promote or sell any product candidate without obtaining marketing approval from the FDA or comparable foreign regulatory authorities, and we may never receive such approvals. It is impossible to predict when or if any of our product candidates will prove effective or safe in humans and will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain

as to outcome. A failure of one or more clinical trials can occur at any stage of testing. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products.

We may experience numerous unforeseen events prior to, during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize etripamil and any future product candidates, including:

- delays in reaching a consensus with regulatory authorities on design or implementation of our clinical trials;
- regulators or institutional review boards, or IRBs, may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- delays in reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, and clinical trial sites;
- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate, patients may drop out of these clinical trials at a higher rate than we anticipate or fail to return for post-treatment follow-up or we may fail to recruit suitable patients to participate in a trial;
- clinical trials of our product candidates may produce negative or inconclusive results;
- imposition of a clinical hold by regulatory authorities as a result of a serious adverse event, concerns with a class of product candidates or after an inspection of our clinical trial operations, trial sites or manufacturing facilities;
- occurrence of serious adverse events associated with the product candidate that are viewed to outweigh its potential benefits;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols; or
- we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs.

Any inability to successfully complete preclinical and clinical development could result in additional costs to us or impair our ability to generate revenue from future drug sales or other sources. In addition, if we make manufacturing or formulation changes to our product candidates, we may need to conduct additional testing to bridge our modified product candidate to earlier versions. Clinical trial delays could also shorten any periods during which we may have the exclusive right to commercialize our product candidates, if approved, or allow our competitors to bring competing drugs to market before we do, which could impair our ability to successfully commercialize our product candidates and may harm our business, financial condition, results of operations and prospects.

Additionally, if the results of our clinical trials are inconclusive or if there are safety concerns or serious adverse events associated with our product candidates, we may:

- be delayed in obtaining marketing approval, if at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings;
- be subject to additional post-marketing testing requirements;
- be required to perform additional clinical trials to support approval or be subject to additional post-marketing testing requirements;
- have regulatory authorities withdraw, or suspend, their approval of the drug or impose restrictions on its distribution in the form of a modified risk evaluation and mitigation strategy, or REMS;

- be subject to the addition of labeling statements, such as warnings or contraindications;
- be sued; or
- experience damage to our reputation.

Our product development costs will also increase if we experience delays in testing or obtaining marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, need to be restructured or be completed on schedule, if at all.

Further, we, the FDA or an IRB may suspend our clinical trials at any time if it appears that we or our collaborators are failing to conduct a trial in accordance with regulatory requirements, including the FDA's current Good Clinical Practice, or GCP, regulations, that we are exposing participants to unacceptable health risks, or if the FDA finds deficiencies in our investigational new drug applications, or INDs, or the conduct of these trials. Therefore, we cannot predict with any certainty the schedule for commencement and completion of future clinical trials. If we experience delays in the commencement or completion of our clinical trials, or if we terminate a clinical trial prior to completion, the commercial prospects of our product candidates could be negatively impacted, and our ability to generate revenues from our product candidates may be delayed.

Clinical trials are very expensive, time consuming and difficult to design and implement.

Our product candidates will require clinical testing before we are prepared to submit an NDA for regulatory approval. We cannot predict with any certainty if or when we might submit an NDA for regulatory approval for any of our product candidates or whether any such NDA will be approved by the FDA. Human clinical trials are very expensive and difficult to design and implement, in part because they are subject to rigorous regulatory requirements. For instance, the FDA may not agree with our proposed endpoints for any future clinical trial of our product candidates, which may delay the commencement of our clinical trials. In addition, we may not succeed in developing and validating disease-relevant clinical endpoints based on insights regarding biological pathways for the diseases we are studying. The clinical trial process is also time consuming. We estimate that the successful completion of clinical trials for etripamil and any future product candidates will take several years to complete. Furthermore, failure can occur at any stage, and we could encounter problems that cause us to abandon or repeat clinical trials.

Enrollment and retention of patients in clinical trials is an expensive and time-consuming process and could be delayed, made more difficult or rendered impossible by multiple factors outside our control.

Identifying and qualifying patients to participate in our clinical trials is critical to our success. If the actual number of patients with PSVT, or any other indications that we may pursue for etripamil or future product candidates, is smaller than we anticipate, we may encounter difficulties in enrolling patients in our clinical trials, thereby delaying or preventing development and approval of etripamil and any future product candidates. Even once enrolled we may be unable to retain a sufficient number of patients to complete any of our trials. Patient enrollment and retention in clinical trials depends on many factors, including the size of the patient population, the nature of the trial protocol, the existing body of safety and efficacy data, the number and nature of competing treatments and ongoing clinical trials of competing therapies for the same indication, the proximity of patients to clinical sites, the experience and capabilities of the clinical sites to recruit the correct patients, and the eligibility criteria for the trial. In our Phase 3 clinical trial, we are attempting to enroll higher risk elderly patients. We are doing this in order to obtain efficacy and safety data on patients representing the most vulnerable subset of our intended population. Such patients may be difficult to enroll in this trial, and the lack of data on these patients may negatively impact the approvability or labeling of etripamil.

In our Phase 2 clinical trial of etripamil for the treatment of PSVT, only 104 of 199 enrolled patients completed the trials, with 70 patients unable to induce or sustain PSVT during the trial period. The first Phase 3 trial of PSVT for etripamil will enroll up to 500 diagnosed PSVT patients meeting inclusion and

exclusion criteria and will be completed when a total of 100 to 120 adjudicated PSVT events are treated. PSVT is episodic and unpredictable, and our Phase 3 trial design depends on patients experiencing and recognizing an episode of PSVT, self-administering etripamil and monitoring their cardiac activity using a monitoring device. We cannot control the timing of these episodes or guarantee that patients will correctly recognize the episode, self-administer etripamil and use the cardiac monitor as directed. We also cannot predict with certainty the number or timing of any PSVT episodes for those patients that enroll in the trial. Conducting a Phase 3 clinical trial for a PSVT treatment in an outpatient setting is paradigm changing, and subject to a number of risks. There is limited, if any, meaningful precedent from which to inform our trial design and make assumptions about patient enrollment and compliance. Accordingly, our Phase 3 trial design is subject to significantly more risks than if there were numerous studies upon which we could model our protocols. Our efficacy and safety databases could take significantly longer to populate than projected, which would add cost to our development program and delay any potential approval of etripamil.

Furthermore, our efforts to build relationships with patient communities may not succeed, which could result in delays in patient enrollment in our clinical trials. In addition, any negative results we may report in clinical trials of etripamil and any future product candidate may make it difficult or impossible to recruit and retain patients in other clinical trials of that same product candidate. Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both, which could have a harmful effect on our ability to develop etripamil or any future product candidates or could render further development impossible. In addition, we expect to rely on CROs and clinical trial sites to ensure proper and timely conduct of our future clinical trials and, while we intend to enter into agreements governing their services, we will be limited in our ability to compel their actual performance. Similarly, our formulation of etripamil is designed to be self-administered as a nasal spray during a PSVT episode by patients enrolled in our Phase 3 trials. While we expect enrolled patients to adhere to the protocol, our ability to ensure patient compliance is limited.

Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial potential or result in significant negative consequences following any potential marketing approval.

During the conduct of clinical trials, patients report changes in their health, including illnesses, injuries and discomforts, to their doctor. Often, it is not possible to determine whether or not the product candidate being studied caused these conditions. Regulatory authorities may draw different conclusions or require additional testing to confirm these determinations, if they occur. For example, in our Phase 2 clinical trial for PSVT, three serious adverse events, or SAEs, were considered possibly related to etripamil, including a second degree AV block that subsequently resolved. Calcium channel blockers have known side effects, such as slowing the heart rate below normal levels and hypotension, or low blood pressure. While we designed etripamil to have a short half-life to lower these risks, if etripamil is not quickly metabolized as designed, these known side effects may become more pronounced in patients who use etripamil.

In addition, it is possible that as we test etripamil or any future product candidates in larger, longer and more extensive clinical trials, such as our Phase 3 clinical trials, or as use of etripamil or any future product candidates becomes more widespread if they receive regulatory approval, illnesses, injuries, discomforts and other adverse events that were observed in earlier trials, as well as conditions that did not occur or went undetected in previous trials, will be reported by subjects or patients. Many times, side effects are only detectable after investigational drugs are tested in large-scale pivotal trials or, in some cases, after they are made available to patients on a commercial scale after approval. If additional clinical experience indicates that etripamil or any future product candidates have side effects or causes serious or life-threatening side effects, the development of the product candidate may fail or be delayed, or, if the product candidate has received regulatory approval, such approval may be revoked, which would harm our business, prospects, operating results and financial condition.

Interim, "top-line" and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publish interim, "top-line" or preliminary data from our clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Preliminary or "top-line" data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Differences between preliminary or interim data and final data could significantly harm our business prospects and may cause the trading price of our common shares to fluctuate significantly.

As an organization, we have never completed pivotal clinical trials, and we may be unable to do so for any product candidates we may develop, including our pivotal Phase 3 clinical trials for the treatment of PSVT.

We will need to successfully complete pivotal clinical trials in order to obtain the approval of the FDA and other regulatory agencies to market etripamil or any of our other product candidates. Carrying out later-stage clinical trials and the submission of a successful NDA is a complicated process. As an organization, we have not previously completed any later stage or pivotal clinical trials and have limited experience in preparing, submitting and prosecuting regulatory filings. Consequently, we may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to NDA submission and approval of etripamil for the treatment of PSVT. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of product candidates that we develop. Failure to commence or complete, or delays in, our planned clinical trials could prevent us from or delay us in commercializing etripamil for the treatment of PSVT.

Etripamil is intended to be used with a nasal spray device, which may result in additional supply and regulatory risks.

We currently obtain the nasal spray device for administration of Etripamil from a single source supplier. Our nasal spray device supplier relies on multiple suppliers for certain components of the device, some of whom are single source suppliers. There are a limited number of device suppliers that address our particular design requirements. While we intend to explore alternative nasal spray devices for the delivery of etripamil that are produced by other suppliers to have backup sources for future commercial needs, we may not identify other nasal device suppliers that meet our requirements, and such alternative devices may not be as effective at the delivery of etripamil as our current supplier's device. We do not currently have a formal supply agreement with our current sole nasal spray device supplier, and obtain such devices as needed. Even if we reach agreement for commercial supply, if we do not have additional nasal spray device suppliers, our sole supplier may be unable to meet our demands. Unpredictability of supply could have a material adverse effect on our commercialization plans for etripamil, if approved, and could have a material adverse effect on our business and financial condition.

Our finished drug product in the nasal delivery system will be regulated as a drug/device combination product. There are additional regulatory risks for drug/device combination products. We may experience delays in obtaining regulatory approval of etripamil given the increased complexity of the review process when approval of the product and a delivery device is sought under a single marketing application. In the United States, each component of a combination product is subject to the requirements established by the FDA for that type of component, whether a drug, biologic or device. The delivery system device will be subject to FDA device requirements regarding design, performance and validation as well as human factors testing, among other things. Delays in or failure of the studies conducted by us, or failure of our company, our collaborators, if any, or the third-party providers or suppliers to obtain or maintain regulatory approval

could result in increased development costs, delays in or failure to obtain regulatory approval, and associated delays in etripamil reaching the market.

We may explore strategic collaborations that may never materialize, or we may be required to relinquish important rights to and control over the development of our product candidates to any future collaborators.

We intend to periodically explore a variety of possible strategic collaborations in an effort to gain access to additional product candidates or resources. At the current time, we cannot predict what form such a strategic collaboration might take. We are likely to face significant competition in seeking appropriate strategic collaborators, and strategic collaborations can be complicated and time consuming to negotiate and document. We may not be able to negotiate strategic collaborations on acceptable terms, or at all. We are unable to predict when, if ever, we will enter into any strategic collaborations because of the numerous risks and uncertainties associated with establishing them.

Future collaborations could subject us to a number of risks, including:

- we may be required to undertake the expenditure of substantial operational, financial and management resources;
- we may be required to issue equity securities that would dilute our shareholders' percentage ownership of our company;
- we may be required to assume substantial actual or contingent liabilities;
- we may not be able to control the amount and timing of resources that our strategic collaborators devote to the development or commercialization of our product candidates;
- strategic collaborators may select indications or design clinical trials in a way that may be less successful than if we were doing so;
- strategic collaborators may delay clinical trials, provide insufficient funding, terminate a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new version of a product candidate for clinical testing;
- strategic collaborators may not pursue further development of products resulting from the strategic collaboration arrangement or may elect to discontinue research and development programs;
- strategic collaborators may not commit adequate resources to the marketing and distribution of our product candidates, limiting our potential revenues from these products;
- disputes may arise between us and our strategic collaborators that result in the delay or termination of the research or development of our product candidates or that result in costly litigation or arbitration that diverts management's attention and consumes resources;
- strategic collaborators may experience financial difficulties;
- strategic collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in a manner that could jeopardize or invalidate our proprietary information or expose us to potential litigation;
- business combinations or significant changes in a strategic collaborator's business strategy may adversely affect a strategic collaborator's willingness or ability to complete its obligations under any arrangement;
- strategic collaborators could decide to move forward with a competing product candidate developed either independently or in collaboration with others, including our competitors; and
- strategic collaborators could terminate the arrangement or allow it to expire, which would delay the development and may increase the cost of developing our product candidates.

Risks Related to the Commercialization of Our Product Candidates

If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell etripamil or any future product candidates, we may not be successful in commercializing etripamil or any future product candidates, if and when they are approved.

To successfully commercialize etripamil or any future product candidate that may result from our development programs, we will need to build out our sales and marketing capabilities, either on our own or with others. The establishment and development of our own commercial team or the establishment of a contract field force to market any product candidate we may develop will be expensive and time-consuming and could delay any drug launch. Moreover, we cannot be certain that we will be able to successfully develop this capability. We may seek to enter into collaborations with other entities to use their established marketing and distribution capabilities, but we may be unable to enter into such agreements on favorable terms, if at all. If any current or future collaborators do not commit sufficient resources to commercialize our product candidates, or we are unable to develop the necessary capabilities on our own, we may be unable to generate sufficient revenue to sustain our business. We may compete with many companies that currently have extensive, experienced and well-funded marketing and sales operations to recruit, hire, train and retain marketing and sales personnel. We will likely also face competition if we seek third parties to assist us with the sales and marketing efforts of etripamil and any future product candidates. Without an internal team or the support of a third party to perform marketing and sales functions, we may be unable to compete successfully against these more established companies.

Even if etripamil or any future product candidates receive marketing approval, they may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.

Even if etripamil or any future product candidates receive marketing approval, they may fail to gain market acceptance by physicians, patients, third-party payors and others in the medical community. If such product candidates do not achieve an adequate level of acceptance, we may not generate significant drug revenue and may not become profitable. The degree of market acceptance of etripamil or any future product candidates, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- the convenience and ease of administration compared to alternative treatments and therapies;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the efficacy and potential advantages compared to alternative treatments and therapies;
- the effectiveness of sales and marketing efforts;
- the prevalence and severity of any side effects;
- the strength of our relationships with patient communities;
- the cost of treatment in relation to alternative treatments and therapies, including any similar generic treatments;
- our ability to offer such drug for sale at competitive prices;
- the strength of marketing and distribution support;
- the availability of third-party coverage and adequate reimbursement;
- any restrictions on the use of the drug together with other medications; and
- the awareness and support from key opinion leaders in cardiology.

Our efforts to educate physicians, patients, third-party payors and others in the medical community on the benefits of etripamil or any future product candidates may require significant resources and may never be successful. Such efforts may require more resources than are typically required due to the potential of etripamil to shift the treatment paradigm away from acute-care settings to self-administration. Because we

expect sales of etripamil or any future product candidates, if approved, to generate substantially all of our revenues for the foreseeable future, the failure of these product candidates to find market acceptance would harm our business.

Even if we successfully obtain approval for etripamil, its success will be dependent on its proper use.

While we have designed etripamil to be self-administered, we cannot control the successful use of the product. While we have conducted, and intend in the future to conduct, human factors studies to determine how to optimize the instructions for use, the results in our clinical trials may not be replicated by users in the future. If we are not successful in promoting the proper use of etripamil, if approved, we may not be able to achieve market acceptance or effectively commercialize the drug. In addition, even in the event of proper use of etripamil, individual devices may fail. Increasing the scale of production inherently creates increased risk of manufacturing errors, and we may not be able to adequately inspect every device that is produced, and it is possible that individual devices may fail to perform as designed. Manufacturing errors could negatively impact market acceptance of any of our product candidates that receive approval, result in negative press coverage, or increase our liability.

If the market opportunities for etripamil and any future product candidates are smaller than we estimate, our business may suffer.

Our eligible patient population may differ significantly from the actual market addressable by our product candidates. Our projections of both the number of people who have these conditions, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including the scientific literature, insurance claims databases or market research, and may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these diseases. The number of patients may turn out to be lower than expected. Likewise, the potentially addressable patient population for each of our product candidates may be limited or may not be amenable to treatment with our product candidates, and new patients may become increasingly difficult to identify or access. If the market opportunities for our product candidates are smaller than we estimate, our business and results of operations could be adversely affected.

We may face substantial competition, which may result in others developing or commercializing drugs before or more successfully than us.

The development and commercialization of new drugs is highly competitive. We may face competition from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

More established companies may have a competitive advantage over us due to their greater size, resources and institutional experience. In particular, these companies have greater experience and expertise in securing reimbursement, government contracts and relationships with key opinion leaders, conducting testing and clinical trials, obtaining and maintaining regulatory approvals and distribution relationships to market products and marketing approved drugs. These companies also have significantly greater research and marketing capabilities than we do. If we are not able to compete effectively against existing and potential competitors, our business and financial condition may be harmed.

As a result of these factors, our competitors may obtain regulatory approval of their drugs before we are able to, which may limit our ability to develop or commercialize etripamil and any future product candidates. Our competitors may also develop therapies that are safer, more effective, more widely accepted or less expensive than ours, and may also be more successful than we in manufacturing and marketing their drugs.

These advantages could render our product candidates obsolete or non-competitive before we can recover the costs of such product candidates' development and commercialization.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific, management and commercial personnel, establishing clinical trial sites and subject registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

If we commercialize etripamil or any future product candidates outside of the United States, a variety of risks associated with international operations could harm our business.

We intend to seek approval to market etripamil outside of the United States, and may do so for future product candidates. If we market approved products outside of the United States, we expect that we will be subject to additional risks in commercialization including:

- different regulatory requirements for approval of therapies in foreign countries;
- reduced protection for intellectual property rights;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- foreign reimbursement, pricing and insurance regimes;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geopolitical actions, including war and terrorism or natural disasters including earthquakes, typhoons, floods and fires.

We have no prior experience in these areas. In addition, there are complex regulatory, tax, labor and other legal requirements imposed by many of the individual countries in and outside of Europe with which we will need to comply. Many biopharmaceutical companies have found the process of marketing their own products in foreign countries to be very challenging.

Coverage and adequate reimbursement may not be available for etripamil or any future product candidates, which could make it difficult for us to gain market acceptance.

Market acceptance and sales of any product candidates that we commercialize, if approved, will depend in part on the extent to which reimbursement for these drugs and related treatments will be available from third-party payors, including government health administration authorities, managed care organizations and other private health insurers. Third-party payors decide for which therapies and establish reimbursement levels. While no uniform policy for coverage and reimbursement exists in the United States, third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own coverage and reimbursement policies. However, decisions regarding the extent of coverage and amount of reimbursement to be provided for any product candidates that we develop will be made on a payor-by-payor basis. Therefore, one payor's determination to provide coverage for a drug does not assure that other payors will also provide coverage, and adequate reimbursement, for the drug. Additionally, a third-party payor's decision

to provide coverage for a therapy does not imply that an adequate reimbursement rate will be approved. Each payor determines whether or not it will provide coverage for a therapy, what amount it will pay the manufacturer for the therapy, and on what tier of its formulary it will be placed. The position on a payor's list of covered drugs, or formulary, generally determines the co-payment that a patient will need to make to obtain the therapy and can strongly influence the adoption of such therapy by patients and physicians. Patients who are prescribed treatments for their conditions and providers prescribing such services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products.

Third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that coverage and reimbursement will be available for any drug that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Inadequate coverage and reimbursement may impact the demand for, or the price of, any drug for which we obtain marketing approval. If coverage and adequate reimbursement are not available, or are available only to limited levels, we may not be able to successfully commercialize etripamil or any future product candidates that we develop.

Product liability lawsuits against us could cause us to incur substantial liabilities and could limit commercialization of any product candidates that we may develop.

We face an inherent risk of product liability exposure related to the testing of etripamil or any future product candidates in clinical trials and may face an even greater risk if we commercialize any product candidate that we may develop. If we cannot successfully defend ourselves against claims that any such product candidates caused injuries, we could incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidate that we may develop;
- loss of revenue;
- substantial monetary awards to trial participants or patients;
- significant time and costs to defend the related litigation;
- withdrawal of clinical trial participants;
- increased insurance costs;
- the inability to commercialize any product candidate that we may develop; and
- injury to our reputation and significant negative media attention.

Although we maintain product liability insurance coverage with maximum coverage of C$10 million per incident and an aggregate loss limit of C$10 million, such insurance may not be adequate to cover all liabilities that we may incur. We anticipate that we will need to increase our insurance coverage each time we commence a clinical trial and if we successfully commercialize any product candidate. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

Risks Related to Regulatory Compliance

Even if we obtain and maintain approval for etripamil or any future product candidates from the FDA, we may never obtain approval of etripamil or any future product candidates outside of the United States, which would limit our market opportunities and could harm our business.

Approval of a product candidate in the United States by the FDA does not ensure approval of such product candidate by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Sales of etripamil or any future product candidates outside of the United States will be subject to foreign

regulatory requirements governing clinical trials and marketing approval. Even if the FDA grants marketing approval for a product candidate, comparable foreign regulatory authorities also must approve the manufacturing and marketing of the product candidate in those countries. Approval procedures vary among jurisdictions and can involve requirements and administrative review periods different from, and more onerous than, those in the United States, including additional preclinical studies or clinical trials. In many countries outside the United States, a product candidate must be approved for reimbursement before it can be approved for sale in that country. In some cases, the price that we intend to charge for any product candidates, if approved, is also subject to approval. Obtaining approval for etripamil or any future product candidates in the European Union from the European Commission following the opinion of the European Medicines Agency, if we choose to submit a marketing authorization application there, would be a lengthy and expensive process. Even if a product candidate is approved, the FDA or the European Commission, as the case may be, may limit the indications for which the drug may be marketed, require extensive warnings on the drug labeling or require expensive and time-consuming additional clinical trials or reporting as conditions of approval. Obtaining foreign regulatory approvals and compliance with foreign regulatory requirements could result in significant delays, difficulties and costs for us and could delay or prevent the introduction of etripamil or any future product candidates in certain countries.

Further, clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. Also, regulatory approval for our product candidates may be withdrawn. If we fail to comply with the regulatory requirements, our target market will be reduced and our ability to realize the full market potential of etripamil or any future product candidates will be harmed and our business, financial condition, results of operations and prospects could be harmed.

Even if we obtain regulatory approval for etripamil or any future product candidates, they will remain subject to ongoing regulatory oversight.

Even if we obtain regulatory approvals for etripamil or any future product candidates, such approvals will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping and submission of safety and other post-market information. Any regulatory approvals that we receive for etripamil or any future product candidates may also be subject to a REMS, limitations on the approved indicated uses for which the drug may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase 4 trials, and surveillance to monitor the quality, safety and efficacy of the drug. Such regulatory requirements may differ from country to country depending on where we have received regulatory approval.

In addition, drug manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP requirements and adherence to commitments made in the NDA or foreign marketing application. If we, or a regulatory authority, discover previously unknown problems with a drug, such as adverse events of unanticipated severity or frequency, or problems with the facility where the drug is manufactured or if a regulatory authority disagrees with the promotion, marketing or labeling of that drug, a regulatory authority may impose restrictions relative to that drug, the manufacturing facility or us, including requesting a recall or requiring withdrawal of the drug from the market or suspension of manufacturing.

If we fail to comply with applicable regulatory requirements following approval of etripamil or any future product candidates, a regulatory authority may:

- issue an untitled letter or warning letter asserting that we are in violation of the law;
- seek an injunction or impose administrative, civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending NDA or comparable foreign marketing application or any supplements thereto submitted by us or our partners;

- restrict the marketing or manufacturing of the drug;
- seize or detain the drug or otherwise require the withdrawal of the drug from the market;
- refuse to permit the import or export of product candidates; or
- refuse to allow us to enter into supply contracts, including government contracts.

Moreover, the FDA strictly regulates the promotional claims that may be made about drug products. In particular, a product may not be promoted for uses that are not approved by the FDA as reflected in the product's approved labeling. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant civil, criminal and administrative penalties.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize etripamil or any future product candidates and harm our business, financial condition, results of operations and prospects.

The FDA's and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of drugs and to spur innovation, but its ultimate implementation is unclear. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

In addition, we cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these executive actions, including the Executive Orders, will be implemented and the extent to which they will affect the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Our relationships with customers, physicians, and third-party payors are subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, health information privacy and security laws, and other healthcare laws and regulations. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.

Healthcare providers, physicians and third-party payors in the United States and elsewhere will play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our current and future arrangements with healthcare professionals, principal investigators, consultants, customers and third-party payors subject us to various federal and state fraud and abuse laws and other healthcare laws that may constrain the business or financial arrangements and relationships through which we research, sell, market, and distribute our products, if we obtain marketing approval. We will also be subject to healthcare regulation and enforcement by the U.S. federal government and the states and any other countries in which we conduct our business, including our research, and the sales, marketing and distribution of our product candidates and products once they have obtained marketing authorization. For additional information on the healthcare laws and regulations that we may be subject to, see "Business — Government Regulation and Product Approval."

Ensuring that our business arrangements with third parties comply with applicable healthcare laws and regulations will likely be costly. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participating in government funded healthcare programs, such as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm and the curtailment or restructuring of our operations.

If the physicians or other providers or entities with whom we expect to do business are found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Even if resolved in our favor, litigation or other legal proceedings relating to healthcare laws and regulations may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common shares. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development, manufacturing, sales, marketing or distribution activities. Uncertainties resulting from the initiation and continuation of litigation or other proceedings relating to applicable healthcare laws and regulations could have a material adverse effect on our ability to compete in the marketplace.

Healthcare legislative reform measures may have a negative impact on our business and results of operations.

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of product candidates, restrict or regulate post-approval activities, and affect our ability to profitably sell any product candidates for which we obtain marketing approval. In particular, there have been and continue to be a number of initiatives at the U.S. federal and state levels that seek to reduce healthcare costs and improve the quality of healthcare. For example, in March 2010, the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, or, collectively, the PPACA, was passed, which substantially changed the way healthcare is financed by both governmental and private payors in the United States. Since the PPACA's enactment, there have been judicial and Congressional challenges to certain aspects of the PPACA, and we expect there will be additional challenges and amendments to the PPACA in the future. For example, the Tax Cuts and Jobs Act of 2017, or the Tax Act, was enacted, which includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the PPACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Since the enactment of the Tax Act, there have been additional amendments to certain provisions of the PPACA, and we expect the current Trump administration and Congress will likely continue to seek to modify, repeal, or otherwise invalidate the entirety, or certain provisions, of the PPACA.

Further, in the United States there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, reduce the cost of prescription drugs under government payor programs, and review the relationship between pricing and manufacturer patient programs. While some of the proposed measures will require authorization through additional legislation to become effective, U.S. Congress and the Trump administration have indicated that they will continue to seek new legislative and/or administrative

measures to control drug costs. We expect that additional U.S. federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that the U.S. federal government will pay for healthcare products and services, which could result in reduced demand for etripamil or any future product candidates or additional pricing pressures.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action in the United States or any other jurisdiction. If we or any third parties we may engage are slow or unable to adapt to changes in existing or new requirements or policies, or if the we or such third parties are not able to maintain regulatory compliance, etripamil or any future product candidates we may develop may lose any regulatory approval that may have been obtained and we may not achieve or sustain profitability. For additional information on the healthcare reform, see "Business — Government Regulation and Product Approval."

Our business involves the use of hazardous materials and we and our third-party manufacturers and suppliers must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our research and development activities and our third-party manufacturers' and suppliers' activities involve the controlled storage, use and disposal of hazardous materials owned by us, including the components of etripamil and any future product candidates and other hazardous compounds. We and our manufacturers and suppliers are subject to laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. In some cases, these hazardous materials and various wastes resulting from their use are stored at our and our manufacturers' facilities pending their use and disposal. We cannot eliminate the risk of contamination, which could cause an interruption of our commercialization efforts, research and development efforts and business operations, environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. Although we believe that the safety procedures utilized by our third-party manufacturers for handling and disposing of these materials generally comply with the standards prescribed by these laws and regulations, we cannot guarantee that this is the case or eliminate the risk of accidental contamination or injury from these materials. In such an event, we may be held liable for any resulting damages and such liability could exceed our resources and state or federal or other applicable authorities may curtail our use of certain materials and/or interrupt our business operations. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent. We cannot predict the impact of such changes and cannot be certain of our future compliance. We do not currently carry hazardous waste insurance coverage.

Risks Related to Our Dependence on Third Parties

We will rely on third parties to produce clinical and commercial supplies of etripamil and any future product candidates.

We do not own or operate facilities for drug manufacturing, storage and distribution, or testing. We are dependent on third parties to manufacture the clinical supplies of etripamil and any future product candidates. The facilities used by our contract manufacturers to manufacture etripamil and any future product candidates must be approved by the FDA pursuant to inspections that will be conducted after we submit our NDA to the FDA. We do not control the manufacturing process of, and are completely dependent on, our contract manufacturing partners for compliance with the regulatory requirements, known as cGMPs for manufacture of active drug substances, nasal spray device, and finished product candidates. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, we will not be able to secure and/or maintain regulatory approval for our product candidates. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. We intend to use multiple contract manufacturers for clinical and commercial supply of our drug product and

drug substance. As such, we will need to demonstrate to the FDA that the drug product and drug substance from these contract manufacturers are comparable, which may include conducting additional equivalence studies. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved. Any significant delay in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a third-party manufacturer could considerably delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates.

Further, we also will rely on third-party manufacturers to supply us with sufficient quantities of etripamil and any future product candidates, if approved, for commercialization. We do not yet have a commercial supply agreement for commercial quantities of drug substance, drug product or nasal spray device. If we are not able to meet market demand for any approved product, it would negatively affect our ability to generate revenue, harm our reputation, and could have a material and adverse effect on our business and financial condition. Increasing the scale of production inherently creates increased risk of manufacturing errors, and we may not be able to adequately inspect every device that is produced, and it is possible that individual devices may fail to perform as designed. Manufacturing errors could negatively impact market acceptance of any of our product candidates that receive approval, result in negative press coverage, or increase our liability.

Further, our reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including:

- inability to meet our product specifications and quality requirements consistently;
- delay or inability to procure or expand sufficient manufacturing capacity;
- issues related to scale-up of manufacturing;
- costs and validation of new equipment and facilities required for scale-up;
- our third-party manufacturers may not be able to execute our manufacturing procedures and other logistical support requirements appropriately;
- our third-party manufacturers may fail to comply with cGMP-compliance and other inspections by the FDA or other comparable regulatory authorities;
- our inability to negotiate manufacturing agreements with third parties under commercially reasonable terms, if at all;
- breach, termination or nonrenewal of manufacturing agreements with third parties in a manner or at a time that is costly or damaging to us;
- reliance on a single source for the nasal spray device;
- our third-party manufacturers may not devote sufficient resources to our product candidates;
- we may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our product candidates;
- operations of our third-party manufacturers or suppliers could be disrupted by conditions unrelated to our business or operations, including the bankruptcy of the manufacturer or supplier; and
- carrier disruptions or increased costs that are beyond our control.

In addition, if we enter into a strategic collaboration with a third party for the commercialization of etripamil or any future product candidate, we will not be able to control the amount of time or resources that they devote to such efforts. If any strategic collaborator does not commit adequate resources to the marketing and distribution of etripamil or any future product candidate, it could limit our potential revenues.

Any of these events could lead to clinical trial delays, failure to obtain regulatory approval or affect our ability to successfully commercialize etripamil or any future product candidates once approved. Some of these events could be the basis for FDA action, including injunction, request for recall, seizure, or total or partial suspension of production.

We rely on third parties to conduct, supervise and monitor our preclinical studies and clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.

We have engaged a CRO to conduct our Phase 3 clinical trials of etripamil for the treatment of PSVT, and we expect to engage a CRO for future clinical trials of etripamil and any future product candidates. We do not currently have the ability to independently conduct any clinical trials. We rely on CROs and clinical trial sites to ensure the proper and timely conduct of our preclinical studies and clinical trials, and we expect to have limited influence over their actual performance. We rely upon CROs to monitor and manage data for our clinical programs, as well as the execution of future nonclinical studies. We expect to control only certain aspects of our CROs' activities. Nevertheless, we will be responsible for ensuring that each of our preclinical studies and clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities.

We and our CROs are required to comply with the good laboratory practices, or GLPs, and GCPs, which are regulations and guidelines enforced by the FDA and comparable foreign regulatory authorities in the form of International Conference on Harmonization guidelines for any of our product candidates that are in preclinical and clinical development. The regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. Although we rely on CROs to conduct GCP-compliant clinical trials, we remain responsible for ensuring that each of our GLP preclinical studies and clinical trials is conducted in accordance with its investigational plan and protocol and applicable laws and regulations, and our reliance on the CROs does not relieve us of our regulatory responsibilities. If we or our CROs fail to comply with GCPs, the clinical data generated in our clinical trials may be deemed unreliable, and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. Accordingly, if our CROs fail to comply with these regulations or fail to recruit a sufficient number of subjects, we may be required to repeat clinical trials, which would delay the regulatory approval process.

Our reliance on third parties to conduct clinical trials will result in less direct control over the management of data developed through clinical trials than would be the case if we were relying entirely upon our own staff. Communicating with CROs and other third parties can be challenging, potentially leading to mistakes as well as difficulties in coordinating activities. Such parties may:

- have staffing difficulties;
- fail to comply with contractual obligations;
- experience regulatory compliance issues; or
- undergo changes in priorities or become financially distressed.

These factors may materially adversely affect the willingness or ability of third parties to conduct our clinical trials and may subject us to unexpected cost increases that are beyond our control. If our CROs do not successfully carry out their contractual duties or obligations, fail to meet expected deadlines, fail to comply with regulatory requirements, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for any other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize, any product candidate that we develop. As a result, our financial results and the commercial prospects for any product candidate that we develop would be harmed, our costs could increase, and our ability to generate revenue could be delayed. While we will have agreements governing their activities, our CROs will not be our employees, and we will not control whether or not they devote sufficient time and resources to our future clinical and nonclinical programs. These CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials, or other drug development activities that could harm our business. We face the risk of potential unauthorized disclosure or misappropriation of our intellectual property by CROs,

which may reduce our trade secret protection and allow our potential competitors to access and exploit our proprietary technology.

If our relationship with any of these CROs terminates, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. Switching or adding additional CROs involves substantial cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can negatively affect our ability to meet our desired clinical development timelines. Though we intend to manage carefully our relationships with our CROs, there can be no assurance that we will not encounter challenges or delays in the future or that these delays or challenges will not have a negative impact on our business, financial condition and prospects.

In addition, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA. The FDA may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected interpretation of the trial. The FDA may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA and may ultimately lead to the denial of marketing approval of etripamil and any future product candidates.

Risks Related to Our Intellectual Property

If we are unable to obtain and maintain patent protection for etripamil or any future product candidates, or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize drugs similar or identical to ours, and our ability to commercialize successfully our product candidates may be impaired.

Our success depends in large part on our ability to obtain and maintain patent protection in the United States and other countries with respect to etripamil and any future product candidates. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to our product candidates. To protect our proprietary positions, we file patent applications in the United States and abroad related to our product candidates that are important to our business. The patent application and prosecution process is expensive and time-consuming. We may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. We may also fail to identify patentable aspects of our research and development before it is too late to obtain patent protection. Therefore, these and any of our patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. It is possible that defects of form in the preparation or filing of our patents or patent applications may exist, or may arise in the future, such as with respect to proper priority claims, inventorship, claim scope or patent term adjustments. If any future licensors or licensees are not fully cooperative or disagree with us as to the prosecution, maintenance or enforcement of any patent rights, such patent rights could be compromised and we might not be able to prevent third parties from making, using and selling competing products. If there are material defects in the form or preparation of our patents or patent applications, such patents or applications may be invalid and unenforceable. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Any of these outcomes could impair our ability to prevent competition from third parties.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection. In addition, the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. No consistent policy regarding the breadth of claims allowed in biotechnology and pharmaceutical patents has emerged to date in the United States or in many foreign jurisdictions. In addition, the determination of patent rights with respect to pharmaceutical compounds and technologies commonly involves complex legal

and factual questions, which has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Furthermore, recent changes in patent laws in the United States, including the America Invents Act of 2011, may affect the scope, strength and enforceability of our patent rights or the nature of proceedings that may be brought by us related to our patent rights.

We may not be aware of all third-party intellectual property rights potentially relating to etripamil or any future product candidates. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. For example, U.S. applications filed before November 28, 2000 and certain U.S. applications filed after that date that will not be filed outside the United States remain confidential until a patent issues. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. Similarly, should we own any patents or patent applications in the future, we may not be certain that we were the first to file for patent protection for the inventions claimed in such patents or patent applications. As a result, the issuance, scope, validity and commercial value of our patent rights cannot be predicted with any certainty. Moreover, we may be subject to a third-party preissuance submission of prior art to the U.S. Patent and Trademark Office, or USPTO, or become involved in opposition, derivation, reexamination, inter partes review, post grant review, or interference proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or product candidates and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights.

Our pending and future patent applications may not result in patents being issued that protect our technology or product candidates, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Even if our patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection against competing products or processes sufficient to achieve our business objectives, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner. Our competitors may seek to market generic versions of any approved products by submitting abbreviated new drug applications to the FDA in which they claim that patents owned or licensed by us are invalid, unenforceable and/or not infringed. Alternatively, our competitors may seek approval to market their own products similar to or otherwise competitive with our products. In these circumstances, we may need to defend and/or assert our patents, including by filing lawsuits alleging patent infringement. In any of these types of proceedings, a court or other agency with jurisdiction may find our patents invalid and/or unenforceable.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. In addition, given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In addition, periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents and/or applications will have to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our owned patents and/or applications and any patent rights we may own or license in the future. We rely on our outside counsel to pay these fees due to non-U.S. patent agencies. The USPTO and various non-U.S. government patent agencies require compliance with several procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. If we fail to maintain the patents and patent applications covering our products or technologies, we may not be able to stop a competitor from marketing products that are the same as or similar to etripamil or any future product candidates, which would have a material adverse effect on our business. In many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market and this circumstance could harm our business.

Patent terms may be inadequate to protect our competitive position on our product candidates for an adequate amount of time.

Given the amount of time required for the development, testing and regulatory review of new product candidates, such as etripamil, patents protecting such candidates might expire before or shortly after such candidates are commercialized. We expect to seek extensions of patent terms in the United States and, if available, in other countries where we are prosecuting patents. In the United States, the Drug Price Competition and Patent Term Restoration Act of 1984 permits a patent term extension of up to five years beyond the normal expiration of the patent, which is limited to the approved indication (or any additional indications approved during the period of extension). However, the applicable authorities, including the FDA and the USPTO in the United States, and any equivalent regulatory authority in other countries, may not agree with our assessment of whether such extensions are available, and may refuse to grant extensions to our patents, or may grant more limited extensions than we request. If this occurs, our competitors may be able to take advantage of our investment in development and clinical trials by referencing our clinical and preclinical data and launch their drug earlier than might otherwise be the case.

Intellectual property rights do not necessarily address all potential threats to our business.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business. The following examples are illustrative:

- § others may be able to make compounds or formulations that are similar to etripamil or formulations of etripamil or our future product candidates but that are not covered by the claims of any patents, should they issue, that we own or control;
- § we or any strategic partners might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own or control;
- § we might not have been the first to file patent applications covering certain of our inventions;

- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our pending patent applications will not lead to issued patents;
- issued patents that we own or control may not provide us with any competitive advantages, or may be held invalid or unenforceable as a result of legal challenges;
- our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights and then use the information learned from such activities to develop competitive drugs for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may become involved in lawsuits to protect or enforce our patents or other intellectual property rights, which could be expensive, time consuming and unsuccessful.

Competitors may infringe our issued patents, future trademarks, copyrights or other intellectual property. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming and divert the time and attention of our management and scientific personnel. Any claims we assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that we infringe their patents, trademarks, copyrights or other intellectual property. In addition, in a patent infringement proceeding, there is a risk that a court will decide that a patent of ours is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patents do not cover the invention. An adverse outcome in a litigation or proceeding involving our patents could limit our ability to assert our patents against those parties or other competitors, and may curtail or preclude our ability to exclude third parties from making and selling similar or competitive products. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

In any infringement litigation, any award of monetary damages we receive may not be commercially valuable. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common shares. Moreover, there can be no assurance that we will have sufficient financial or other resources to file and pursue such infringement claims, which typically last for years before they are concluded. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Even if we ultimately prevail in such claims, the monetary cost of such litigation and the diversion of the attention of our management and scientific personnel could outweigh any benefit we receive as a result of the proceedings. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing, misappropriating or successfully challenging our intellectual property rights. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a negative impact on our ability to compete in the marketplace.

Third parties may initiate legal proceedings alleging that we are infringing their intellectual property rights, the outcome of which would be uncertain and could have a negative impact on the success of our business.

Our commercial success depends, in part, upon our ability and the ability of future collaborators, if any, to develop, manufacture, market and sell etripamil and any future product candidates and use our proprietary technologies without infringing the proprietary rights and intellectual property of third parties. The biotechnology and pharmaceutical industries are characterized by extensive and complex litigation regarding patents and other intellectual property rights. We may in the future become party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to etripamil and any future product candidates and technology, including interference proceedings, post grant review and inter partes review before the USPTO. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. There is a risk that third parties may choose to engage in litigation with us to enforce or to otherwise assert their patent rights against us. Even if we believe such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid, enforceable and infringed, which could have a negative impact on our ability to commercialize our current and any future product candidates. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe a third party's valid and enforceable intellectual property rights, we could be required to obtain a license from such third party to continue developing, manufacturing and marketing our product candidate(s) and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technology or product candidate. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. A finding of infringement could prevent us from manufacturing and commercializing etripamil or any future product candidates or force us to cease some or all of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business, financial condition, results of operations and prospects. See the section herein titled "Legal Proceedings" for additional information.

We may need to license intellectual property from third parties, and such licenses may not be available or may not be available on commercially reasonable terms.

A third party may hold intellectual property rights, including patent rights, that are important or necessary to the development of etripamil or any future product candidates. It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our product candidates, in which case we would be required to obtain a license from these third parties. Such a license may not be available on commercially reasonable terms, or at all, and we could be forced to accept unfavorable contractual terms. If we are unable to obtain such licenses on commercially reasonable terms, our business could be harmed.

We may be subject to claims asserting that our employees, consultants or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting ownership of what we regard as our own intellectual property.

Many of our employees, consultants or advisors are currently, or were previously, employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these individuals

or we have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, we may in the future be subject to claims by our former employees or consultants asserting an ownership right in our patents or patent applications, as a result of the work they performed on our behalf. Although it is our policy to require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own, and we cannot be certain that our agreements with such parties will be upheld in the face of a potential challenge or that they will not be breached, for which we may not have an adequate remedy. The assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property.

Changes in U.S. patent law or the patent law of other countries or jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect etripamil and any future product candidates.

The United States has recently enacted and implemented wide ranging patent reform legislation. The U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents, once obtained. Depending on actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain new patents or to enforce patents that we have licensed or that we might obtain in the future. Similarly, changes in patent law and regulations in other countries or jurisdictions, changes in the governmental bodies that enforce them or changes in how the relevant governmental authority enforces patent laws or regulations may weaken our ability to obtain new patents or to enforce patents that we have licensed or that we may obtain in the future.

We may not be able to protect our intellectual property rights throughout the world, which could negatively impact our business.

Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States. In some cases, we may not be able to obtain patent protection for certain technology outside the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States, even in jurisdictions where we do pursue patent protection. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, even in jurisdictions where we do pursue patent protection or from selling or importing products made using our inventions in and into the United States or other jurisdictions.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, which could make it difficult for us to stop the infringement of our patents, if pursued and obtained, or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other

aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Reliance on third parties requires us to share our proprietary information, which increases the possibility that such information will be misappropriated or disclosed.

Because we rely on third parties to develop and manufacture etripamil and any future product candidates, or if we collaborate with third parties for the development or commercialization of etripamil or any future product candidates, we must, at times, share proprietary information with them. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, third-party contractors and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information. Despite the contractual provisions employed when working with third parties, the need to share confidential information increases the risk that such information become known by our competitors, is inadvertently incorporated into the technology of others, or is disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how, a competitor's discovery of our know-how or other unauthorized use or disclosure could have an adverse effect on our business and results of operations.

In addition, these agreements typically restrict the ability of our advisors, employees, third-party contractors and consultants to publish data potentially relating to our know-how. Despite our efforts to protect our know-how, we may not be able to prevent the unauthorized disclosure or use of our technical know-how by the parties to these agreements. Moreover, we cannot guarantee that we have entered into such agreements with each party that may have or have had access to our confidential information or proprietary technology and processes. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. If any of the collaborators, scientific advisors, employees, contractors and consultants who are parties to these agreements breaches or violates the terms of any of these agreements, we may not have adequate remedies for any such breach or violation. Moreover, if confidential information that is licensed or disclosed to us by our partners, collaborators, or others is inadvertently disclosed or subject to a breach or violation, we may be exposed to liability to the owner of that confidential information. Enforcing a claim that a third-party illegally obtained and is using our proprietary information, like patent litigation, is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States are sometimes less willing to protect proprietary information.

Any trademarks we may obtain may be infringed or successfully challenged, resulting in harm to our business.

We expect to rely on trademarks as one means to distinguish any of our product candidates that are approved for marketing from the products of our competitors. We have not yet selected trademarks for etripamil and have not yet begun the process of applying to register trademarks for etripamil or any other product candidate. Once we select trademarks and apply to register them, our trademark applications may not be approved. Third parties may oppose our trademark applications or otherwise challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our products, which could result in loss of brand recognition and could require us to devote resources to advertising and marketing new brands. Our competitors may infringe our trademarks, and we may not have adequate resources to enforce our trademarks.

In addition, any proprietary name we propose to use with etripamil or any future product candidate in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of the potential for confusion with other product names. If the FDA objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable proprietary product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

If we are unable to protect the confidentiality of our proprietary information, our business and competitive position would be harmed.

In addition to seeking patent and trademark protection for etripamil and any future product candidate, we also rely on unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect our proprietary information, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information. Monitoring unauthorized uses and disclosures of our intellectual property is difficult, and we do not know whether the steps we have taken to protect our intellectual property will be effective. In addition, we may not be able to obtain adequate remedies for any such breaches. Enforcing a claim that a party illegally disclosed or misappropriated proprietary information is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets.

Moreover, our competitors may independently develop knowledge, methods and know-how equivalent to our proprietary information. Competitors could purchase our products and replicate some or all of the competitive advantages we derive from our development efforts for technologies on which we do not have patent protection. If any of our proprietary information were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our proprietary information were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

We also seek to preserve the integrity and confidentiality of our data and other confidential information by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached and detecting the disclosure or misappropriation of confidential information and enforcing a claim that a party illegally disclosed or misappropriated confidential information is difficult, expensive and time-consuming, and the outcome is unpredictable. Further, we may not be able to obtain adequate remedies for any breach. In addition, our confidential information may otherwise become known or be independently discovered by competitors, in which case we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us.

Risks Related to Our Business Operations, Employee Matters and Managing Growth

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on our President and Chief Executive Officer, Joseph Oliveto, our founder and Chief Scientific Officer, Philippe Douville, our Chief Medical Officer, Francis Plat and our Chief Commercial Officer, Lorenz Muller. Each of them may currently terminate their employment with us at any time and will continue to be able to do so after the closing of this offering. The loss of the services of any of these persons could impede the achievement of our research, development and commercialization objectives. We do not currently maintain "key person" life insurance on the lives of our executives or any of our employees other than on our President and Chief Executive Officer, Joseph Oliveto.

Recruiting and retaining qualified scientific and clinical personnel and, if we progress the development of any of our product candidates, commercialization, manufacturing and sales and marketing personnel, will be critical to our success. The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize our product candidates. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our research and development and commercialization strategy. Our consultants and advisors may have commitments under consulting or advisory contracts with other entities that may limit their availability to us. If we are unable to continue to attract and retain high-quality personnel, our ability to pursue our growth strategy will be limited.

We expect to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.

As of December 31, 2018, we had full-time employees. As the clinical development of etripamil progresses and as we expand our pipeline, we expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of research, drug development, regulatory affairs and, if etripamil or any future product candidates receives marketing approval, sales, marketing and distribution. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Our internal computer systems, or those of our collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a significant disruption of our product development programs and our ability to operate our business effectively.

Our internal computer systems and those of our current and any future collaborators and other contractors or consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Cyber attacks are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. Cyber attacks could include the deployment of harmful malware, ransomware, denial-of-service attacks, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information. Cyber attacks also could include phishing attempts or e-mail fraud to cause payments or information to be transmitted to an unintended recipient.

While we have not experienced any significant system failure, accident or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information or other similar disruptions. For example, the loss of clinical trial data from completed or future clinical trials by us or our CROs could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Additionally, any such event that leads to unauthorized access, use or disclosure of personal information, including personal information regarding

our patients or employees, could harm our reputation, cause us not to comply with federal and/or state breach notification laws and foreign law equivalents and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information. Security breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above. While we have implemented security measures to protect our information technology systems and infrastructure, such measures may not prevent service interruptions or security breaches that could adversely affect our business and to the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position could be harmed and the further development and commercialization of our product candidates could be delayed.

If we fail to comply with European data protection laws, including the new European Union General Data Protection Regulation 2016/679, or GDPR, when appropriate, and any other existing or future data protection regulations, our business, financial condition, results of operations and prospects may be materially adversely affected.

We anticipate seeking regulatory approval for, and commercialize, etripamil for the treatment of PSVT in Europe. We may also elect to do so for future product candidates. We may be required to conduct clinical trial activities in Europe, which could subject us to European data protection laws, including GDPR. The GDPR, which came into effect on May 25, 2018, establishes new requirements applicable to the processing of personal data (i.e., data which identifies an individual or from which an individual is identifiable), affords new data protection rights to individuals (e.g., the right to erasure of personal data) and imposes penalties for serious breaches of up to 4% annual worldwide turnover or €20 million, whichever is greater. Individuals (e.g., study subjects) also have a right to compensation for financial or non-financial losses (e.g., distress). There may be circumstances under which a failure to comply with GDPR, or the exercise of individual rights under the GDPR, would limit our ability to utilize clinical trial data collected on certain subjects. The GDPR will likely impose additional responsibility and liability in relation to our processing of personal data. This may be onerous and materially adversely affect our business, financial condition, results of operations and prospects.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, consultants and commercial partners. Misconduct by these parties could include intentional failures to comply with FDA regulations or the regulations applicable in other jurisdictions, provide accurate information to the FDA and other regulatory authorities, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct also could involve the improper use of information obtained in the course of clinical trials or interactions with the FDA or other regulatory authorities, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from government investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could result in significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participating in government funded healthcare programs, such

as Medicare and Medicaid, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm and the curtailment or restructuring of our operations, any of which could have a negative impact on our business, financial condition, results of operations and prospects.

If we engage in future acquisitions or strategic collaborations, this may increase our capital requirements, dilute our shareholders, cause us to incur debt or assume contingent liabilities and subject us to other risks.

From time to time, we may evaluate various acquisitions and strategic collaborations, including licensing or acquiring complementary drugs, intellectual property rights, technologies or businesses, as deemed appropriate to carry out our business plan. Any potential acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness or contingent liabilities;
- assimilation of operations, intellectual property and drugs of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing drug programs and initiatives in pursuing such a strategic partnership, merger or acquisition;
- retention of key employees, the loss of key personnel, and uncertainties in our ability to maintain key business relationships;
- risks and uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing drugs or product candidates and regulatory approvals; and
- our inability to generate revenue from acquired technology and/or drugs sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

In addition, if we engage in future acquisitions or strategic partnerships, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition opportunities, and this inability could impair our ability to grow or obtain access to technology or drugs that may be important to the development of our business.

Risks Related to This Offering and Ownership of Our Common Shares

No public market for our common shares currently exists, and a public market may not develop or be liquid enough for you to sell your shares quickly or at market price.

Prior to this offering, there has not been a public market for our common shares. If an active trading market for our common shares does not develop following this offering, you may not be able to sell your shares quickly or at the market price. An inactive market may also impair our ability to raise capital to continue to fund operations by selling our common shares and may impair our ability to acquire other companies or technologies by using our common shares as consideration. The initial public offering price of our common shares will be determined by negotiations between us and representatives of the underwriters and may not be indicative of the market prices of our common shares that will prevail in the trading market.

The market price of our common shares may be volatile and fluctuate substantially, which could result in substantial losses for purchasers of our common shares in this offering.

The market price of our common shares is likely to be volatile. The stock market in general and the market for biopharmaceutical and pharmaceutical companies in particular, has experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, you may not be able to sell your common shares at or above the initial public offering price. In addition to the factors discussed in this "Risk Factors" section and elsewhere in this prospectus, the market price for our common shares may be influenced by the following:

- the commencement, enrollment or results of our planned or future clinical trials of etripamil and any future product candidates or those of our competitors;
- the success of competitive drugs or therapies;
- regulatory or legal developments in the United States and other countries;
- the success of competitive products or technologies;
- developments or disputes concerning patent applications, issued patents or other proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to etripamil and any future product candidates or clinical development programs;
- the results of our efforts to discover, develop, acquire or in-license additional product candidates;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- our inability to obtain or delays in obtaining adequate drug supply for any approved drug or inability to do so at acceptable prices;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- significant lawsuits, including patent or shareholder litigation;
- variations in our financial results or those of companies that are perceived to be similar to us;
- changes in the structure of healthcare payment systems, including coverage and adequate reimbursement for any approved drug;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, political, and market conditions and overall fluctuations in the financial markets in the United States and abroad; and
- investors' general perception of us and our business.

These and other market and industry factors may cause the market price and demand for our common shares to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from selling their shares at or above the price paid for the shares and may otherwise negatively affect the liquidity of our common shares. In addition, the stock market in general, and biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies.

Some companies that have experienced volatility in the trading price of their shares have been the subject of securities class action litigation. Any lawsuit to which we are a party, with or without merit, may result in an unfavorable judgment. We also may decide to settle lawsuits on unfavorable terms. Any such negative outcome could result in payments of substantial damages or fines, damage to our reputation or adverse changes to our business practices. Defending against litigation is costly and time-consuming, and could divert our management's attention and our resources. Furthermore, during the course of litigation, there could be negative public announcements of the results of hearings, motions or other interim proceedings or developments, which could have a negative effect on the market price of our common shares.

Concentration of ownership of our common shares among our existing executive officers, directors and principal shareholders may prevent new investors from influencing significant corporate decisions.

Based upon our common shares outstanding as of December 31, 2018, upon the completion of this offering, our executive officers, directors and shareholders who owned more than 5% of our outstanding common shares before this offering will, in the aggregate, beneficially own shares representing approximately % of our outstanding common shares (assuming the number of shares offered by us as set forth on the cover page of this prospectus remains the same). If our executive officers, directors and shareholders who owned more than 5% of our outstanding common shares acted together, they may be able to significantly influence all matters requiring shareholder approval, including the election and removal of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. The concentration of voting power and transfer restrictions could delay or prevent an acquisition of our company on terms that other shareholders may desire or result in the management of our company in ways with which other shareholders disagree.

If research analysts do not publish research or reports, or publish unfavorable research or reports, about us, our business or our market, our share price and trading volume could decline.

The trading market for our common shares will be influenced by the research and reports that industry or financial analysts publish about us or our business. We do not currently have, and may never obtain, research coverage by industry or financial analysts. Equity research analysts may elect not to provide research coverage of our common shares after the completion of this offering, and such lack of research coverage may adversely affect the market price of our common shares. In the event we do have equity research analyst coverage, we will not have any control over the analysts or the content and opinions included in their reports. The price of our shares could decline if one or more equity research analysts downgrade our shares or issue other unfavorable commentary or research about us. If one or more equity research analysts ceases coverage of us or fails to publish reports on us regularly, demand for our shares could decrease, which in turn could cause the trading price or trading volume of our common shares to decline.

If you purchase our common shares in this offering, you will suffer immediate dilution of your investment.

The initial public offering price of our common shares will be substantially higher than the net tangible book value per common share. Therefore, if you purchase our common shares in this offering, you will pay a price per share that substantially exceeds our net tangible book value per share after this offering. Based on an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, you will experience immediate dilution of $ per share, representing the difference between our pro forma as adjusted net tangible book value per share after this offering and the initial public offering price per share. After this offering, we will also have outstanding options to purchase common shares with exercise prices lower than the initial public offering price. To the extent these outstanding options are exercised, there will be further dilution to investors in this offering. See the section titled "Dilution" for additional information.

Because we do not anticipate paying any cash dividends on our share capital in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

You should not rely on an investment in our common shares to provide dividend income. We have never declared or paid cash dividends on our share capital. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. In addition, the terms of any future debt agreements or preferred equity may preclude us from paying dividends. As a result, capital appreciation, if any, of our common shares will be your sole source of gain for the foreseeable future. Investors seeking cash dividends should not purchase our common shares in this offering.

We have broad discretion in the use of our cash, cash equivalents and short-term investments, including the net proceeds from this offering, and may use them ineffectively, in ways in which you do not agree or in ways that do not increase the value of your investment.

Our management will have broad discretion in the application of our cash, cash equivalents and short-term investments, including the net proceeds from this offering, and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common shares. The failure by our management to apply these funds effectively could result in financial losses that could have a negative impact on our business, cause the price of our common shares to decline and delay the development of our product candidates. Pending their use, we may invest our cash, cash equivalents and short-term investments, including the net proceeds from this offering, in a manner that does not produce income or that loses value. See the section titled "Use of Proceeds" for additional information.

A significant portion of our total outstanding shares are restricted from immediate resale but may be sold into the market in the near future, which could cause the market price of our common shares to drop significantly, even if our business is performing well.

Sales of a substantial number of our common shares in the public market could occur at any time, subject to certain restrictions described below. These sales, or the perception in the market that holders of a large number of shares intend to sell shares, could reduce the market price of our common shares. After this offering, we will have outstanding common shares based on the number of shares outstanding as of December 31, 2018 assuming no exercise by the underwriters of their option to purchase additional common shares. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. The remaining shares are currently restricted as a result of securities laws or lock-up agreements but will be able to be sold after the offering as described in the sections titled "Shares Eligible for Future Sale" and "Underwriting." Moreover, upon the completion of this offering, holders of an aggregate of approximately common shares will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other shareholders. We intend to register all common shares that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates and the lock-up agreements described in the section titled "Underwriting."

If we are a passive foreign investment company following this offering, there could be adverse U.S. federal income tax consequences to U.S. Holders.

Based on our analysis of our income, assets, activities and market capitalization, we believe that we may be classified as a passive foreign investment company, or PFIC, for the taxable year ending December 31, 2018. No assurances regarding our PFIC status can be provided for any past, current or future taxable years. The determination of whether we are a PFIC is a fact-intensive determination made on an annual basis and the applicable law is subject to varying interpretation. In particular, the characterization of our assets as active or passive may depend in part on our current and intended future business plans, which are subject to change. In addition, for our current and future taxable years, the total value of our assets for PFIC testing purposes may be determined in part by reference to the market price of our common shares from time to time, which may fluctuate considerably. Under the income test, our status as a PFIC depends on the composition of our income which will depend on the transactions we enter into in the future and our corporate structure. The composition of our income and assets is also affected by how, and how quickly, we spend the cash we raise in any offering, including this offering.

If we are a PFIC, U.S. Holders of our common shares will be subject to adverse U.S. federal income tax consequences, such as ineligibility for any preferential tax rates for individuals on capital gains or on actual or deemed dividends, interest charges on certain taxes treated as deferred, and additional reporting

requirements under U.S. federal income tax laws and regulations. For further discussion of the PFIC rules and the adverse U.S. federal income tax consequences in the event we are classified as a PFIC, see the section titled "Material Income Tax Considerations — Material U.S. Federal Income Considerations for U.S. Holders" in this prospectus.

If a United States person is treated as owning at least 10% of our common shares, such holder may be subject to adverse U.S. federal income tax consequences.

If a U.S. Holder (as defined below under "Material Income Tax Considerations — Material U.S. Federal Income Tax Considerations for U.S. Holders") is treated as owning (directly, indirectly or constructively) at least 10% of the value or voting power of our common shares, such U.S. Holder may be treated as a "United States shareholder" with respect to each "controlled foreign corporation" in our group (if any). Because our group includes at least one U.S. subsidiary (Milestone Pharmaceuticals USA Inc.), if we were to form or acquire any non-U.S. subsidiaries in the future, they may be treated as controlled foreign corporations. A United States shareholder of a controlled foreign corporation may be required to annually report and include in its U.S. taxable income its pro rata share of "Subpart F income," "global intangible low-taxed income" and investments in U.S. property by that controlled foreign corporation, regardless of whether that controlled foreign corporation, or we, make any distributions. An individual that is a United States shareholder with respect to a controlled foreign corporation generally would not be allowed certain tax deductions or foreign tax credits that would be allowed to a United States shareholder that is a U.S. corporation. We cannot provide any assurances that we will assist investors in determining whether any non-U.S. subsidiaries that we may form or acquire in the future will be treated as controlled foreign corporations or whether any such investor would be treated as a United States shareholder with respect to any of such controlled foreign corporations. Further, we cannot provide any assurances that we will furnish to any investor information that may be necessary to comply with the reporting and tax paying obligations discussed above. Failure to comply with these reporting obligations may subject a U.S. Holder to significant monetary penalties and may extend the statute of limitations with respect to its U.S. federal income tax return for the year for which reporting was due. U.S. Holders should consult their tax advisors regarding the potential application of these rules to their investment in our common shares.

Future changes to tax laws could materially adversely affect our company and reduce net returns to our shareholders.

Our tax treatment is subject to the enactment of, or changes in, tax laws, regulations and treaties, or the interpretation thereof, tax policy initiatives and reforms under consideration and the practices of tax authorities in jurisdictions in which we operate, including those related to the Organisation for Economic Co-Operation and Development's, or OECD, Base Erosion and Profit Shifting, or BEPS, Project, the European Commission's state aid investigations and other initiatives. Such changes may include (but are not limited to) the taxation of operating income, investment income, dividends received or (in the specific context of withholding tax) dividends paid. We are unable to predict what tax reform may be proposed or enacted in the future or what effect such changes would have on our business, but such changes, to the extent they are brought into tax legislation, regulations, policies or practices, could affect our financial position and overall or effective tax rates in the future in countries where we have operations, reduce post-tax returns to our shareholders, and increase the complexity, burden and cost of tax compliance.

In addition, on December 22, 2017, the Tax Act was signed into law, which significantly revised the Internal Revenue Code of 1986, as amended. The overall impact of the Tax Act is uncertain and our business and financial condition could be adversely affected by it or as a result of interpretations thereof. In addition, it is uncertain if and to what extent various states will conform to the Tax Act. The impact of this tax reform on holders of our common shares is also uncertain and could be adverse. We urge you to consult with your legal and tax advisors with respect to this legislation and the potential tax consequences of investing in or holding our common shares.

Tax authorities may disagree with our positions and conclusions regarding certain tax positions, resulting in unanticipated costs, taxes or non-realization of expected benefits.

A tax authority may disagree with tax positions that we have taken, which could result in increased tax liabilities. For example, the Canadian Revenue Agency, the U.S. Internal Revenue Service or another tax authority could challenge our allocation of income by tax jurisdiction and the amounts paid between our affiliated companies pursuant to our intercompany arrangements and transfer pricing policies, including amounts paid with respect to our intellectual property development. Similarly, a tax authority could assert that we are subject to tax in a jurisdiction where we believe we have not established a taxable connection, often referred to as a "permanent establishment" under international tax treaties, and such an assertion, if successful, could increase our expected tax liability in one or more jurisdictions. A tax authority may take the position that material income tax liabilities, interest and penalties are payable by us, in which case, we expect that we might contest such assessment. Contesting such an assessment may be lengthy and costly and if we were unsuccessful in disputing the assessment, the result could increase our anticipated effective tax rate.

We are an "emerging growth company," and the reduced disclosure requirements applicable to emerging growth companies may make our common shares less attractive to investors.

We are an "emerging growth company," or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we intend to take advantage of some of the exemptions from reporting requirements that are applicable to other public companies that are not emerging growth companies, including:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- not being required to hold a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We cannot predict whether investors will find our common shares less attractive because we will rely on these exemptions. If some investors find our common shares less attractive as a result, there may be a less active trading market for our common shares and our share price may be more volatile. We may take advantage of some or all of these reporting exemptions until we are no longer an EGC. We will remain an EGC until the earlier of (i) five years following the completion of this offering, (ii) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (iii) the last day of the first fiscal year in which we are deemed to be a large accelerated filer, which means the market value of our common shares that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (iv) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

Under Section 107(b) of the JOBS Act, EGCs can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not EGCs.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

As a public company, and particularly after we are no longer an EGC, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, and rules subsequently implemented by the SEC and The Nasdaq Stock Market LLC have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect that these rules and regulations may make it more difficult and more expensive for us to obtain director and officer liability insurance.

Pursuant to Section 404 of the Sarbanes-Oxley Act, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an EGC, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that neither we nor our independent registered public accounting firm will be able to conclude within the prescribed timeframe that our internal control over financial reporting is effective as required by Section 404. This could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

Because we are a Canadian company, it may be difficult to serve legal process or enforce judgments against us.

We are incorporated and have our corporate headquarters in Canada. In addition, while many of our directors and officers reside in the United States, several of them reside outside of the United States. Accordingly, service of process upon us may be difficult to obtain within the United States. Furthermore, because substantially all of our assets are located outside the United States, any judgment obtained in the United States against us, including one predicated on the civil liability provisions of the U.S. federal securities laws, may not be collectible within the United States. Therefore, it may not be possible to enforce those actions against us.

In addition, it may be difficult to assert U.S. securities law claims in original actions instituted in Canada. Canadian courts may refuse to hear a claim based on an alleged violation of U.S. securities laws against us or these persons on the grounds that Canada is not the most appropriate forum in which to bring such a claim. Even if a Canadian court agrees to hear a claim, it may determine that Canadian law and not U.S. law is applicable to the claim. If U.S. law is found to be applicable, the content of applicable U.S. law must be proved as a fact, which can be a time-consuming and costly process. Certain matters of procedure will also be governed by Canadian law. Furthermore, it may not be possible to subject foreign persons or entities to the jurisdiction of the courts in Canada. Similarly, to the extent that our assets are located in Canada, investors may have difficulty collecting from us any judgments obtained in the U.S. courts and predicated on the civil liability provisions of U.S. securities provisions.

We are governed by the corporate laws of Québec, which in some cases have a different effect on shareholders than the corporate laws of Delaware.

We are governed by the Business Corporations Act (Québec), or the BCA, and other relevant laws, which may affect the rights of shareholders differently than those of a company governed by the laws of a U.S. jurisdiction, and may, together with our charter documents, have the effect of delaying, deferring or discouraging another party from acquiring control of us by means of a tender offer, a proxy contest or otherwise, or may affect the price an acquiring party would be willing to offer in such an instance. The material differences between the BCA and Delaware General Corporation Law, or the DGCL, that may have the greatest such effect include but are not limited to the following: (i) for material corporate transactions (such as mergers and amalgamations, other extraordinary corporate transactions or amendments to our articles), the BCA generally requires a two-thirds majority vote by shareholders, whereas the DGCL generally only requires a majority vote; and (ii) under the BCA, a holder of 5% or more of our common shares can requisition a special meeting of shareholders, whereas such right does not exist under the DGCL. Refer to the section titled "Material Differences between the Business Corporations Act (Québec) and the Delaware General in Corporation Law" for more information.

Our amended and restated bylaws to be in effect following completion of this offering and certain Canadian legislation contain provisions that may have the effect of delaying or preventing certain change in control transactions or shareholder proposals.

Certain provisions of our amended and restated bylaws to be in effect following completion of this offering and certain Canadian legislation, together or separately, could discourage or delay certain change in control transactions or shareholder proposals.

Our amended and restated bylaws to be in effect following completion of this offering contain provisions that establish certain advance notice procedures for nomination of candidates for election as directors at shareholders' meetings. The BCA requires that any shareholder proposal that includes nominations for the election of directors must be signed by one or more holders of shares representing in the aggregate not less than 5% of the shares or 5% of the shares of a class or series of shares of the corporation entitled to vote at the meeting to which the proposal is to be presented.

The *Investment Canada Act* requires that a non-Canadian must file an application for review with the Minister responsible for the *Investment Canada Act* and obtain approval of the Minister prior to acquiring control of a "Canadian business" within the meaning of the *Investment Canada Act*, where prescribed financial thresholds are exceeded. Furthermore, limitations on the ability to acquire and hold our common shares may be imposed by the *Competition Act* (Canada). This legislation permits the Commissioner of Competition, or Commissioner, to review any acquisition or establishment, directly or indirectly, including through the acquisition of shares, of control over or of a significant interest in our company. Otherwise, there are no limitations either under the laws of Canada or Québec, or in our articles on the rights of non-Canadians to hold or vote our common shares.

Any of these provisions may discourage a potential acquirer from proposing or completing a transaction that may have otherwise presented a premium to our shareholders.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our strategy, future financial condition, future operations, projected costs, prospects, plans, objectives of management and expected market growth, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "contemplate," "continue," "could," "design," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "predict," "positioned," "potential," "seek," "should," "target," "will," "would" and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology.

We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of known and unknown risks, uncertainties and assumptions, including risks described in the section titled "Risk Factors" and elsewhere in this prospectus, regarding, among other things:

- the initiation, timing, progress and results of our current and future clinical trials of etripamil, including our Phase 3 clinical trials of etripamil for the treatment of PSVT, and of our research and development programs;
- our plans to develop and commercialize etripamil and any future product candidates;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our ability to successfully acquire or in-license additional product candidates on reasonable terms;
- our ability to establish collaborations or obtain additional funding;
- our ability to obtain regulatory approval of our current and future product candidates;
- our expectations regarding the potential market size and the rate and degree of market acceptance of etripamil and any future product candidates;
- our ability to fund our working capital requirements and expectations regarding the sufficiency of our capital resources;
- the implementation of our business model and strategic plans for our business, etripamil and any future product candidates;
- our intellectual property position and the duration of our patent rights;
- developments or disputes concerning our intellectual property or other proprietary rights;
- our expectations regarding government and third-party payor coverage and reimbursement;
- our ability to compete in the markets we serve;
- the impact of government laws and regulations;
- our expected use of proceeds from this offering;
- developments relating to our competitors and our industry; and
- the factors that may impact our financial results.

The foregoing list of risks is not exhaustive. Other sections of this prospectus may include additional factors that could harm our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

In light of the significant uncertainties in these forward-looking statements, you should not rely upon forward-looking statements as predictions of future events. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur at all. You should refer to the section titled "Risk Factors" for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. The Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933, as amended, do not protect any forward-looking statements that we make in connection with this offering.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

MARKET AND INDUSTRY DATA

Certain market and industry data included in this prospectus were obtained from independent third-party surveys, market research, publicly available information, reports of governmental agencies and industry publications and surveys. All of the market and industry data used in this prospectus involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Although we are responsible for all of the disclosure contained in this prospectus and we believe the information from the industry publications and other third-party sources included in this prospectus is reliable, such information is inherently imprecise. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled "Risk Factors." These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties and by us.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering will be approximately $ (or approximately $ million if the underwriters exercise in full their option to purchase up to additional common shares), based on an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease the net proceeds to us from this offering by $ million, assuming that the number of common shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million in the number of common shares offered by us, as set forth on the cover of this prospectus, would increase or decrease the net proceeds to us by $ million, assuming the assumed initial public offering price per share remains the same and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to increase our capitalization and financial flexibility, establish a public market for our common shares and to facilitate future access to the public equity markets by us, our employees and our shareholders, obtain additional capital to support our operations and increase our visibility in the marketplace.

As of December 31, 2018, we had cash, cash equivalents and short-term investments of $ million. We currently intend to use the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, as follows:

- approximately $ million for our Phase 3 clinical trials of etripamil in PSVT;
- approximately $ million for pre-commercialization activities; and
- the remainder to fund other research and development activities, working capital and other general corporate purposes.

We may also use a portion of the remaining net proceeds to in-license, acquire or invest in complementary businesses, technologies, products or assets. However, we have no current commitments or obligations to do so.

This expected use of the net proceeds from this offering represents our intentions based on our current plans and business conditions, which could change in the future as our plans and business conditions evolve. Further, due to the uncertainties inherent in the drug development process, it is difficult to estimate with certainty the exact amounts of the net proceeds from this offering that may be used for the above purposes.

Our management will have broad discretion over the use of the net proceeds from this offering, and our investors will be relying on the judgment of our management regarding the application of the net proceeds of this offering. The amounts and timing of our expenditures will depend upon numerous factors including the results of our research and development efforts, the timing and success of preclinical studies and any ongoing clinical trials or clinical trials we may commence in the future, the timing of regulatory submissions and the amount of cash obtained through current and any future collaborations.

The expected net proceeds from this offering, together with our cash, cash equivalents and short-term investments, will not be sufficient for us to fund etripamil and any of our future product candidates through regulatory approval and commercialization, and we will need to raise additional capital to complete the development and commercialization of etripamil and any of our future product candidates. We expect to finance our cash needs through a combination of equity offerings, debt financings and potential collaborations, and license and development agreements. We have based these estimates on assumptions

that may prove to be incorrect, and we could expend our available capital resources at a rate greater than we currently expect.

Pending the use of the net proceeds from this offering as described above, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the U.S. and Canadian governments.

DIVIDEND POLICY

We have never declared or paid cash dividends on our share capital, and we do not currently intend to pay any cash dividends on our share capital in the foreseeable future. We currently intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business. Any future determination related to dividend policy will be made at the discretion of our board of directors, subject to applicable laws, and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. In addition, our ability to pay cash dividends on our share capital in the future may be limited by the terms of any future debt or preferred securities we issue or any credit facilities we enter into.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and short-term investments, and our capitalization as of December 31, 2018 on:

- an actual basis;
- a pro forma basis, giving effect to the automatic conversion of all outstanding preferred shares into an aggregate of common shares upon the completion of this offering; and
- a pro forma as adjusted basis, giving effect to the pro forma adjustments discussed above, and giving further effect to: (i) the sale of common shares in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us; and (ii) the filing and effectiveness of our amended and restated articles of incorporation.

You should read this table together with the sections titled "Selected Consolidated Financial Data," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus.

	AS OF DECEMBER 31, 2018		
(In thousands, except share and per share amounts)	**ACTUAL**	**PRO FORMA**	**PRO FORMA AS ADJUSTED[1]**
Cash, cash equivalents and short-term investments	$	$	$
Preferred shares, no par value, unlimited shares authorized; 93,358,257 shares issued and outstanding, actual; unlimited shares authorized, no shares issued or outstanding, pro forma; no shares authorized, issued or outstanding, pro forma as adjusted	$	$ —	$ —
Shareholders' (deficit) equity:			
Preferred shares, no par value, no shares authorized, issued and outstanding, actual and pro forma; shares authorized and no shares issued and outstanding, pro forma as adjusted	—	—	—
Common shares, no par value, unlimited shares authorized, shares issued and outstanding, actual; unlimited shares authorized, shares issued and outstanding, pro forma; unlimited authorized, shares issued and outstanding, pro forma as adjusted			
Additional paid-in capital			
Accumulated other comprehensive loss			
Accumulated deficit			
Total shareholders' (deficit) equity			
Total capitalization	$	$	$

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total shareholders' (deficit) equity and total capitalization by $ million, assuming that the number of common shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each increase or decrease of 1.0 million in the number of common shares offered by us would

increase or decrease each of pro forma as adjusted cash and cash equivalents, additional paid-in capital, total shareholders' (deficit) equity and total capitalization by $ million, assuming that the assumed initial public offering price remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The number of common shares outstanding after this offering is based on common shares outstanding as of December 31, 2018, and excludes:

- common shares issuable upon the exercise of outstanding options as of December 31, 2018, at a weighted-average exercise price of $ per share;
- common shares reserved for future issuance under our 2019 Plan, which will become effective immediately prior to the execution of the underwriting agreement related to this offering, as well as any future increases in the number of common shares reserved for issuance under our 2019 Plan; and
- common shares reserved for future issuance under our ESPP, which will become effective immediately prior to the execution of the underwriting agreement related to this offering, as well as any future increases in the number of common shares reserved for issuance under our ESPP.

DILUTION

If you invest in our common shares in this offering, your ownership interest will be diluted to the extent of the difference between the initial public offering price per common share and the pro forma as adjusted net tangible book value per common share after this offering.

Our historical net tangible book deficit as of December 31, 2018 was $ million, or $ per common share. Our historical net tangible book deficit represents our total tangible assets (which excludes deferred offering costs) less total liabilities and preferred shares. Historical net tangible book deficit per share is our historical net tangible book deficit divided by the number of common shares outstanding as of December 31, 2018.

Our pro forma net tangible book value as of December 31, 2018 was $ million, or $ per common share, which gives effect to the automatic conversion of all outstanding preferred shares into an aggregate of 93,358,257 common shares immediately prior to the completion of this offering. Pro forma net tangible book value per share is our pro forma net tangible book value divided by the number of common shares deemed to be outstanding as of December 31, 2018.

After giving effect to the sale of common shares in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2018 would have been $ million, or $ per share. This represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing shareholders and an immediate dilution of $ per share to new investors participating in this offering.

The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share		$
Historical net tangible book deficit per share as of December 31, 2018	$	
Pro forma increase in net tangible book value per share as of December 31, 2018 attributable to pro forma transactions described above		
Pro forma net tangible book value per share as of December 31, 2018		
Increase in pro forma net tangible book value per share attributable to new investors participating in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors participating in this offering		$

Each $1.00 increase or decrease in the assumed initial public offering price of $, the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease our pro forma as adjusted net tangible book value per share after this offering by $ per share and the dilution per share to new investors participating in this offering by $ per share, assuming that the number of common shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, an increase of 1.0 million in the number of common shares offered by us would increase the pro forma as adjusted net tangible book value after this offering by $ per share and decrease the dilution per share to new investors participating in this offering by $ per share, and a decrease of 1.0 million in the number of common shares offered by us would decrease the pro forma as adjusted net

tangible book value by $ per share, and increase the dilution per share to new investors in this offering by $ per share, assuming that the assumed initial public offering price remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise in full their option to purchase up to additional common shares, the pro forma as adjusted net tangible book value per share after giving effect to this offering would be $ per share and dilution to new investors participating in this offering would be $ per share.

The following table summarizes, on the pro forma as adjusted basis described above, the differences between the number of shares purchased from us on an as converted basis, the total consideration paid and the weighted average price per share paid by existing shareholders and by investors purchasing shares in this offering at the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page on this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us:

	SHARES PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE PER SHARE
	NUMBER	PERCENT	AMOUNT	PERCENT	
Existing shareholders		%	$	%	$
New investors					
Total		100%	$	100%	

If the underwriters exercise their option to purchase additional shares in full, our existing shareholders would own % and our new investors would own % of the total number of our common shares outstanding upon the completion of this offering.

The foregoing discussion and tables are based on common shares outstanding as of December 31, 2018, which gives effect to the pro forma transactions described above and excludes:

- common shares issuable upon the exercise of outstanding options as of December 31, 2018, at a weighted-average exercise price of $ per share;
- common shares reserved for future issuance under our 2019 Plan, which became effective immediately prior to the execution of the underwriting agreement related to this offering, as well as any future increases in the number of common shares reserved for issuance under our 2019 Plan; and
- common shares reserved for future issuance under our ESPP, which will become effective immediately prior to the execution of the underwriting agreement related to this offering, as well as any future increases in the number of common shares reserved for issuance under our ESPP.

To the extent that outstanding options are exercised, new options or other equity awards are issued under our equity incentive plans, or we issue additional shares in the future, there will be further dilution to investors purchasing shares in this offering. Assuming the exercise of all of our outstanding options as of December 31, 2018, the number of shares held by existing shareholders would increase to % of the total number of shares to be outstanding after this offering, and the number of shares held by investors participating in this offering would be reduced to % of the total number of shares to be outstanding after this offering. Additionally, the total consideration paid to us by existing shareholders would be $ million, or %, of the total consideration paid for our outstanding shares, and the total consideration

paid to us by investors participating in this offering would be % of the total consideration paid for our outstanding shares. The weighted average price per share paid to us by existing shareholders would be $ and the weighted average price per share paid to us by investors participating in this offering would not change. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

SELECTED CONSOLIDATED FINANCIAL DATA

You should read the following selected consolidated financial data together with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included elsewhere in this prospectus. The selected consolidated financial data included in this section are not intended to replace the consolidated financial statements and are qualified in their entirety by the consolidated financial statements and the related notes included elsewhere in this prospectus.

The following tables set forth our selected consolidated statement of operations data for the years ended December 31, 2017 and 2018, and our selected consolidated balance sheet data as of December 31, 2017 and 2018, all of which has been derived from our audited consolidated financial statements appearing elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future.

(In thousands, except share and per share amounts)	YEAR ENDED DECEMBER 31, 2017	2018
Summary of Consolidated Operations Data:		
Operating expenses:		
Research and development, net of tax credits	$ 5,636	$
General and administrative	2,632	
Total operating expenses	8,268	
Loss from operations	(8,268)	
Interest income, net of bank charges	186	
Net loss and comprehensive loss before income taxes	(8,082)	
Income tax expense	4	
Net loss and comprehensive loss	$ (8,086)	$
Net loss per share:[1]		
Basic and diluted	$ (6.42)	$
Weighted average shares used in computing net loss per share:[1]		
Basic and diluted	1,259,346	
Pro forma net loss per share (unaudited):[1]		
Basic and diluted		$
Weighted average shares outstanding used in computing pro forma net loss per share (unaudited):[1]		
Basic and diluted		

(1) See Note 2 to our audited consolidated financial statements included elsewhere in this prospectus for an explanation of the calculations of our basic and diluted net loss per share, pro forma net loss per share and the weighted-average number of shares used in the computation of the per share amounts.

(In thousands)	AS OF DECEMBER 31, 2017	2018
Consolidated Balance Sheet Data:		
Cash, cash equivalents and short-term investments	$ 26,957	$
Working capital	24,950	
Total assets	27,590	
Convertible preferred shares	59,104	
Accumulated deficit	(35,086)	
Total shareholders' deficit	(33,120)	

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

You should read the following discussion and analysis of our financial condition and results of operations together with "Selected Consolidated Financial Data" and our consolidated financial statements and related notes included elsewhere in this prospectus. This discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those discussed in "Risk Factors" and in other parts of this prospectus.

Overview

We are a Phase 3 clinical-stage biopharmaceutical company dedicated to developing and commercializing etripamil for the treatment of cardiovascular indications. Etripamil is a novel, potent and short-acting calcium channel blocker that we designed and are developing as a rapid-onset nasal spray to be administered by the patient to terminate episodes of paroxysmal supraventricular tachycardia, or PSVT, as they occur. PSVT is a rapid heart rate condition that starts and stops without warning, often experienced by patients with symptoms including palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, lightheadedness or dizziness, fainting and anxiety. Calcium channel blockers have long been approved for the treatment of PSVT as well as other cardiac conditions. For episodes of PSVT, however, calcium channel blockers are administered intravenously under medical supervision, usually in the emergency department. Etripamil's combination of convenient delivery, rapid-onset and short duration of action has the potential to shift the current treatment paradigm away from the burdensome and costly emergency department setting. If approved, we believe that etripamil will be the first self-administered therapy for the rapid termination of episodes of PSVT wherever and whenever they occur.

We completed our Phase 2 clinical trial of etripamil for the treatment of PSVT in the United States and Canada, with results published in the Journal of the American College of Cardiology. Investigators reported a highly statistically significant 87% termination rate of induced PSVT within 15 minutes at the dose selected for Phase 3 versus a 35% termination rate for placebo. We are actively recruiting patients for our Phase 3 clinical trial of etripamil, which may serve as a single pivotal efficacy trial, and we expect top-line data in the second half of 2019. We are also planning to initiate a Phase 2 clinical trial in the first half of 2020 in atrial fibrillation, another rapid heart rate condition, and expect to subsequently initiate an additional Phase 2 clinical trial in angina to establish proof-of-concept for the broader use of etripamil.

Since the commencement of our operations in 2003, we have devoted substantially all of our resources to performing research and development activities in support of our product development efforts, hiring personnel, raising capital to support and expand such activities and providing general and administrative support for these operations. We do not currently have any products approved for sale, and we continue to incur significant research and development and general administrative expenses related to our operations.

Since inception, we have incurred significant operating losses. Our net loss for the year ended December 31, 2017 was $8.1 million. As of December 31, 2017, we had an accumulated deficit of $35.1 million. We expect to continue to incur significant losses for the foreseeable future. We anticipate that a substantial portion of our capital resources and efforts in the foreseeable future will be focused on discovering, completing the necessary development, obtaining regulatory approval and preparing for potential commercialization of our product candidates.

We expect to continue to incur significant expenses and increasing operating losses for at least the next several years. Our net losses may fluctuate significantly from period to period, depending on the timing of

our planned clinical trials and expenditures on other research and development activities. We expect our expenses will increase substantially over time as we:

- continue our ongoing and planned development of etripamil, including our Phase 3 clinical trial of etripamil for the treatment of PSVT;
- seek marketing approvals for etripamil for the treatment of PSVT and other cardiovascular indications and any future product candidates that successfully complete clinical trials;
- establish a sales, marketing, manufacturing and distribution capability to commercialize etripamil or any future product candidate for which we may obtain marketing approval;
- build a portfolio of product candidates through development, or the acquisition or in-license of drugs, product candidates or technologies;
- initiate preclinical studies and clinical trials for etripamil for any additional indications we may pursue, including the Phase 2 clinical trials for the treatment of atrial fibrillation and angina, and for any additional product candidates that we may pursue in the future;
- maintain, protect and expand our intellectual property portfolio;
- hire additional clinical, regulatory and scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts; and
- incur additional legal, accounting and other expenses associated with operating as a public company.

Furthermore, following the closing of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company.

Components of Results of Operations

Research and Development Expenses

Research and development expenses consist primarily of salaries and fees paid to external service providers and also include personnel costs, including share-based compensation expense and other related compensation expenses. We expense research and development costs in the periods in which they are incurred. Costs for certain development activities are recognized based on an evaluation of the progress to completion of specific tasks using information and data provided to us by our vendors, collaborators and third-party service providers.

To date, substantially all of our research and development expenses have been related to the preclinical and clinical development of etripamil. The following table shows our research and development expenses by type of activity for the year ended December 31, 2017:

(in thousands)	Year Ended December 31, 2017
Clinical and pre-clinical	$ 3,414
Drug manufacturing and formulation	1,745
Regulatory and other costs	1,000
Less: investment tax credits	(523)
Total research and development expenses	$ 5,636

We expect our research and development expenses to increase substantially as we increase personnel costs, including share-based compensation, and as we continue the development of etripamil and pursue

regulatory approval. The process of conducting the necessary clinical research to obtain regulatory approval is costly and time-consuming. As a result of the uncertainties discussed above, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of our product candidates, if at all.

We recognize the benefit of Canadian research and development tax credits as a reduction of research and development costs for fully refundable investment tax credits.

General and Administrative Expenses

General and administrative expenses include personnel and related compensation costs, expenses for outside professional services, rent expense and other general administrative expenses. Personnel costs consist of salaries, bonuses, benefits, related payroll taxes and share-based compensation. Outside professional services consist of legal, accounting and audit services and other consulting fees.

We expect to incur additional expenses as a public company, including expenses related to compliance with the rules and regulations of the Securities and Exchange Commission, and those of any national securities exchange on which our securities are traded, additional insurance expenses, investor relations activities, and other administrative and professional services. We also expect to increase our administrative headcount significantly to operate as public company and as we advance etripamil and any future product candidates through clinical development, which will also increase our general and administrative expenses.

Interest Income

Interest income primarily consists of interest income from our cash equivalents and short-term investments.

Results of Operations

For the Year Ended December 31, 2017

The following table summarizes our results of operations:

(dollars in thousands)	Year ended December 31, 2017
Operating expenses	
Research and development, net of tax credits	$ 5,636
General and administrative	2,632
Total operating expenses	8,268
Loss from operations	(8,268)
Interest income, net of bank charges	186
Loss and comprehensive loss before income taxes	(8,082)
Income tax expense	(4)
Net loss and comprehensive loss	$ (8,086)

Research and Development Expenses

Research and development expenses were $5.6 million for the year ended December 31, 2017, which primarily reflects clinical trial costs associated with the Phase 2 clinical trial of etripamil for the treatment of PSVT as well as costs for product formulation and packaging activities. Additionally, we recognized $0.5 million of research and development investment tax credits provided by the federal and provincial governments of Canada and Québec in the year ended December 31, 2017, which is recorded as a reduction in our research and development expenses.

General and Administrative Expenses

General and administrative expenses were $2.6 million for the year ended December 31, 2017, which consists of expenses for administrative activities to support the business activities of the company.

Interest Income, Net

Interest income, net of bank charges, was $0.2 million for the year ended December 31, 2017, which reflects earnings on cash, cash equivalents and short-term investments.

Net Loss

For the foregoing reasons, we had a net loss of $8.1 million for the year ended December 31, 2017.

Liquidity and Capital Resources

Sources of Liquidity

We have financed our operations primarily through sales of our convertible preferred shares to accredited investors generating net proceeds of approximately $139.2 million.

We have incurred operating losses and experienced negative operating cash flows since our inception and anticipate that we will continue to incur losses for at least the next several years. As of December 31, 2017, we had cash, cash equivalents and short-term investments of $27.0 million and an accumulated deficit of $35.1 million.

Based on our research and development plans, we expect that the net proceeds from this offering, together with our existing cash, cash equivalents and short-term investments, will be sufficient to fund our operations through . We have based this estimate on assumptions that may prove to be wrong, however, and we could use our capital resources sooner than we expect.

Funding Requirements

We use our cash primarily to fund operating expenses, primarily research and development expenditures. We plan to increase our research and development expenses and incur increasing operating losses for the foreseeable future as we continue the clinical development of our product candidate. At this time, due to the inherently unpredictable nature of clinical development, we cannot reasonably estimate the costs we will incur and the timelines that will be required to complete development, obtain marketing approval, and commercialize etripamil or any future product candidates, if at all. For the same reasons, we are also unable to predict when, if ever, we will generate revenue from product sales or whether, or when, if ever, we may achieve profitability. Clinical and preclinical development timelines, the probability of success, and development costs can differ materially from expectations. In addition, we cannot forecast whether current or future product candidates may be subject to future collaborations, when such arrangements will be secured, if at all, and to what degree such arrangements would affect our development plans and capital requirements.

The timing and amount of our operating expenditures will depend largely on:

- the timing, progress and results of our ongoing and planned clinical trials of etripamil in PSVT and in other cardiovascular indications;
- the scope, progress, results and costs of preclinical development, laboratory testing and clinical trials of etripamil for additional indications or any future product candidates that we may pursue;
- our ability to establish collaborations on favorable terms, if at all;
- the costs, timing and outcome of regulatory review of etripamil and any future product candidates;
- the costs and timing of future commercialization activities, including product manufacturing, marketing, sales and distribution, for etripamil and any future product candidates for which we receive marketing approval;
- the revenue, if any, received from commercial sales of etripamil and any future product candidates for which we receive marketing approval;

- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims;
- the extent to which we acquire or in-license other product candidates and technologies; and
- the costs of operating as a public company;

Until such time, if ever, as we can generate substantial revenue from product sales, we expect to fund our operations and capital funding needs through equity and/or debt financing. We may also consider entering into collaboration arrangements or selectively partnering for clinical development and commercialization. The sale of additional equity would result in additional dilution to our shareholders. The incurrence of debt financing would result in debt service obligations and the instruments governing such debt could provide for operating and financing covenants that restrict our operations or our ability to incur additional indebtedness or pay dividends, among other items. If we are not able to secure adequate additional funding, we may be forced to make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, and/or suspend or curtail planned programs. Any of these actions could materially and adversely affect our business, financial condition, results of operations and prospects.

Cash Flows

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

(in thousands)	Year ended December 31, 2017
Net cash (used in) provided by :	
Operating activities	$ (8,009)
Investing activities	(16,067)
Financing activities	30,723
Net increase in cash and cash equivalents during the year	$ 6,647

Operating Activities

In 2017, we used $8.0 million of cash in operating activities, which consisted of a net loss of $8.1 million and a net change of $0.1 million in our net operating assets, partially offset adjusted by non-cash charges of $0.2 million. The non-cash charges primarily consist of share-based compensation expense for grants to employees. The change in our net operating assets and liabilities was primarily due to a net decrease of $0.2 million for accounts payable and accrued liabilities, an increase of $0.1 million for prepaid expenses and a net decrease of $0.2 million for research and development tax credits and sales tax receivable.

Investing Activities

We used $16.1 million of cash in investing activities during the year ended December 31, 2017, attributable to the acquisition of short-term investments that consisted of guaranteed investment certificates with maturities greater than 90 days and less than 12 months.

Financing Activities

In 2017, our financing activities provided $30.7 million of cash, primarily consisting of proceeds from the issuance of Class C preferred shares, and to a lesser extent, the issuance of Class B preferred shares.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements.

Contractual Obligations

The following table summarizes our contractual obligations as of December 31, 2017:

	Payments due by period				
	Total	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years
Operating lease commitments[1]	$ 569,112	$ 195,124	$ 373,988	$ —	$ —
Total	$ 569,112	$ 195,124	$ 373,988	$ —	$ —

(1) The operating lease consists primarily of costs related to the company's corporate headquarters location in Montréal, Québec, Canada.

We enter into contracts in the normal course of business with CROs, CMOs and other third parties for clinical trials, preclinical research studies and testing and manufacturing services. These contracts are generally cancelable at our option with various notice requirements as defined in the contract. Payments due upon cancellation consist of payments for services provided or expenses incurred, including noncancelable obligations of our service providers, up to and through the date of cancellation. These payments are not included in the preceding table as the amount and timing of these payments are not known.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. The preparation of these financial statements requires our management to make judgments and estimates that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these judgments and estimates under different assumptions or conditions and any such differences may be material. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

Research & Development Expenses — Accruals and Tax Credits

As part of the process of preparing our consolidated financial statements, we are required to estimate accrued research and development expenses. This process involves reviewing open contracts and purchase orders, communicating with applicable vendor personnel to identify services that have been performed on our behalf and estimating the percentage of work completed of the total work over the life of the individual study in accordance with the relevant agreement with the CRO or clinical trial site. We make estimates of our accrued research and development expenses as of each balance sheet date in our consolidated financial statements based on facts and circumstances known to us. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary. Adjustments to prior period estimates have not been material.

We recognize the benefit of our Canadian research and development tax credits only when there is reasonable assurance that the claim will be recovered. This requires the exercise of significant judgment by

management. Adjustments made in prior periods upon review by the relevant regulatory authority has not resulted in adjustments that were material to the results of operations.

Share-Based Compensation

We recognize compensation costs related to share options granted to employees and directors based on the estimated fair value of the awards on the date of grant. We estimate the grant date fair value, and the resulting share-based compensation expense, using the Black-Scholes option-pricing model. This Black-Scholes option pricing model uses various inputs to measure fair value, including estimated fair value of our underlying common shares at the grant date, expected term, estimated volatility, risk-free interest rate and expected dividend yields of our common shares. The grant date fair value of the share-based awards is recognized on a straight-line basis over the requisite service periods, which are generally the vesting period of the respective awards. Forfeitures are accounted for as they occur.

For share-based awards granted to consultants and non-employees, we recognize compensation costs over the period during which services are rendered by such consultants and non-employees until completed. At the end of each financial reporting period prior to completion of the service, the estimated fair value of these awards is re-measured using the then-current fair value of our ordinary shares and updated assumption inputs in the Black-Scholes option-pricing model.

As there has been no public market for our common shares to date, the estimated fair value of our common shares has been determined by our board of directors as of the date of each option grant, with input from management, considering third-party valuations of our common shares as well as our board of directors' assessment of additional objective and subjective factors that it believed were relevant and which may have changed from the date of the most recent third-party valuation through the date of the grant. These third-party valuations were performed in accordance with the guidance outlined in the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. The assumptions underlying these valuations represent management's best estimates, which involve inherent uncertainties and the application of management judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our share-based compensation expense could be materially different. After the completion of this offering, we will determine the per share fair value of our common shares based on the closing price of our common shares as reported by The Nasdaq Stock Market on the date of grant.

The following table summarizes, by grant date, the number of underlying common shares and the associated per-share exercise price, which was the fair value per share as determined by our board of directors on the applicable grant date, for share options granted during the year ended December 31, 2017:

Grant Date	Number of Common Shares Subject to Options Granted	Exercise Price per Common Share	Estimated Fair Value per Common Share at Grant Date	Estimated Per-Share Fair Value of Options
January 3, 2017	97,783	$ 0.21	$ 0.21	$ 0.144
December 12, 2017	1,385,001	0.29	0.29	0.20

The intrinsic value of all outstanding options as of December 31, 2018 was $ million, based on the estimated fair value of our common shares of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, of which approximately $ million related to vested options and approximately $ million related to unvested options.

Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily relate to interest rate risks. We had cash and cash equivalents of $27.0 million as of December 31, 2017, which consist primarily of bank deposits and guaranteed investment certificates. The primary objective of our investment activities is to preserve principal and liquidity while maximizing income without significantly increasing risk. We do not enter into investments for trading or speculative purposes. Due to the short-term nature of our investment portfolio, we do not believe an immediate 10% increase in interest rates would have a material effect on the fair market value of our portfolio, and accordingly we do not expect our operating results or cash flows to be materially affected by a sudden change in market interest rates.

We undertake certain transactions in Canadian dollars and as such are subject to risk due to fluctuations in exchange rates. Canadian dollar denominated payables are paid at the converted rate as due. We do not use derivative instruments to hedge exposure to foreign exchange rate risk due to the low volume of transactions denominated in foreign currencies. At December 31, 2017, our net monetary assets denominated in Canadian dollars was $0.6 million (C$0.9 million).

Our operating results and financial position are reported in U.S. dollars in our financial statements. The fluctuation of the Canadian dollar in relation to the U.S. dollar will consequently have an impact upon our loss and may also affect the value of our assets and the amount of shareholders' equity.

We do not believe that inflation and changing prices had a significant impact on our results of operations for any periods presented herein.

Recent Accounting Pronouncements

Refer to Note 2, "Summary of Significant Accounting Policies," in the accompanying notes to our consolidated financial statements appearing elsewhere in this prospectus for a discussion of recent accounting pronouncements.

Emerging Growth Company Status

The Jumpstart Our Business Startups Act of 2012 permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have irrevocably elected to "opt out" of this provision and, as a result, we will comply with new or revised accounting standards when they are required to be adopted by public companies that are not emerging growth companies.

BUSINESS

Overview

We are a Phase 3 clinical-stage biopharmaceutical company dedicated to developing and commercializing etripamil for the treatment of cardiovascular indications. Etripamil is a novel, potent and short-acting calcium channel blocker that we designed and are developing as a rapid-onset nasal spray to be administered by the patient to terminate episodes of paroxysmal supraventricular tachycardia, or PSVT, as they occur. PSVT is a rapid heart rate condition that starts and stops without warning, often experienced by patients with symptoms including palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, lightheadedness or dizziness, fainting or anxiety. Calcium channel blockers have long been approved for the treatment of PSVT as well as other cardiac conditions. For episodes of PSVT, however, calcium channel blockers are administered intravenously under medical supervision, usually in the emergency department. Etripamil's combination of convenient delivery, rapid-onset and short duration of action has the potential to shift the current treatment paradigm away from the burdensome and costly emergency department setting. If approved, we believe that etripamil will be the first self-administered therapy for the rapid termination of episodes of PSVT wherever and whenever they occur.

We completed our Phase 2 clinical trial of etripamil for the treatment of PSVT in the United States and Canada, with results published in the Journal of the American College of Cardiology. Investigators reported a highly statistically significant 87% termination rate of PSVT within 15 minutes at the dose selected for Phase 3 versus a 35% termination rate for placebo. We are actively recruiting patients for our Phase 3 clinical trial of etripamil, which may serve as a single pivotal efficacy trial, and we expect top-line data in the first half of 2020. We are also planning to initiate a Phase 2 clinical trial in the second half of 2019 in atrial fibrillation, another rapid heart rate condition, and expect to subsequently initiate an additional Phase 2 clinical trial in angina to establish proof-of-concept for the broader use of etripamil in 2020.

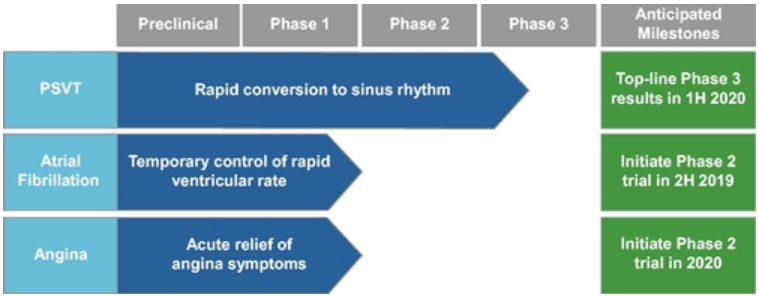
We believe that PSVT is a large and under-recognized market that we estimate affects more than 1.7 million Americans, and results in over 600,000 healthcare claims in the United States per year, including emergency department visits, hospital admissions and ablations. We believe that, if approved, etripamil could prevent many of these healthcare encounters, saving the patient time and inconvenience, and potentially providing a cost-effective solution for the healthcare system. It is generally believed that patients are born with the anomaly that causes PSVT, and will have life-long episodes periodically and unpredictably. Patients experiencing an episode of PSVT are usually highly symptomatic, with a rapid heart rate, often over 200 beats per minute, causing palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, lightheadedness or dizziness, fainting and anxiety.

We currently have exclusive development and commercialization rights for etripamil for all indications that we may pursue. The composition-of-matter claims for etripamil as a new chemical entity give us a strong intellectual property position with patents issued in the United Stated through 2028, and with patent term extensions possible to 2031. In addition, we have an issued U.S. patent that extends the exclusivity period for the commercial formulation of etripamil to 2036.

We are led by a team of executives with extensive experience in successfully developing and commercializing therapies in cardiovascular and other indications at both major pharmaceutical and emerging life sciences companies. These therapies include Vytorin (ezetimibe & simvastatin), Ranexa (ranolazine), Effient (prasugrel), Northera (droxidopa), and Cologuard as well as several cardiac drugs in the classes of angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, and novel oral anticoagulants. We have raised approximately $139.2 million in gross proceeds from equity financings with a number of United States, Canadian and European healthcare specialist investment firms, including BDC Capital, Inc., Boxer Capital of Tavistock Group, Domain Associates, LLC, Fonds de solidarité FTQ, Forbion Capital Partners, iNovia Capital, Novo Holdings A/S, Pappas Ventures, RTW Investments, LP, Tekla Capital Management LLC and Venrock Healthcare Capital Partners.

Our Pipeline

The following table sets forth the status and initial focus of etripamil.



Our Strategy

Our goal is to develop and commercialize etripamil for the treatment of PSVT and other cardiovascular indications, and to expand our pipeline to include additional clinical-stage compounds for other acute and/or episodic medical conditions. The key elements of our business strategy to achieve this goal include the following:

- ***Successfully complete development and obtain regulatory approval of etripamil for the treatment of PSVT.*** We are focused on efficiently developing and obtaining approval for etripamil to treat patients with PSVT. We are actively recruiting patients for the Phase 3 clinical trial of etripamil, which may serve as a single pivotal efficacy trial in the United States. We expect top-line data in the first half of 2020. We intend to first seek regulatory approval in the United States, followed by Europe and other major markets.

- ***Expand the scope of cardiovascular indications for etripamil beyond PSVT.*** We are exploring the use of etripamil for the treatment of patients with atrial fibrillation, another condition associated with a fast heart rate. We believe that etripamil could benefit patients with atrial fibrillation based on the approved use of intravenous, or IV, calcium channel blockers in these indications. We are also exploring the use of etripamil for the treatment of angina, which is chest pain typically associated with an imbalance between the supply of oxygen to and the demand for oxygen by the heart. Calcium channel blockers have already been approved for chronic management of angina. We believe there is an opportunity to treat angina with etripamil. We plan to test etripamil in Phase 2 proof-of-concept clinical trials with patients with atrial fibrillation and angina.

- ***Maximize the value of our programs by maintaining flexibility to commercialize our product candidates independently or through collaborative partnerships.*** We currently have exclusive development and commercialization rights for etripamil for our initial indications of PSVT, atrial fibrillation and angina. We plan to establish commercialization and marketing capabilities using a direct sales force to commercialize etripamil in the United States. Outside of the United States, we are considering commercialization strategies that may include collaborations with other companies.

- ***Leverage our expertise and experience to expand our pipeline of product candidates.*** We seek to maximize our commercial opportunities by acquiring or in-licensing product candidates for indications with significant unmet need with a focus on clinically validated mechanisms that can yield novel treatments. We believe this approach may provide a more rapid path to regulatory approval, faster adoption by medical professionals, nearer-term commercial value and more immediate clinical benefit for patients with significant need. Our leadership team has extensive experience in developing and commercializing successful drugs. We intend to leverage the collective talent within our organization and our network to guide our development plans and pipeline expansion.

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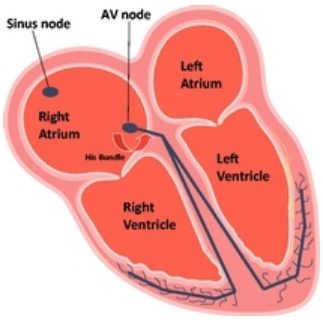
Cardiac Conduction

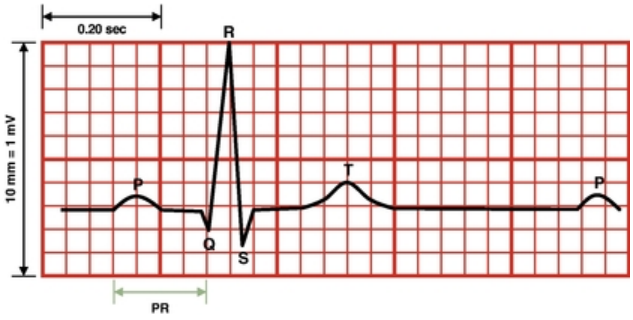
Normal Conduction

Within the right atrium, one of the heart's upper chambers, sits a specialized structure called the sinus node. The sinus node generates its own electrical signal, which spreads throughout both atria and is transmitted down to the lower chambers, the ventricles, and over another piece of electrical tissue called the atrio-ventricular, or AV, node, which is shown in the figure below. Once the signal reaches the ventricles, it causes them to contract, pumping blood out to the body. Another heart beat does not occur until a new signal is generated from the sinus node and the cycle repeats. Under normal conditions, passage from the sinus node over the AV node is the only way for the electrical impulse to travel from the atria down to the ventricles.



The electrical signal of each heart beat can be detected by placing sensors known as electrodes over the skin, and recorded over time in a tracing known as an electrocardiogram, or ECG. The ECG measures signal voltage and duration. To the trained interpreter, an ECG conveys a large amount of information about the structure and function of the heart, including among other things, heart rate and rhythm. Under normal physiologic conditions, an ECG has a characteristic pattern of waves corresponding to the electrical activity, contraction and relaxation of each heart chamber. This normal functioning is referred to as sinus rhythm and occurs at a heart rate of between 60 and 100 beats per minute at regular intervals.

As seen in the figure below, the various waves of an ECG tracing corresponding to the events of a single heart beat are named with the letters P, Q, R, S and T. The interval between the P wave and the R wave, known as the PR interval, is a measure of conduction over the AV node. A normal PR interval is 0.12-0.20 seconds in duration.



Arrhythmias

A disruption in the heart's normal rate or rhythm is called an arrhythmia. With an arrhythmia, the heart can beat too quickly, too slowly or with an irregular pattern. A faster than normal heat rate is called tachycardia; a slower than normal heart rate is called bradycardia. Symptoms of an arrhythmia can include palpitations, lightheadedness or dizziness, chest pain, shortness of breath or sweating. PSVT and atrial fibrillation are two of the most commonly occurring arrhythmias. While PSVT is characterized by a faster than normal heart rate where the heart beats at regular intervals, with atrial fibrillation the heart beats faster than normal and with a random, irregular rhythm. Pharmacologic treatment of PSVT focuses on normalizing heart rate using an agent to slow conduction over the AV node so that normal conduction can occur from the sinus node. With atrial fibrillation, there are two approaches to treatment: rate control to reduce the heart rate and rhythm control to restore the regular intervals between heart beats.

Etripamil

We designed and are developing etripamil, a novel, potent, rapid-onset and short-acting calcium channel blocker, as a nasal spray to be administered by the patient to terminate episodes of transient cardiovascular conditions as they occur. Short pharmacological action is sufficient to resolve an episode of PSVT. Accordingly, long-lasting drugs that remain in the body at significant concentrations long after the episode is resolved subject patients to unnecessary risk, given the potential for prolonged adverse events. Currently, we are in Phase 3 development for PSVT. We are also developing etripamil to provide rapid rate control and associated symptom relief for patients with acute episodes of atrial fibrillation and as an acute therapy for angina.

In our effort to develop potential therapies, we sought to create new chemical entities as analogs of known molecular classes with clinically-validated mechanisms of action. Our goal was to preserve the beneficial pharmacology of existing molecules while altering their pharmacokinetic profile with focused medicinal chemistry to produce drugs that are fast-acting and rapidly inactivated. As a result, we created a series of novel non-dihydropyridine L-type calcium channel blockers containing chemical ester moieties that preserved the desired pharmacology on the heart but that could be rapidly metabolized and inactivated in the blood by serum esterases. Etripamil resulted from this effort as a new chemical entity with a very short effective half-life of less than 25 minutes in humans, compared with other calcium channel blockers, which have longer half-lives of several hours.

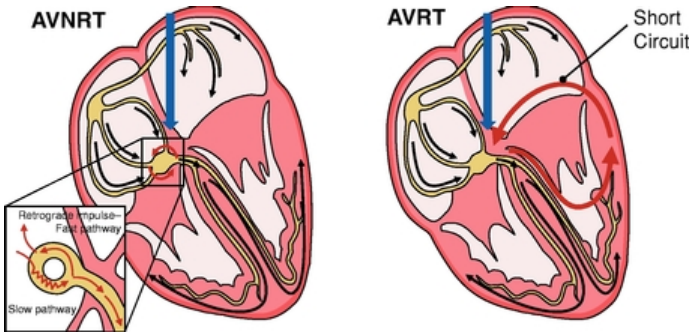
We believe that the following qualities of etripamil make it a better treatment for certain episodic cardiovascular conditions than current standards of care:

- *Short half-life*: As etripamil is a short-acting drug product, any adverse side effects that might occur should be short lived.
- *Fast onset*: Etripamil is designed to be rapidly absorbed into the bloodstream with a clinically meaningful concentration, allowing it to act quickly on the desired target (electrical conduction system or coronary blood vessels).
- *Convenient administration*: We developed etripamil as a convenient nasal spray that can be administered by patients to deliver a single dose of drug via a nasal spray device.

PSVT

PSVT is a serious and recurring electrical disorder of the heart, which is caused by altered electrical conductivity over the AV node. PSVT refers to a rapid heart rate condition of the heart's upper chambers (atria) of abrupt onset and termination. In the most common form of PSVT called AV nodal reentrant tachycardia, or AVNRT, there is an extra piece of electrical tissue that allows the electrical signal to travel very rapidly in a circle. As shown in the figure below, if that extra tissue forms within or near the AV node, the signal can now travel down one part of the AV node and up the other in a small circle, sending impulses

out to both the atria and ventricles along the way. The cycle continues over and over, resulting in a rapid heart rate.



In the next most common form of PSVT, called atrio-ventricular reciprocating tachycardia, or AVRT, there is an extra piece of electrical tissue that directly connects the atria and the ventricles. In AVRT, the electrical signal begins like it would in a normal heart beat by traveling from the atria to the ventricles over the AV node. However, as shown in the figure above, in AVRT, the extra piece of electrical tissue allows the signal to travel back up to the atria, creating a "short circuit." Once the signal gets back to the atria, it goes back down the AV node and the cycle continues over and over, resulting in a rapid heart rate.

Uncertainty of the timing and duration of episodes of PSVT can significantly impact patient quality of life. We estimate that PSVT patients experience a median of four to six episodes of PSVT per year. These episodes can be debilitating for patients, who can be left unable to focus on family or work during an episode. While experiencing an episode of PSVT, patients may experience symptoms including palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, fainting and anxiety. Symptoms commonly reported by patients with PSVT mimic other conditions and are often mistaken for anxiety or panic attacks, especially in women. Researchers have noted that up to 27% of PSVT patients stopped driving for fear of temporary loss of consciousness, fainting or passing out. Patients have reported that the duration of PSVT episodes varies widely from seconds to hours, or more. Our market research indicates that almost 40% of patients experience two or more episodes of PSVT per year that last more than 10 minutes each.

Current Treatment Options for PSVT

Treatment for PSVT depends on the frequency, duration, and severity of the episodes as well as patient preference. Current options for PSVT patients to terminate an episode include vagal maneuvers, IV medication or external shock delivered in the emergency department. Additionally, some practitioners prescribe oral medications, such as calcium channel blockers, beta blockers and anti-arryhthmics to be taken at the onset of an episode. However, these interventions are not acutely effective. Long-term strategies include chronic drug therapy to reduce the frequency of episodes and cardiac ablation to potentially cure the disease. Patients may also elect to not treat their symptoms and simply endure episodes where and when they occur.

Vagal maneuvers can be attempted to terminate an episode, with low to modest success rates. These are physiological maneuvers that stimulate the vagus nerve, which can terminate a PSVT episode and return the heart to a normal rate. These include gagging, massaging the carotid artery, holding one's breath and bearing down, immersing one's face in ice-cold water, or coughing.

Currently approved acute pharmacological therapy for the treatment of an acute episode of PSVT includes IV administration of approved AV nodal-blocking agents in an acute care setting. The current standard of care for treatment of episodes of PSVT is adenosine, but prior to its approval in 1990, episodes of PSVT were treated with IV calcium channel blockers, such as verapamil or diltiazem. When given as a rapid

IV bolus, adenosine blocks conduction over the AV node, thereby interrupting the arrhythmia and restoring the heart back to sinus rhythm. Adenosine temporarily stops the heart and patients have reported experiencing chest tightness, flushing and a sense of impending death. Physicians report that patients tell them that they feel like they are going to die. Adenosine is eliminated from the body in less than one minute, but cannot be self-administered as it requires IV access. In-hospital IV administrations are associated with higher healthcare costs, and are also unsettling and inconvenient for the patient. IV calcium channel blockers also slow conduction over the AV node during the course of several minutes. However, they are associated with the risk of excessive slowing of the heart rate and low blood pressure.

In an attempt to prophylactically control the frequency and duration of future PSVT episodes, many patients will take chronic daily oral medications that modulate AV nodal conduction, such as beta blockers, L-type non-dihydropyridine calcium channel blockers, or anti-arrhythmic drugs. Despite chronic daily oral medication, breakthrough PSVT episodes that require visits to the emergency department may still occur, albeit at a reduced frequency. Chronic medication can lead to side effects such as sexual dysfunction or fatigue in the case of beta blockers and constipation in the case of verapamil. Some patients discontinue chronic oral medication due to intolerable side effects.

The only potentially curative treatment available at the present time for PSVT is ablation, an invasive procedure, which works by directly cauterizing the short circuit that is the cause of the abnormal rhythm. This is achieved in an electrophysiology lab via catheters that are run through the patient's groin vessels and into the heart and uses burning or freezing techniques to destroy the heart's abnormal electrical tissue. Ablation single-procedure success rates for PSVT are reported to be 91% to 96%. However, we estimate that less than 10% of patients with PSVT per year choose this option, which we believe is due primarily to anxiety related to the procedure. Although ablations are generally considered to be safe by the treating community, as with any invasive procedure there are potential complications, which include bleeding, blood clots, pericardial tamponade, and transient or permanent heart block, with the latter requiring permanent pacemaker implantation.

Market Opportunity

We believe that PSVT is a large and under-recognized market that we estimate affects more than 1.7 million Americans and results in over 600,000 healthcare claims in the United States alone per year, including approximately 170,000 emergency department visits and hospital admissions and up to 80,000 ablations. Published sources documenting the epidemiology of PSVT rely on a single medical encounter to estimate incidence and prevalence, which we believe significantly underestimate the prevalence of the disease due to the episodic nature of the disease. Our use of longitudinal claims data has identified a larger prevalence of PSVT in the United States. Based on an analysis of longitudinal Medicare claims data for patients age 65 and older and employer-based medical claims data for patients under age 65 between 2012 and 2016, we project prevalence for all ages to be more than 1.7 million. These results were recently published and presented at the 2018 International Academy of Cardiology's Scientific Sessions.

Current treatment approaches for PSVT consume significant healthcare resources. Our longitudinal analysis has shown that mean annual costs per PSVT patient increase by more than $17,000 after diagnosis to approximately $30,000, with the largest increases coming from outpatient hospital and inpatient spending. In addition, this analysis concluded that rates of emergency department visits and hospitalizations were 1.8 and 3.0 times higher, respectively, following diagnosis.

Our Clinical Development Program for the Treatment of PSVT

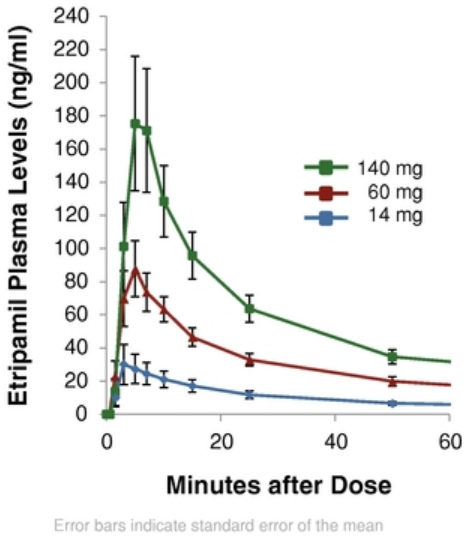
Current treatments do not address the unmet medical need for a rapidly-acting, effective and safe patient-administered treatment that can be taken outside of a hospital or acute care setting at the onset of a PSVT episode to restore the heart back to sinus rhythm. We believe that etripamil fills this need. We completed a Phase 1 clinical trial, which supported the selection of four doses of etripamil for Phase 2 development, and a Phase 2 clinical trial in adult patients to evaluate the effects of four different doses of etripamil in patients with PSVT. Both trials were conducted to assess nasally-administered etripamil compared to placebo. Based on discussions with the FDA, we initiated a single pivotal Phase 3 clinical trial in July 2018 to assess the efficacy of etripamil in the outpatient setting, and expect top-line data in the first half of 2020. We also intend to conduct two open label safety trials. The FDA agreed that our Phase 3 clinical trial and these safety trials could support an NDA filing in the United States.

Phase 1 Clinical Data

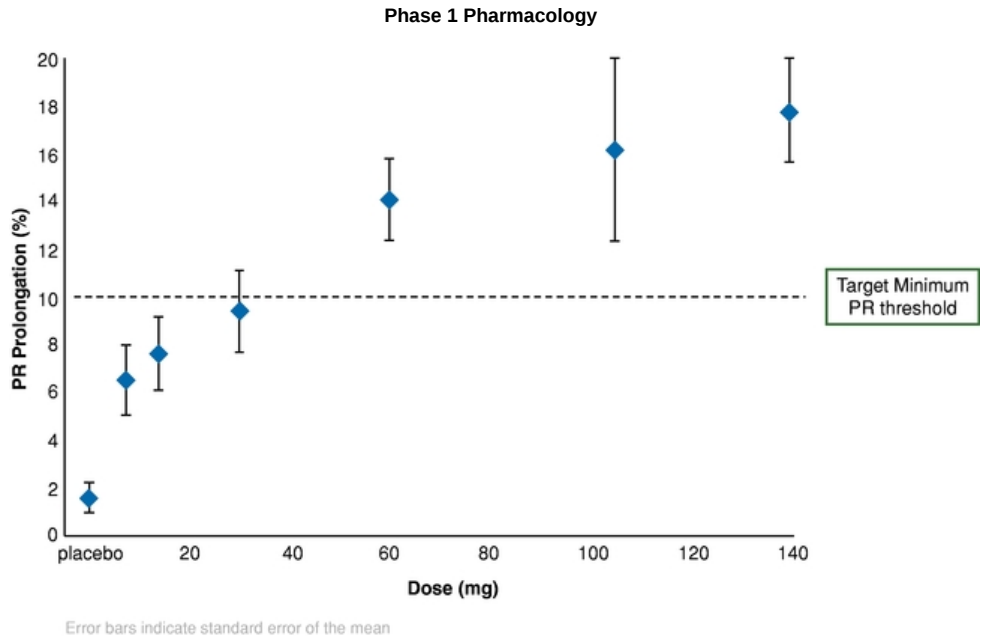
We completed a Phase 1 clinical trial in healthy volunteers, which was designed to assess the safety, pharmacokinetic, or PK, profile and cardiac pharmacology of intra-nasally administered etripamil in a randomized, double-blind, placebo-controlled, single ascending dose trial. The primary objective of this trial was to determine the maximum tolerated dose or maximum feasible dose of two different formulations administered via the nasal route in healthy, adult male subjects. All etripamil doses were generally well tolerated, and there was no difference in the safety profile and PK between two etripamil formulations, referred to as MSP-2017A and MSP-2017B. The study of MSP-2017A was stopped at 60 mg and MSP-2017B was further studied at higher doses (105 mg and 140 mg). The Phase 1 results supported the selection of four doses of etripamil for Phase 2 development.

Following nasal administration of etripamil, PK analyses demonstrated rapid absorption and elimination, a dose-proportional systemic exposure, or area under the curve, and maximum plasma concentration for etripamil and its primary inactive metabolite. These findings were consistent across a range of six doses tested up to 140 mg, i.e., two sprays of 100 µL of solution of 35 mg of etripamil in each nostril. The 140 mg dose was the maximal feasible dose because neither the concentration (350 mg/mL) nor the volume (200 µL) of solution administered in each nostril could be increased. Due to these characteristics of formulation and delivery, a maximum tolerated dose of etripamil was not established. The figure below shows the rapid absorption via the nasal route and the rapid decrease in plasma concentration of etripamil.

Pharmacokinetic Profile of Etripamil Plasma Concentrations in Phase 1



Prolongation of the PR interval as measured by ECGs was taken as the pharmacodynamic measure. A linear relationship was observed between the etripamil dose and prolongation of the PR interval. The 60 mg, 105 mg, and 140 mg doses demonstrated a 10% or greater PR prolongation, which is shown in the figure below. This correlates with the slowing of conduction over the AV node that is necessary to convert a PSVT episode to sinus rhythm. Such slowing of conduction has already been observed clinically with IV AV nodal agents such as adenosine, verapamil and tecadenoson.

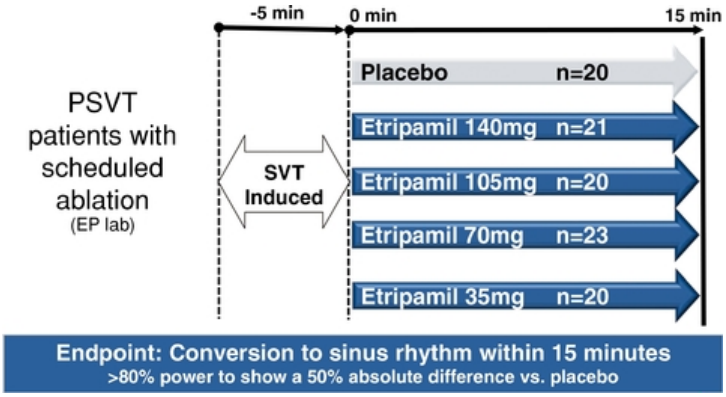


Our Phase 2 Clinical Data

We completed a Phase 2 multi-center, randomized, double-blind, placebo-controlled clinical trial in the United States and Canada to evaluate the effects of four different doses of etripamil in patients with PSVT. In order to demonstrate the ability of etripamil to terminate PSVT in a controlled setting, we conducted the study in the electrophysiology, or EP, laboratory setting, where the PSVT episode could be induced in patients scheduled to undergo an EP study and ablation. The primary objective of this trial was to demonstrate the superiority of at least one dose of etripamil over placebo in terminating PSVT. The secondary objectives were to determine the minimally effective dose of etripamil, to establish a dose-related trend for etripamil, and to evaluate the safety of etripamil in a clinical setting. The trial was statistically powered at more than 80% to show a 50% absolute difference of etripamil versus placebo.

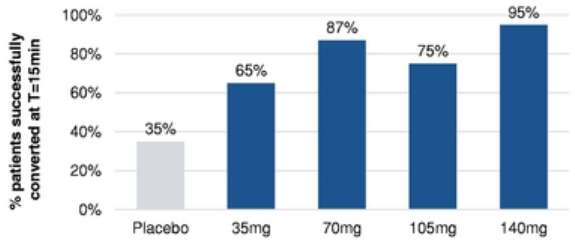
The trial enrolled 199 patients, of which 95 withdrew prior to dosing: 70 due to inability to induce (n=42) or sustain (n=28) PSVT, 5 based on physician discretion, 1 lost to follow up, 1 due to withdrawal of consent, and 18 for other reasons. The mean age of patients was 52.2 years, with the study enrolling patients as young as 19 and as old as 85. As shown in the figure below, PSVT was induced and sustained for ³5 minutes in 104 patients, who were then randomized into one of five dosing cohorts. Four cohorts received active doses of etripamil (35 mg, 70 mg, 105 mg or 140 mg) and one cohort received placebo. There were no imbalances in baseline characteristics across the five treatment groups. The mean heart rate in PSVT at time 0 was 177 bpm in the placebo group and 168 bpm, 173 bpm, 180 bpm and 155 bpm in the etripamil 35 mg, 70 mg, 105 mg and 140 mg groups, respectively.

Phase 2 Clinical Trial Design



The primary endpoint in this clinical trial was the conversion of PSVT to sinus rhythm within 15 minutes after administration of etripamil or placebo. As shown in the figure below, the percentage of patients in whom PSVT converted to sinus rhythm within 15 minutes of study drug administration was 65% with 35 mg etripamil, 87% with 70 mg, 75% with 105 mg and 95% with 140 mg, compared with 35% in the placebo arm. The three highest doses of etripamil showed statistically significant conversion rates compared with placebo.

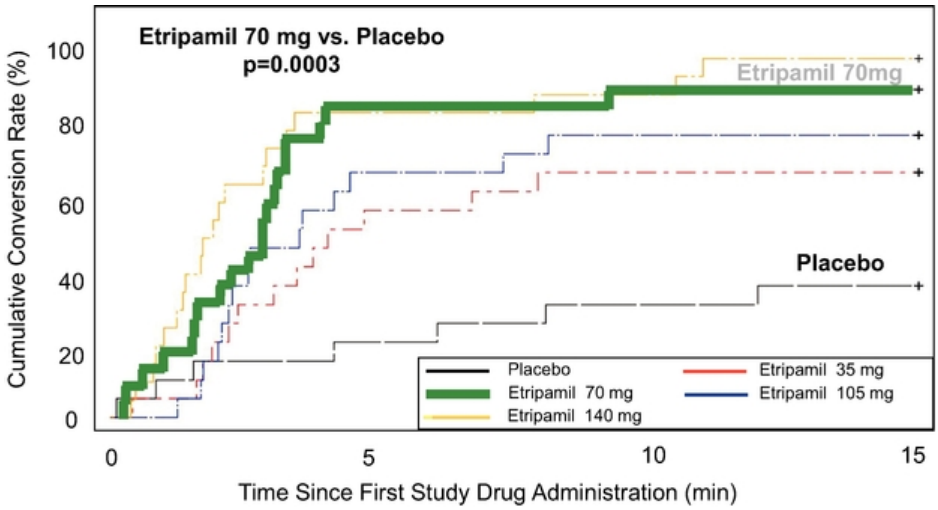
Etripamil Conversion Rates from PSVT to Sinus Rhythm in Phase 2



# patients converted at 15 min	7/20	13/20	20/23	15/20	20/21
p-value		0.1128	0.0006	0.0248	<.0001

In a post-hoc analysis conducted to help inform our Phase 3 trial design, the patients' time to conversion to sinus rhythm was examined. As shown in the following Kaplan-Meier plot of patients successfully converting to sinus rhythm during the 15 minute study window, the three highest etripamil doses of 140 mg, 105 mg and 70 mg showed statistically significant shorter time to conversion compared with placebo. The 70 mg dose showed a rapid onset of action with a median time to conversion of less than three minutes after nasal administration of etripamil.

Etripamil Time to Conversion from PSVT to Sinus Rhythm in Phase 2



		Patients Converting at Each Time Interval			
		0 min	5 min	10 min	15 min
Placebo		20	4	6	7
etripamil	35 mg	20	11	13	14
etripamil	70 mg	23	19	20	21
etripamil	105 mg	20	13	15	16
etripamil	140 mg	21	17	18	20

Overall, etripamil was well tolerated, and the most common adverse events were related to the nasal route of administration, e.g., nasal irritation or nasal congestion, reported by up to 60% and 45% of patients, respectively, after etripamil versus none after placebo administration. The 70 mg dose was reported to have 48% nasal irritation and 26% nasal congestion. However, these were transient. Most adverse events were mild (44.2%) or moderate (24.0%) across all treatment groups. At least one adverse event considered related to the study drug, according to the investigator assessment, was reported in 17 (85.0%) patients in the etripamil 35 mg group, 18 (78.3%) in the 70 mg group, 15 (75.0%) in the 105 mg group, 20 (95.2%) in the 140 mg group and 4 (20.0%) in the placebo group. The incidence of adverse events was not dose dependent. Hypotension, or low blood pressure, was reported as an adverse event in two patients, one in the etripamil 105 mg dose group and one in the 140 mg group.

A total of three patients experienced severe adverse events that were considered possibly related to etripamil. One patient who received an etripamil dose of 35 mg experienced facial flushing, shortness of breath and chest discomfort. A second patient who received an etripamil dose of 105 mg had nausea and

vomiting, as well as a severe and serious cough. The third patient with a severe adverse event had an episode of second degree AV block with hypotension beginning five minutes after conversion to sinus rhythm immediately following administration of an etripamil dose of 140 mg. The AV block resolved after 43 minutes and ablation was subsequently performed. There were no adverse events that led to study discontinuation or death.

Calcium channel blockers have the potential to cause hypotension as a side effect. In our Phase 2 clinical trial, we recorded vital signs, including heart rate and blood pressure, before induction of PSVT and every two minutes for 30 minutes after study drug was given. We observed no meaningful reduction in mean blood pressure in the 35 mg or 70 mg etripamil cohorts, but observed a transient decrease in the mean blood pressure in the two highest cohorts, 105 mg and 140 mg. Due to the induction of PSVT, the mean systolic blood pressure decreased at time 0 compared to the average at 20 and 10 minutes before PSVT induction. As shown in the figure below, compared to baseline and time 0, systolic blood pressure measurements recorded from 2 minutes to 16 minutes post study drug administration showed no decrease in mean systolic blood pressure in the placebo or 35 mg groups, and maximum mean decreases of 2 mmHg four minutes post-dose in the 70 mg group, 17 mmHg six minutes post-dose in the 105 mg group, and 20 mmHg six minutes and eight minutes post-dose in the 140 mg group.

Based on the combination of efficacy and safety data from our Phase 2 trial, we selected the 70 mg dose for our subsequent clinical trials. There was no decrease in mean systolic blood pressure compared to baseline from 16 to 30 minutes post-study drug administration.

Our Ongoing and Planned Clinical Development of PSVT

We had an end-of-Phase 2 meeting with the FDA in September 2017 to review our Phase 2 clinical trial results and to discuss our proposed Phase 3 clinical program. The FDA agreed with our proposal to assess the efficacy of etripamil in PSVT patients in the outpatient setting and suggested that we consider conducting a single pivotal trial to assess the efficacy of etripamil, followed by two open label safety trials. The FDA further confirmed that a large outcome trial would not be required for etripamil and that the total NDA safety database could consist of up to 1,500 patients. Finally, the FDA agreed that our upcoming Phase 3 program, if successful, could support efficacy claims in an NDA filing in the United States. We also had a meeting to obtain Scientific Advice from the European Medicines Agency, or EMA, in April 2018. The EMA agreed that our planned Phase 3 program could support a registration in the European Union but recommended additional safety data in non-induced episodes of PSVT.

Based on our interactions with the regulatory agencies, our planned Phase 3 clinical program includes:

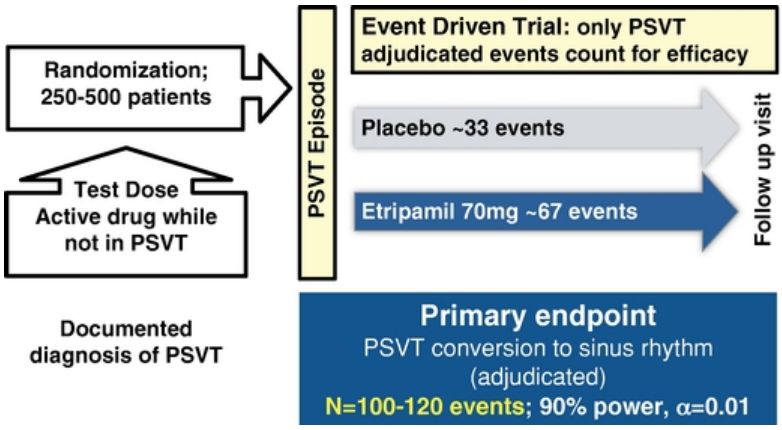
- NODE-301, a pivotal efficacy trial to assess the time to conversion of etripamil compared to placebo in outpatients;
- NODE-302, an open-label extension of NODE-301 to enroll patients who have completed NODE-301 in order to collect safety data on subsequent episodes; and
- NODE-303, an open-label global safety trial to complete the safety assessment of etripamil in outpatients to support an NDA.

Our Phase 3 Clinical Trials

NODE-301. NODE-301 is our ongoing placebo-controlled Phase 3 clinical trial being conducted in the United States and Canada to evaluate etripamil 70 mg versus placebo in terminating a PSVT episode in the outpatient setting. As shown in the figure below, the primary endpoint is the time to conversion over a five-hour monitoring period following the start of the episode. Prior to randomization, eligible patients are administered a test dose of 70 mg etripamil in the investigators' office while in sinus rhythm in order to ensure tolerability. Patients successfully completing the test dose are randomly assigned to the etripamil or placebo cohorts (2:1 randomization) and sent home with the study drug and a small portable cardiac monitor that can be used during the patient's subsequent PSVT episode. Upon experiencing their next PSVT episode, patients are instructed to first apply the cardiac monitoring device to record ECG data, then attempt a vagal maneuver, and if that is not successful in terminating the episode, to then dose the drug.

The ECG data will be reviewed by an adjudication committee to determine the type of arrhythmia during the episode and the time to conversion to sinus rhythm. NODE-301 will enroll up to 500 diagnosed PSVT patients meeting inclusion and exclusion criteria and will be completed when a total of 100 to 120 adjudicated PSVT events are treated.

Phase 3 Clinical Trial Design



In moving from the monitored setting of our Phase 2 trial to the outpatient setting of NODE-301, we conducted several human factor studies to optimize the operational parameters, such as use of the cardiac monitoring device, how to conduct vagal maneuvers and how to correctly use the nasal spray device. We plan to conduct additional human factor studies to evaluate the final commercial instructions for use for etripamil. The results of these studies will be submitted with the NDA for etripamil.

Each patient will stay in the NODE-301 trial until one episode of PSVT is treated with etripamil or placebo. All the patients completing a study closure visit for the NODE-301 trial will have the opportunity to continue in the open-label NODE-302 clinical trial and self-manage subsequent episodes of PSVT with etripamil. Topline results from NODE-301 are expected in the first half of 2020.

NODE-302. NODE-302 is the open-label extension trial of NODE-301. We designed NODE-302 to evaluate the safety of etripamil when self-administered without medical supervision and to monitor the safety and efficacy of etripamil for the treatment of multiple episodes of PSVT.

Patients who have successfully dosed with the study drug in NODE-301 and completed a study closure visit will be eligible to enroll in NODE-302 to manage any subsequent episodes of PSVT. Patients who were randomized in NODE-301, but did not experience any PSVT episode, or had not used the study drug at the time of the NODE-301 trial completion, will also be eligible for NODE-302. Eligibility will also be contingent on satisfying all inclusion and exclusion criteria, including not experiencing a serious adverse event related to the study drug or the study procedure that precludes the self-administration of etripamil.

We initiated NODE-302 in December 2018 and the trial is ongoing. Trial safety results will contribute to the etripamil safety database.

NODE-303. NODE-303 will be an open-label global safety trial consisting of up to 1,500 patients who did not participate in NODE-301 or NODE-302. We designed NODE-303 to evaluate the safety of etripamil when self-administered without medical supervision, and to evaluate the safety and efficacy of etripamil on multiple PSVT episodes. The patients have the opportunity to manage several episodes of PSVT in NODE-303.

We expect to initiate NODE-303 in the second half of 2019.

Etripamil in Other Indications

Our goal in expanding our pipeline is to apply the same treatment paradigm-changing aspiration that we have for PSVT to other cardiac conditions where we believe that a rapid-onset, short-acting calcium channel blocker could potentially deliver significant clinical and quality of life benefits for patients. We believe that the same insights that led to the development of etripamil for the treatment of PSVT are relevant in other indications in which AV-nodal blocking agents have demonstrated clinical utility. Both calcium channel blockers and beta blockers are indicated to manage not only PSVT, but also to provide temporary control of rapid ventricular rate in atrial fibrillation and acute relief of angina symptoms.

Atrial Fibrillation

Overview

Atrial fibrillation is a common form of arrhythmia with an irregular and often rapid heart rate that can increase the risk of stroke, heart failure and other heart-related complications. During atrial fibrillation, the heart's two upper chambers, the atria, beat chaotically and irregularly — out of coordination with the two lower chambers, the ventricles, of the heart. Atrial fibrillation symptoms often include heart palpitations, shortness of breath and weakness. Episodes of atrial fibrillation can come and go, or patients may have atrial fibrillation that does not go away and may require treatment. Although the heart arrhythmia in atrial fibrillation itself usually is not life-threatening, it is a serious medical condition that sometimes requires emergency treatment. Prevalence estimates range from four to six million patients suffering from atrial fibrillation in the United States. Approximately 25% of these patients have paroxysmal atrial fibrillation, another 25% have persistent atrial fibrillation, while 50% have permanent atrial fibrillation.

Acute episodes of symptomatic atrial fibrillation are often treated with IV calcium channel blockers and beta blockers under medical supervision, usually in the emergency department to quickly reduce heart rate before transitioning a patient back to oral therapy.

Our Solution

There are currently two pharmacological approaches to managing atrial fibrillation: rate control to lower a rapid heart rate and rhythm control to restore and maintain the regular rhythm between heart beats. For rate control, the rapid heart rate of atrial fibrillation is often treated with calcium channel blockers or beta blockers to control symptoms and improve cardiac function. Oral rate control drugs do not provide immediate ventricular rate control due to the delayed 30 to 60 minute onset of action by the oral route. Breakthrough episodes of symptomatic atrial fibrillation often require urgent medical treatment with IV calcium channel blockers and beta blockers under medical supervision, usually in the emergency department to quickly reduce heart rate before transitioning a patient back to oral therapy. We believe that etripamil can be used by patients to rapidly reduce their heart rate in the outpatient setting in combination with the oral rate or rhythm control strategy their physician has already prescribed. We believe that the combination of convenient delivery, potency, rapid-onset and short duration of action of etripamil has the potential to move the current treatment setting for some acute symptomatic episodes of atrial fibrillation out of the burdensome and costly emergency department.

Our Clinical Development Plan for Atrial Fibrillation

We are planning a small Phase 2 trial in patients with atrial fibrillation as a proof-of-concept to test the efficacy of one or two doses of etripamil against placebo in reducing heart rate and to test the onset and duration of effect. We expect to initiate this trial in the second half of 2019.

Angina

Overview

Angina is a type of chest pain caused by an imbalance between the supply of oxygen to and the demand for oxygen by the heart. It can feel like pain, pressure or squeezing in the chest, but the discomfort also can occur in the shoulders, arms, neck, jaw, or back. Angina may be due to a number of factors, but is primarily

caused by either occlusion or spasm of the coronary arteries. The coronary arteries sit on the surface of the heart muscle and supply it with oxygen and nutrients with each heart beat. Coronary occlusion is most often caused by the deposition of fatty plaques that narrow the arteries and reduce blood flow, a condition known as coronary artery disease, or CAD, which can lead to a heart attack. Coronary spasm is the sudden and involuntary tightening of the muscles within the coronary arteries, which narrows them and reduces blood flow to the heart. It may be due to high blood pressure, high cholesterol, or certain drugs. The coronary spasm form of angina, also known as variant or Prinzmetal's angina, represents two out of every hundred cases of angina. Angina from CAD is characterized as one of two forms: stable or unstable. Stable angina is the most common form, affecting approximately 3% of the adult population, or almost approximately nine million patients in the United States. It manifests when the heart works harder than usual to pump blood through narrowed coronary arteries and can be triggered by physical exertion or other factors such as emotional stress. Episodes are typically short-lasting, five minutes or less, and disappear soon after exercise is terminated or after using angina medication. Symptoms resolve with rest. Unstable angina is new onset chest pain or angina that gets worse or becomes more frequent, and can be a sign of an impending heart attack.

Our Solution

There are several medical treatments available to treat stable angina caused by CAD, including nitrates, beta blockers and calcium channel blockers. Only nitrates provide immediate relief, but all three classes of drug are indicated for prophylactic use. Nitrates work by dilating or widening coronary blood vessels, allowing more blood to flow to the heart muscle. Short-acting nitrates are used acutely to relieve angina-related chest discomfort, or prophylactically before doing something that normally triggers angina, such as physical exertion. Nitroglycerin is a common form of nitrate that is available primarily in sublingual formulations for rapid symptom relief. It is also available as a cream or patch that can be applied to the skin. In up to 20% of patients, nitroglycerin is not tolerated and additional patients do not respond to the treatment. For example, nitroglycerin can cause severe headaches that necessitate analgesic intervention for pain relief, the painful nature of which can have a marked negative effect on patient compliance. Nitroglycerin also can cause severe hypotension, circulatory collapse, and death if used together with phosphodiesterase type 5 inhibitor drugs that are used for the treatment of erectile dysfunction, such as Viagra (sildenafil), Adcirca and Cialis (tadalafil), and Levitra and Staxyn (vardenafil). In addition to their use in CAD, calcium channel blockers are also prescribed for coronary spasm, however, they do not provide immediate relief. We are not aware of any approved rapid-onset, short acting treatments for coronary spasm.

We believe that etripamil can be used to rapidly reduce angina symptoms in the outpatient setting in both patients with stable angina who cannot tolerate or do not respond to nitrates, and in patients experiencing coronary spasm. We believe that etripamil could provide safe and effective relief from angina pain in these two patient populations.

Our Clinical Development Plan for Angina

We are in the early stages of planning small Phase 2 clinical trials as proof-of-concepts to test the efficacy and safety of etripamil in various forms of angina. We expect to initiate a Phase 2 clinical trial in angina in the second half of 2020.

Sales and Marketing

Given our stage of development, we have not yet established a commercial sales and marketing organization or distribution capabilities. We currently have exclusive global development and commercialization rights for etripamil for all indications that we may pursue and believe that we can maximize the value of etripamil by retaining commercialization rights in the United States and entering into collaboration agreements for certain territories outside the United States. Our current strategy is to market etripamil in the United States for the treatment of PSVT using a targeted direct sales force focused on clinical cardiologists, electrophysiologists, and high-volume primary care physicians who have a history of prescribing anti-arrhythmic therapies.

Manufacturing

We currently rely on third-party contract manufacturing organizations, or CMOs, for all of our required raw materials, nasal spray device, API and finished product for our clinical trials and for our preclinical research. We require all of our CMOs to conduct manufacturing activities in compliance with current good manufacturing practice, or cGMP, requirements. We have assembled a team of experienced employees and consultants to provide the necessary technical, quality and regulatory oversight over our CMOs and have implemented a comprehensive plan for audits of our CMOs. Currently, we have development contracts and quality agreements with our CMOs for the manufacturing of etripamil drug substance and drug product. We currently have enough manufactured supply of etripamil to complete our ongoing NODE-301 and NODE-302 trials. We also may elect to pursue additional CMOs for manufacturing supplies of regulatory starting materials in the future and for the filling of the nasal spray device, labeling, packaging, storage and distribution of investigational drug products. We plan to continue to rely on third-party manufacturers for any future trials and commercialization of etripamil, if approved. We anticipate that these CMOs will have capacity to support commercial scale production, but we do not have any formal agreements at this time with these CMOs to cover commercial production. We believe we can identify and establish additional CMOs to provide API and finished drug product without significant disruption to our business or clinical development timelines. If etripamil is approved by any regulatory agency, we intend to enter into agreements with a third-party contract manufacturer and one or more backup manufacturers for the commercial production of etripamil.

Competition

Drug development is highly competitive and subject to rapid and significant technological advancements. Our ability to compete will significantly depend upon our ability to complete necessary clinical trials and regulatory approval processes, and effectively market any drug that we may successfully develop. Our current and potential future competitors include pharmaceutical and biotechnology companies, academic institutions and government agencies. The primary competitive factors that will affect the commercial success of etripamil or any other product candidate for which we may receive marketing approval include efficacy, safety, tolerability, dosing convenience, price, coverage and reimbursement. Many of our existing or potential competitors have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of product candidates, as well as in obtaining regulatory approvals of those product candidates in the United States and in foreign countries.

Our current and potential future competitors may also have significantly more experience commercializing drugs that have been approved for marketing. Mergers and acquisitions in the pharmaceutical and biotechnology industries could result in even more resources being concentrated among a small number of our competitors.

Accordingly, our competitors may be more successful than us in obtaining regulatory approval for therapies and in achieving widespread market acceptance of their drugs. It is also possible that a competitor may develop a cure or more effective treatment method for the diseases we are targeting, which could render our current or future product candidates non-competitive or obsolete, or reduce the demand for our product candidates before we can recover our development and commercialization expenses.

We are not aware of any approved drug or drug in clinical development for a patient self-administered treatment to terminate PSVT episodes. InCarda Therapeutics, Inc., or InCarda, is developing InRhythm, an inhaled version of flecainide, in preclinical development. To our knowledge, there are no other treatments in development for acute episodic treatment of PSVT. In the acute setting, IV treatments of generic drugs such as adenosine, verapamil and diltiazem, are routinely given. Additionally, some practitioners prescribe oral medications, such as calcium channel blockers, beta blockers and anti-arrhythmics to be taken at the onset of an episode. However, these interventions are not acutely effective.

For atrial fibrillation, there are a number of marketed generic anti-arrhythmic drugs that are used for chronic and/or acute rate control, such as metoprolol, propranolol, esmolol, pindolol, atenolol, nadolol, verapamil and diltiazem. There are also several drugs under development for atrial fibrillation, including: Ranexa (ranolazine), a sodium channel blocker in Phase 2 (ex-U.S.) from Gilead Sciences, Inc., or Gilead; Gencaro (bucindolol hydrochloride), a beta blocker in Phase 2 from ARCA biopharma, Inc..

For acute relief of angina symptoms, approved drugs include short-acting nitrates such as nitroglycerin, isosorbide dinitrate, and pentaerythritol. We are not aware of any approved drug or drug in clinical development for rapid-onset, short-acting treatment for coronary spasm.

Intellectual Property

We have filed numerous patent applications pertaining to etripamil and possible future product candidates, formulations containing etripamil, methods of making such formulations and clinical use. We strive to protect and enhance the proprietary technology, invention and improvements that are commercially important to the development of our business by seeking, maintaining, and defending our intellectual property. We also rely on know-how, continuing technological innovation and potential in-licensing opportunities to develop, strengthen and maintain our position in the field of cardiac arrhythmias, such as PSVT, and immediate rate control in atrial fibrillation, as well as other medical conditions affecting the cardiovascular system. Additionally, we intend to rely on regulatory protection afforded through data exclusivity and market exclusivity, as well as patent term extensions, where available.

As of December 21, 2018, our patent portfolio as it pertains to etripamil included:

- a patent family containing six U.S. patents, projected to expire in 2028, a pending U.S. patent application, which, if granted, is projected to expire in 2028, as well as corresponding patents in Australia, Canada, China, Europe, Hong Kong, India, Japan, Mexico, New Zealand and South Korea, and a corresponding patent application in Brazil, directed to etripamil, pharmaceutical compositions including etripamil, and uses of etripamil such as to treat angina or cardiac arrhythmias, including PSVT and atrial fibrillation; and

- a patent family containing one U.S. patent, projected to expire in 2036, a pending U.S. patent application, which, if granted, is projected to expire in 2036, as well as corresponding patent applications in Australia, Brazil, Canada, China, Europe, Hong Kong, India, Israel, Japan, Mexico, New Zealand, Russia, South Africa, South Korea and Ukraine, directed to formulations including etripamil, methods of making such formulations, and uses of such formulations to treat angina or cardiac arrhythmias, such as PSVT and atrial fibrillation.

The terms of individual patents may vary based on the countries in which they are obtained. Generally, patents issued for applications filed in the United States are effective for 20 years from the earliest effective non-provisional filing date in the absence, for example, of a terminal disclaimer shortening the term of the patent or patent term adjustment increasing the term of the patent. In addition, in certain instances, a patent term can be extended to recapture a portion of the term effectively lost as a results of FDA regulatory review periods. The restoration period cannot be longer than five years and the total term, including the restoration period, must not exceed 14 years following FDA approval. The duration of patents outside the United States varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest non-provisional filing date.

In addition to patents and patent applications that we own, we rely on know-how to develop and maintain our competitive position. We seek to protect our proprietary technology and processes, and obtain and maintain ownership of certain technologies, in part, through confidentiality agreements and invention assignment agreements with our employees, consultants, scientific advisors, contractors and commercial partners.

Our future commercial success depends, in part, on our ability to obtain and maintain patent and other proprietary protection for commercially important technology, inventions and know-how related to our business; defend and enforce our patents; and operate without infringing valid enforceable patents and proprietary rights of third parties. Our ability to stop third parties from making, using, selling, offering to sell or importing our products may depend on the extent to which we have rights under valid and enforceable patents that cover these activities. With respect to our owned intellectual property, we cannot be sure that patents will issue from any of the pending patent applications to which we own or from any patent applications that we may file in the future, nor can we be sure that any patents that may be issued in the future to us will be commercially useful in protecting etripamil or any future product candidates and methods of using or manufacturing the same. Moreover, we may be unable to obtain patent protection for certain aspects of etripamil or future product candidates generally, as well as with respect to certain indications. See the section entitled "Risk Factors — Risks Related to Our Intellectual Property" for a more comprehensive description of risks related to our intellectual property.

Government Regulation and Product Approval

Government authorities in the United States, at the federal, state and local levels, and in other countries, extensively regulate, among other things, the research, development, testing, manufacture, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, import and export of pharmaceutical products, such as those we are developing. The processes for obtaining regulatory approvals in the United States and in foreign countries, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

United States Government Regulation

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable United States requirements at any time during the drug development process, approval process or after approval, may subject an applicant to a variety of administrative or judicial sanctions, such as the FDA's refusal to approve a pending New Drug Application, or NDA, withdrawal of an approval, imposition of a clinical hold, issuance of warning or untitled letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement or civil or criminal penalties.

The process required by the FDA before a drug may be marketed in the United States generally involves:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, at each clinical site before each trial may be initiated;
- performance of adequate and well-controlled clinical trials, in accordance with good clinical practice, or GCP, requirements to establish the safety and efficacy of the proposed drug for each indication;
- submission to the FDA of an NDA;
- satisfactory completion of an FDA advisory committee review, if applicable;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced to assess compliance with cGMP requirements, and to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity;
- satisfactory completion of an FDA inspection of selected clinical sites to assure compliance with GCPs and the integrity of the clinical data;

- payment of user fees; and
- FDA review and approval of the NDA.

Preclinical Studies

Preclinical studies include laboratory evaluation of product chemistry, toxicity and formulation, as well as animal studies to assess potential safety and efficacy. An IND sponsor must submit the results of the nonclinical tests, together with manufacturing information, analytical data and any available clinical data or literature, among other things, to the FDA as part of an IND. Some nonclinical testing may continue even after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the clinical trial on a clinical hold.

In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Trials

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent in writing for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the trial, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated. A protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, an IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must continue to oversee the clinical trial while it is being conducted. Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on their ClinicalTrials.gov website.

Human clinical trials are typically conducted in three sequential phases, which may overlap or be combined. In Phase 1, the drug is initially introduced into healthy human subjects or patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an initial indication of its effectiveness. In Phase 2, the drug typically is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage. In Phase 3, the drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the safety and efficacy of the product for approval, to establish the overall risk-benefit profile of the product and to provide adequate information for the labeling of the product.

Progress reports detailing the results of the clinical trials must be submitted, at least annually, to the FDA, and more frequently if serious adverse events occur. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements, or if the drug has been associated with unexpected serious harm to patients.

Marketing Approval

Assuming successful completion of the required clinical testing, the results of the preclinical and clinical studies, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the product for one or more indications. In most cases, the submission of an NDA is subject to a substantial application user fee. Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has a goal of ten months from the date of "filing" of a standard NDA for a new molecular entity to review and act on the submission. This review typically takes twelve months from the date the NDA is submitted to the FDA because the FDA has approximately two months to make a "filing" decision.

In addition, under the Pediatric Research Equity Act, certain NDAs or supplements to an NDA must contain data that are adequate to assess the safety and effectiveness of the drug for the claimed indications in all relevant pediatric subpopulations, and to support dosing and administration for each pediatric subpopulation for which the product is safe and effective. The FDA may, on its own initiative or at the request of the applicant, grant deferrals for submission of some or all pediatric data until after approval of the product for use in adults, or full or partial waivers from the pediatric data requirements. Unless otherwise required by regulation, the pediatric data requirements do not apply to products with orphan designation.

The FDA also may require submission of a risk evaluation and mitigation strategy, or REMS, plan to ensure that the benefits of the drug outweigh its risks. The REMS plan could include medication guides, physician communication plans, assessment plans, and/or elements to assure safe use, such as restricted distribution methods, patient registries or other risk minimization tools.

The FDA conducts a preliminary review of all NDAs within the first 60 days after submission, before accepting them for filing, to determine whether they are sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA reviews an NDA to determine, among other things, whether the drug is safe and effective and whether the facility in which it is manufactured, processed, packaged or held meets standards designed to assure the product's continued safety, quality and purity.

The FDA may refer an application for a novel drug to an advisory committee. An advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is manufactured. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect one or more clinical trial sites to assure compliance with GCP requirements.

The testing and approval process for an NDA requires substantial time, effort and financial resources, and takes several years to complete. Data obtained from preclinical and clinical testing are not always conclusive and may be susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. The FDA may not grant approval of an NDA on a timely basis, or at all.

After evaluating the NDA and all related information, including the advisory committee recommendation, if any, and inspection reports regarding the manufacturing facilities and clinical trial sites, the FDA may issue an approval letter, or, in some cases, a complete response letter. A complete response letter generally contains a statement of specific conditions that must be met in order to secure final approval of the NDA and may require additional clinical or preclinical testing in order for FDA to reconsider the application. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval. If and when those conditions have been met to the FDA's satisfaction, the FDA will typically issue an approval letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications.

Even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a drug's safety after

approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution and use restrictions or other risk management mechanisms under a REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs. After approval, some types of changes to the approved product, such as adding new indications, manufacturing changes, and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Special FDA Expedited Review and Approval Programs

The FDA has various programs, including fast track designation, accelerated approval, priority review, and breakthrough therapy designation, which are intended to expedite or simplify the process for the development and FDA review of drugs that are intended for the treatment of serious or life threatening diseases or conditions and demonstrate the potential to address unmet medical needs. The purpose of these programs is to provide important new drugs to patients earlier than under standard FDA review procedures.

To be eligible for a fast track designation, the FDA must determine, based on the request of a sponsor, that a product is intended to treat a serious or life-threatening disease or condition and demonstrates the potential to address an unmet medical need. The FDA will determine that a product will fill an unmet medical need if it will provide a therapy where none exists or provide a therapy that may be potentially superior to existing therapy based on efficacy or safety factors. The FDA may review sections of the NDA for a fast track product on a rolling basis before the complete application is submitted. If the sponsor provides a schedule for the submission of the sections of the NDA, the FDA agrees to accept sections of the NDA and determines that the schedule is acceptable, and the sponsor pays any required user fees upon submission of the first section of the NDA.

The FDA may give a priority review designation to drugs that are designed to treat serious conditions, and if approved, would provide a significant improvement in treatment, or provide a treatment where no adequate therapy exists. A priority review means that the goal for the FDA to review an application is six months, rather than the standard review of ten months under current PDUFA guidelines. Under the current PDUFA agreement, these six and ten month review periods are measured from the "filing" date rather than the receipt date for NDAs for new molecular entities, which typically adds approximately two months to the timeline for review and decision from the date of submission. Most products that are eligible for fast track designation are also likely to be considered appropriate to receive a priority review.

In addition, products studied for their safety and effectiveness in treating serious or life-threatening illnesses and that provide meaningful therapeutic benefit over existing treatments may be eligible for accelerated approval and may be approved on the basis of adequate and well-controlled clinical trials establishing that the drug product has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit, or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity or prevalence of the condition and the availability or lack of alternative treatments. As a condition of approval, the FDA may require a sponsor of a drug receiving accelerated approval to perform post-marketing studies to verify and describe the predicted effect on irreversible morbidity or mortality or other clinical endpoint, and the drug may be subject to accelerated withdrawal procedures.

Breakthrough therapy designation is for a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The FDA must take certain actions, such as holding timely meetings and providing advice, intended to expedite the development and review of an application for approval of a breakthrough therapy.

Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened. We may explore some of these opportunities for our product candidates as appropriate.

Rare pediatric disease designation by the FDA enables priority review voucher, or PRV, eligibility upon U.S. market approval of a designated drug for rare pediatric diseases. The RPD-PRV program is intended to encourage development of therapies to prevent and treat rare pediatric diseases. The voucher, which is awarded upon NDA or BLA approval to the sponsor of a designated RPD can be sold or transferred to another entity and used by the holder to receive priority review for a future NDA or BLA submission, which reduces the FDA review time of such future submission from ten to six months.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications, manufacturing changes or other labeling claims, are subject to further testing requirements and prior FDA review and approval. There also are continuing annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as application fees for supplemental applications with clinical data.

Even if the FDA approves a product, it may limit the approved indications for use of the product, require that contraindications, warnings or precautions be included in the product labeling, including a boxed warning, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess a drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms under a REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-marketing studies or surveillance programs.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market.

Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in mandatory revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- § restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- § fines, warning letters or holds on post-approval clinical trials;
- § refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product approvals;
- § product seizure or detention, or refusal to permit the import or export of products; or

- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label, although physicians, in the practice of medicine, may prescribe approved drugs for unapproved indications. The FDA and other agencies actively enforce the laws and regulations prohibiting their promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant civil, criminal and administrative liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

Federal and State Fraud and Abuse, Data Privacy and Security, and Transparency Laws and Regulations

In addition to FDA restrictions on marketing of pharmaceutical products, federal and state healthcare laws and regulations restrict business practices in the biopharmaceutical industry. These laws may impact, among other things, our current and future business operations, including our clinical research activities, and proposed sales, marketing and education programs and constrain the business or financial arrangements and relationships with healthcare providers and other parties through which we market, sell and distribute our products for which we obtain marketing approval. These laws include anti-kickback and false claims laws and regulations, data privacy and security, and transparency laws and regulations, including, without limitation, those laws described below.

The federal Anti-Kickback Statute prohibits any person or entity from, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any item or service reimbursable under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value. The federal Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on the one hand and prescribers, purchasers and formulary managers on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the statute has been violated.

A person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act or the civil monetary penalties laws.

Federal civil and criminal false claims laws and civil monetary penalties laws, including the federal civil False Claims Act, which can be enforced by individuals through civil whistleblower and qui tam actions, prohibits any person or entity from, among other things, knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes "any request or demand" for money or property presented to the U.S. government. Several pharmaceutical and other healthcare companies have been prosecuted under these laws for allegedly providing free product to customers with the expectation that the customers would bill federal programs for

the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of products for unapproved, and thus non-reimbursable, uses.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created additional federal criminal statutes that prohibit, among other things, knowingly and willfully executing a scheme to defraud any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Also, many states have similar fraud and abuse statutes or regulations that apply to items and services reimbursed under Medicaid and other state programs, or, in several states, apply regardless of the payor.

In addition, we may be subject to data privacy and security regulation by both the federal government and the states in which we conduct our business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and their respective implementing regulations, impose specified requirements on certain types of individuals and entities relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA's security standards directly applicable to "business associates," defined as independent contractors or agents of covered entities, which include certain healthcare providers, healthcare clearinghouse and health plans, that create, receive, maintain or transmit individually identifiable health information in connection with providing a service for or on behalf of a covered entity. HITECH also increased the civil and criminal penalties that may be imposed against covered entities, business associates and possibly other persons, and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce HIPAA and seek attorney's fees and costs associated with pursuing federal civil actions. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which are not pre-empted by HIPAA, differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services, or CMS, information related to payments or other transfers of value made to physicians and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members.

We may also be subject to state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, and state and local laws that require the registration of pharmaceutical sales representatives.

Because of the breadth of these laws and the narrowness of available statutory exceptions and regulatory safe harbors, it is possible that some of our business activities could be subject to challenge under one or more of such laws. If our operations are found to be in violation of any of the federal and state laws described above or any other governmental regulations that apply to us, we may be subject to significant criminal, civil and administrative penalties including damages, fines, individual imprisonment, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, contractual damages, reputational harm, diminished profits and future earnings, disgorgement, exclusion from participation in government healthcare programs and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent that any of our products are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and

abuse laws, implementation of corporate compliance programs, reporting of payments or transfers of value to healthcare professionals, and additional data privacy and security requirements.

Coverage and Reimbursement

The future commercial success of our, or any of our collaborators', product candidates, if approved, will depend in part on the extent to which third-party payors, such as governmental payor programs at the federal and state levels, including Medicare and Medicaid, private health insurers and other third-party payors, provide coverage of and establish adequate reimbursement levels for our product candidates. Third-party payors generally decide which products they will pay for and establish reimbursement levels for those products. In particular, in the United States, no uniform policy for coverage and reimbursement exists. Private health insurers and other third-party payors often provide coverage and reimbursement for products based on the level at which the government, through the Medicare program, provides coverage and reimbursement for such products, but also have their own methods and approval process apart from Medicare determinations. Therefore, coverage and reimbursement can differ significantly from payor to payor.

In the United States, the European Union, or EU, and other potentially significant markets for our product candidates, government authorities and third-party payors are increasingly attempting to limit or regulate the price of products, particularly for new and innovative products, which often has resulted in average selling prices lower than they would otherwise be. Further, the increased emphasis on managed healthcare in the United States and on country and regional pricing and reimbursement controls in the EU will put additional pressure on product pricing, reimbursement and usage. These pressures can arise from rules and practices of managed care groups, judicial decisions and laws and regulations related to Medicare, Medicaid and healthcare reform, pharmaceutical coverage and reimbursement policies and pricing in general.

Third-party payors are increasingly imposing additional requirements and restrictions on coverage and limiting reimbursement levels for products. For example, federal and state governments reimburse products at varying rates generally below average wholesale price. These restrictions and limitations influence the purchase of products. Third-party payors may limit coverage to specific products on an approved list, or formulary, which might not include all of the FDA-approved products for a particular indication. Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of products , in addition to their safety and efficacy. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of our product candidates, in addition to the costs required to obtain the FDA approvals. Our product candidates may not be considered medically necessary or cost-effective. A payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Adequate third-party payor reimbursement may not be available to enable us to realize an appropriate return on our investment in product development. Legislative proposals to reform healthcare or reduce costs under government insurance programs may result in lower reimbursement for our product candidates, if approved, or exclusion of our product candidates from coverage and reimbursement. The cost containment measures that third-party payors and providers are instituting and any healthcare reform could significantly reduce our revenues from the sale of any approved product candidates.

Healthcare Reform

The United States and some foreign jurisdictions are considering enacting or have enacted a number of additional legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our product candidates profitably, if approved. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts, which include major legislative initiatives to reduce the cost of care through changes in the healthcare system, including limits on the pricing, coverage, and reimbursement of pharmaceutical and biopharmaceutical products, especially under government-funded health care programs, and increased governmental control of drug pricing.

There have been several U.S. government initiatives over the past few years to fund and incentivize certain comparative effectiveness research, including creation of the Patient-Centered Outcomes Research Institute under the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the PPACA. It is also possible that comparative effectiveness research demonstrating benefits in a competitor's product could adversely affect the sales of our product candidates

The PPACA became law in March 2010 and substantially changed the way healthcare is financed by both third-party payors. Among other measures that may have an impact on our business, the PPACA establishes an annual, nondeductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents; a new Medicare Part D coverage gap discount program; and a new formula that increases the rebates a manufacturer must pay under the Medicaid Drug Rebate Program. Additionally, the PPACA extends manufacturers' Medicaid rebate liability, expands eligibility criteria for Medicaid programs, and expands entities eligible for discounts under the Public Health Service Act. At this time, we are unsure of the full impact that the PPACA will have on our business.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the PPACA, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the PPACA, and we expect such challenges and amendments to continue. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the PPACA or otherwise circumvent some of the requirements for health insurance mandated by the PPACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the PPACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the PPACA have been signed into law. The Tax Cuts and Jobs Act of 2017 includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the PPACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain PPACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the PPACA, effective January 1, 2019, to increase from 50% to 70% the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." More recently, in July 2018, CMS published a final rule permitting further collections and payments to and from certain PPACA qualified health plans and health insurance issuers under the PPACA adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment.

In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. In August 2011, the President signed into law the Budget Control Act of 2011, as amended, which, among other things, included aggregate reductions to Medicare payments to providers of 2% per fiscal year, which began in 2013 and, following passage of subsequent legislation, including the BBA, will continue through 2027 unless additional Congressional action is taken. In January 2013, the American Taxpayer Relief Act of 2012 was enacted and, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

Further, there has been increasing legislative and enforcement interest in the United States with respect to drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs,

and reform government program reimbursement methodologies for drugs. At the federal level, the Trump administration's budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. Additionally, the Trump administration released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. The U.S. Department of Health and Human Services, or HHS, has already started the process of soliciting feedback on some of these measures and, at the same, is immediately implementing others under its existing authority. For example, in September 2018, CMS announced that it will allow Medicare Advantage plans the option to use step therapy for Part B drugs beginning January 1, 2019, and in October 2018, CMS proposed a new rule that would require direct-to-consumer television advertisements of prescription drugs and biological products, for which payment is available through or under Medicare or Medicaid, to include in the advertisement the Wholesale Acquisition Cost, or list price, of that drug or biological product. Although a number of these, and other proposed measures will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Additionally, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and Matthew Bellina Right to Try Act of 2017, or the Right to Try Act, was signed into law. The law, among other things, provides a federal framework for certain patients to access certain investigational new drug products that have completed a Phase I clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drug products available to eligible patients as a result of the Right to Try Act.

Foreign Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our product candidates. For example, in the EU, we must obtain authorization of a clinical trial application, or CTA, in each member state in which we intend to conduct a clinical trial. Whether or not we obtain FDA approval for a drug, we would need to obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the drug in those countries. The approval process varies from country to country and can involve additional product testing and additional administrative review periods. The time required to obtain approval in other countries might differ from and be longer than that required to obtain FDA approval. Regulatory approval in one country does not ensure regulatory approval in another, but a failure or delay in obtaining regulatory approval in one country may negatively impact the regulatory process in others.

Employees

As of September 30, 2018, we had 18 full-time employees, 11 of whom were primarily engaged in research and development activities and 6 of whom had an M.D. or Ph.D. degree. None of our employees is represented by a labor union and we consider our employee relations to be good.

Facilities

Our headquarters is currently located in Montréal (Québec), Canada and consists of 7,700 square feet of leased office space under a lease that expires in November 2020. We also have a U.S. subsidiary in Charlotte, North Carolina. We believe that our facilities are adequate to meet our current needs.

Legal Proceedings

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. We are not currently a party to any material legal proceedings, and we are not aware of any pending or threatened legal proceeding against us that we believe could have an adverse effect on our business, operating results or financial condition.

MANAGEMENT

The following table sets forth information regarding our executive officers and directors, including their ages as of December 1, 2018:

NAME	AGE	POSITION(S)
Executive Officers		
Joseph Oliveto	51	President, Chief Executive Officer and Director
Philippe Douville, Ph.D.	57	Founder and Chief Scientific Officer
Francis Plat, M.D.	61	Chief Medical Officer
Lorenz Muller	54	Chief Commercial Officer
Non-Employee Directors		
Marco Boorsma	44	Director
Nilesh Kumar, Ph.D.	43	Director
Debra K. Liebert	62	Director
Paul Truex	50	Director

(1) Member of our audit committee.

(2) Member of our compensation committee.

(3) Member of our nominating and corporate governance committee.

Executive Officers

Joseph Oliveto has served as our President and Chief Executive Officer since March 2017 and as a member of our board of directors since July 2017. Prior to becoming our President and Chief Executive Officer, Mr. Oliveto served as a consultant to the company from September 2016 to March 2017. Mr. Oliveto served as Chief Executive Officer at Galleon Pharmaceuticals, Inc. from July 2015 to June 2016. From June 2008 to June 2014, Mr. Oliveto was at Chelsea Therapeutics International, Ltd., where he held various roles, including serving as President and Chief Executive Officer and a member of the board of directors from January 2014 to June 2014, overseeing the company's sale to Lundbeck, Inc., following which he served as an Executive Advisor from July 2014 to July 2015. Mr. Oliveto received his B.A. degree in Chemistry and his M.B.A. degree from Rutgers University. We believe that Mr. Oliveto's significant experience in the areas of drug development, commercialization and manufacturing as well as business development, qualifies him to serve on our board of directors.

Philippe Douville, Ph.D., is our founder and has served as our Chief Scientific Officer since March 2017. Dr. Douville was a member of our board of directors from our inception in 2005 to 2017, including serving as Chairman from 2011 to 2012, and as our President and Chief Executive Officer from 2005 to March 2017. Prior to founding our company, Dr. Douville was the co-founder, Chief Executive Officer and Chief Business Officer of Galileo Genomics (later Genizon Biosciences), a population genomics company. Dr. Douville received his Ph.D. degree in Neuroscience from McGill University, Canada, and later pursued several years of post-doctoral research activities at the University of Zurich, Switzerland. He later received his M.B.A degree from the HEC at the University of Montréal, Canada.

Francis Plat, M.D., has served as our Chief Medical Officer since June 2015. Prior to joining our company, Dr. Plat was a clinical consultant from August 2013 to May 2015. From August 2009 to July 2013, Dr. Plat served as the Vice President and Therapeutic Area Head, Atherosclerosis and Cardiovascular, at Merck Research Laboratories. Prior to that, Dr. Plat was the Vice President of Cardiovascular Clinical

Development at Daiichi Sankyo, Inc., a global pharmaceutical company. Dr. Plat received his M.D. from the University of Paris and is a board-certified cardiologist in France, where he spent 10 years practicing medicine, including post-cardiovascular surgery at the intensive care unit in the Hopital Marie Lannelongue and in cardiac rehabilitation at Broussais Hospital.

Lorenz Muller has served as our Chief Commercial Officer since October 2017. Prior to joining our company, Mr. Muller served as the Vice President of Marketing at Exact Sciences Corporation, a molecular diagnostics company, from June 2016 through July 2017. Prior to that, Mr. Muller served as the Executive Director, Thrombosis at Daiichi Sankyo, Inc. from July 2008 through December 2015. Mr. Muller received his B.S. degrees in Chemical Engineering and Life Sciences and his M.S. degree in Chemical Engineering from the Massachusetts Institute of Technology. He received his M.B.A degree from the Harvard Graduate School of Business Administration.

Non-Employee Directors

Marco Boorsma, Ph.D., has served as a member of our board of directors since July 2017. Dr. Boorsma served as a Partner of Forbion Capital Partners from October 2014 through April 2017, and has served as its General Partner since April 2017. Dr. Boorsma has served on the board of directors of various privately held life sciences and pharmaceutical companies. Dr. Boorsma received his Master's degree in molecular biology from the University of Groningen in Netherlands. He received his Ph.D. degree in biotechnology from the ETH Institute for Technology in Zürich, Switzerland, and completed part of his research at the Laboratory of Molecular Biology of the Medical Research Council in Cambridge, United Kingdom. We believe that Dr. Boorsma's extensive experience in life science investments and serving on the boards of directors of a number of life sciences and pharmaceutical companies qualifies him to serve on our board of directors.

Nilesh Kumar, Ph.D., has served as a member of our board of directors since July 2017. Dr. Kumar has served as a Partner at Novo Ventures since January 2017. Prior to that, Dr. Kumar was Senior Investment Director at Merck Serono Ventures from June 2009 through March 2015. Dr. Kumar has served on the board of directors of various privately held life sciences and pharmaceutical companies. Dr. Kumar received his B.A. degree in Natural Sciences from the University of Cambridge, United Kingdom, and his Ph.D. and M.B.A degrees from Harvard University. We believe that Dr. Kumar's financial expertise and experience as both an investor in and member of the board of directors at numerous life sciences companies qualifies him to serve on our board of directors.

Debra K. Liebert has served as a member of our board of directors since June 2015. Ms. Liebert served as a Principal of Domain Associates, LLC, a healthcare venture capital firm with an exclusive focus on life sciences, since 2007, and has served as a Managing Director since January 2014. Ms. Liebert previously served in various positions at CancerVax Corporation, Ataigin Technologies and Trega Biosciences. Ms. Liebert received her B.S. degree in chemistry from Clarion University, her M.S. degree in pharmacology/toxicology from Duquesne University, and her M.B.A degree from University of California, Los Angeles. We believe that Ms. Liebert's over 35 years of scientific, strategic and management experience in the healthcare industry qualifies her to serve on our board of directors.

Paul Truex has served as a member of our board of directors since February 2012. From June 2012 to October 2018, Mr. Truex was the Chairman of our board of directors. Mr. Truex founded Anthera Pharmaceuticals, Inc., a currently publicly traded biopharmaceutical company, in September 2004 and has served as the Executive Chairman of the board of directors of Anthera since December 2016. He previously served as the President of Anthera from its inception in September 2004 until January 2016 and as its Chief Executive Officer from September 2004 to December 2016. Prior to founding Anthera, Mr. Truex served as a founder, director, President and Chief Executive Officer of Peninsula Pharmaceuticals, Inc. from the commencement of its operations in October 2001 until December 2005 after which Peninsula was acquired in a series of transactions by Johnson and Johnson and Forest Laboratories. Mr. Truex is currently a director at CymaBay Therapeutics Inc., a Nasdaq-listed company, where he has served since April 2016.

From May 2012 to September 2013, he served on the board of directors of Trius Therapeutics Inc. (acquired by Cubist Pharmaceuticals, Inc. in July 2013). Mr. Truex obtained his M.B.A. in marketing and finance from Indiana University and his B.A. in economics from the University of Waterloo. We believe that Mr. Truex's extensive experience at both public and private pharmaceutical companies qualify him to serve on our board of directors.

Family Relationships and Other Arrangements

There are no family relationships among our directors and executive officers. Marco Boorsma, Nilesh Kumar and Debra K. Liebert were each designated as a director to our board of directors by Forbion Capital Fund III Cooperatief U.A., Novo Holdings A/S and Domain Partners VIII, L.P., respectively, in connection with a shareholders agreement, which will terminate upon the closing of this offering

Board Composition

Our board of directors currently consists of members. Our amended and restated articles of incorporation and amended and restated by-laws provide that the number of directors shall be a maximum of members and will be fixed from time to time by resolution of the board of directors. Our board of directors are elected at each annual meeting of our shareholders and serve until their successors are elected or appointed, unless their office is vacated earlier. The term of office for each of the directors will expire at the time of our next annual shareholder's meeting.

Director Independence

Under The Nasdaq Stock Market LLC, or Nasdaq, Marketplace Rules, or the Nasdaq Listing Rules, independent directors must comprise a majority of our board of directors as a public company within one year of listing.

Our board of directors has undertaken a review of its composition, the composition of its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that all of our directors except Joseph Oliveto and Philippe Douville, representing two of our six directors, do not have any relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the applicable rules and regulations of the SEC and the listing requirements of the Nasdaq Listing Rules. Our board of directors has determined that Joseph Oliveto and Philippe Douville, by virtue of their employment with us, are not independent under applicable rules and regulations of the SEC and the Nasdaq Listing Rules. In making this determination, our board of directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our share capital by each non-employee director.

Board Committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. Our board of directors may establish other committees to facilitate the management of our business. The composition and functions of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our board of directors. Each committee has adopted a written charter that satisfies the applicable rules and regulations of the SEC and Nasdaq Listing Rules, which we will post on our website at www.milestonepharmaceuticals.com upon completion of this offering.

Audit Committee

The audit committee is responsible for assisting our board of directors in its oversight of the integrity of our consolidated financial statements, the qualifications and independence of our independent auditors and our

internal financial and accounting controls. The audit committee has direct responsibility for the appointment, compensation, retention (including termination) and oversight of our independent registered public accounting firm, and our independent auditors report directly to the audit committee. The audit committee also prepares the audit committee report that the SEC requires to be included in our annual proxy statement.

Our audit committee consists of , and . Our board of directors has determined that all members are independent under the Nasdaq Listing Rules and Rule 10A-3(b)(1) of the Securities Exchange Act of 1934, as amended, or the Exchange Act. The chair of our audit committee is . Our board of directors has determined that are each an "audit committee financial expert" as such term is currently defined in Item 407(d)(5) of Regulations S-K. Our board of directors has also determined that each member of our audit committee can read and understand fundamental financial statements, in accordance with applicable requirements. In arriving at these determinations, the board of directors has examined each audit committee member's scope of experience and the nature of their employment in the corporate finance sector.

Compensation Committee

The compensation committee approves the compensation objectives for the company, the compensation of the chief executive officer and approves, or recommends to our board of directors for approval, the compensation for other executives. The compensation committee reviews all compensation components, including base salary, bonus, benefits and other perquisites.

Our compensation committee consists of , and . Our board of directors has determined that all members are independent under the Nasdaq Listing Rules and are "non-employee directors" as defined in Rule 16b-3 promulgated under the Exchange Act. The chair of our compensation committee is .

Nominating and Corporate Governance Committee

The nominating and corporate governance committee makes recommendations regarding corporate governance, the composition of our board of directors, identification, evaluation and nomination of director candidates and the structure and composition of committees of our board of directors. In addition, the nominating and corporate governance committee is responsible for developing and recommending corporate governance guidelines to our board of directors, as applicable to the company.

Our nominating and corporate governance committee consists of , and . The chair of our nominating and corporate governance committee is . Each member of the nominating and corporate governance committee is a non-employee director within the meaning of Rule 16b-3 of the rules promulgated under the Exchange Act, an independent director as defined by the Nasdaq Listing Rules and is free from any relationship that would interfere with the exercise of his or her independent judgment, as determined by the board of directors in accordance with the applicable Nasdaq Listing Rules.

Compensation Committee Interlocks and Insider Participation

None of the members of the compensation committee is currently, or has been at any time, one of our executive officers or employees. None of our executive officers currently serves, or has served during the last year, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or on our compensation committee.

Code of Business Conduct and Ethics

Effective upon completion of this offering, we will adopt a written code of business conduct and ethics that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions, and agents and representatives. The full text of our code of business conduct and ethics will be posted on our

website at www.milestonepharmaceuticals.com upon completion of this offering. The nominating and corporate governance committee of our board of directors will be responsible for overseeing our code of business conduct and ethics and any waivers applicable to any director, executive officer or employee. We intend to disclose future amendments to certain provisions of our code of business conduct and ethics, or waivers of such provisions applicable to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and agents and representatives, on our website identified above.

In addition, under the *Civil Code of Québec,* to which we are subject as a legal person incorporated under the *Business Corporations Act* (Québec) (L.R.Q., c. S-31), or the BCA, and under the BCA, a director must immediately disclose to the board any situation that may place him or her in a conflict of interest. Any such declaration of interest is recorded in the minutes of proceeding of the board of directors. The director abstains, except if required, from the discussion and voting on the question. In addition, it is our policy that an interested director recuse himself or herself from the decision-making process pertaining to a contract or transaction in which he or she has an interest.

Limitation on Liability and Indemnification Matters

Under the BCA and our amended and restated bylaws, we must indemnify our current or former directors and officers, agents or any other individuals who act or has acted at our request as a director or officer of a related entity, against all costs, charges and expenses reasonably incurred by such individual in connection with any civil, criminal, administrative, investigative or other proceeding in which such individual is involved because of his or her association with us or a related entity. The BCA also provides that we may, with the approval of the court, also make an advance payment to such individual for costs, charges and expenses reasonably incurred in connection with such a proceeding, provided, however, that such individual shall repay such payment if he or she does not fulfill the conditions described below.

Indemnification is prohibited under the BCA unless the individual:

- acted with honestly and loyalty in our interests, or in the interests of the other entity for which the individual acted as director or officer or in a similar capacity at our request;
- in the case of a proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that his or her conduct was lawful; and
- was not judged by the court to have committed an intentional or gross fault.

In addition, we have entered, and intend to continue to enter, into separate indemnity agreements with each of our directors and officers. These indemnity agreements, among other things, require us to indemnify our directors and officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of their services as a director or officer, or any other company or enterprise to which the person provides services at our request.

We maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe that these provisions in our amended and restated articles of incorporation and amended and restated bylaws and these indemnity agreements are necessary to attract and retain qualified persons as directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted to directors, officers or control persons, in the opinion of the SEC, such indemnification is against public policy, as expressed in the Securities Act and is therefore unenforceable.

EXECUTIVE AND DIRECTOR COMPENSATION

Our named executive officers for the year ended December 31, 2017, which consist of our principal executive officer and our two most highly compensated executive officers, are:

- Joseph Oliveto;
- Philippe Douville; and
- Francis Plat.

Summary Compensation Table

The following table provides information regarding the compensation provided to our named executive officers for the year ended December 31, 2017.

NAME AND PRINCIPAL POSITION	YEAR	SALARY ($)[2][3]	NON-EQUITY INCENTIVE PLAN COMPENSATION ($)[3][6]	OPTION AWARDS ($)[7]	ALL OTHER COMPENSATION ($)	TOTAL ($)
Joseph Oliveto *Chief Executive Officer*	2017	364,166[4]	180,000	151,016	23,175[8]	718,357
Philippe Douville[1]. *Chief Scientific Officer; Former Chief Executive Officer*	2017	215,909	58,988	17,448	—	292,345
Francis Plat *Chief Medical Officer*	2017	296,933[5]	66,000	11,761	—	374,694

(1) Dr. Douville resigned his position as our Chief Executive Officer in March 2017 in connection with the appointment of Mr. Oliveto.

(2) Salary amounts represent actual amounts paid during 2017. See "— Narrative to the Summary Compensation Table — Annual Base Salary" below.

(3) With the exception of Mr. Oliveto, 2017 cash compensation amounts for all named executive officers were paid in Canadian dollars and have been converted to U.S. dollars for the purposes of the table. The U.S. dollar per Canadian dollar exchange rate used for such conversion was the average exchange rate in effect over the course of each payment period.

(4) Reflects $300,000 in annual base salary and $64,166 in consulting fees paid prior to Mr. Oliveto's appointment as our Chief Executive Officer.

(5) In May 2017, our board of directors approved an increase in Dr. Plat's salary from C$300,000 to $330,000.

(6) Reflects performance-based cash bonuses awarded to our named executive officers. See "— Non Equity Incentive Plan Compensation" below for a description of the material terms pursuant to which this compensation was awarded.

(7) In accordance with SEC rules, this column reflects the aggregate grant date fair value of the option awards granted during fiscal year 2017 computed in accordance with ASC 718 for share-based compensation transactions. Assumptions used in the calculation of these amounts are included in Note 6 to our audited consolidated financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value that will be realized by the named executive officer upon the vesting of the share options, the exercise of the share options, or the sale of the common shares underlying such share options.

(8) Reflects reimbursements paid with respect to the following insurance policies obtained by Mr. Oliveto: medical ($17,800); dental ($1,661); life ($2,063) and disability ($1,651).

Narrative to the Summary Compensation Table

Our board of directors reviews compensation annually for all employees, including our named executive officers. In setting executive base salaries and bonuses and granting equity incentive awards, we consider compensation for comparable positions in the market, the historical compensation levels of our executives, individual performance as compared to our expectations and objectives, our desire to motivate our employees to achieve short- and long-term results that are in the best interests of our shareholders and a long-term commitment to our company.

Either our board of directors or the compensation committee has historically determined our executive officers' compensation and has typically reviewed and discussed management's proposed compensation with our chief executive officer for all executives other than our chief executive officer. Based on those discussions and its discretion, the compensation committee and our full board of directors then approved the compensation of each executive officer. Upon the completion of this offering, the compensation committee will determine our executive officers' compensation and follow this process, but the compensation committee itself, rather than our board of directors, will approve the compensation of each executive officer.

Annual Base Salary

Base salaries for our executive officers are initially established through arm's-length negotiations at the time of the executive officer's hiring, taking into account such executive officer's qualifications, experience, the scope of his or her responsibilities and competitive market compensation paid by other companies for similar positions within the industry and geography. Base salaries are reviewed annually, typically in connection with our annual performance review process, and adjusted from time to time to realign salaries with market levels after taking into account individual responsibilities, performance and experience. For each of 2017 and 2018, the base salaries of our named executive officers were: Mr. Oliveto, $360,000; Dr. Douville, C$280,000; and Dr. Plat, $330,000. In making decisions regarding salary increases, we may also draw upon the experience of members of our board of directors with executives at other companies.

Non-Equity Incentive Plan Compensation

In accordance with the terms of their employment agreements, our named executive officers are eligible to receive discretionary annual bonuses of up to a percentage of each executive's gross base salary based on individual performance, company performance or as otherwise determined appropriate, as determined by our board of directors. The target bonus percentage for each of 2017 and 2018 of our named executive officers were: Mr. Oliveto, 50%; Dr. Douville, 25%; and Dr. Plat, 20% (2017) and 25% (2018).

Equity-Based Incentive Awards

Our equity-based incentive awards are designed to align our interests and those of our shareholders with those of our employees and consultants, including our executive officers. The board of directors is responsible for approving equity grants. As of the date of this prospectus, share option awards were the only form of equity awards we have granted to any of our executive officers.

We have historically used share options as an incentive for long-term compensation to our executive officers because the share options allow our executive officers to profit from this form of equity compensation only if our share price increases relative to the share option's exercise price, which exercise price is set at the fair market value of our common shares on the date of grant. We may grant equity awards at such times as our board of directors determines appropriate. Our executives generally are awarded an initial grant in the form of a share option in connection with their commencement of employment with us. Additional grants may occur periodically in order to specifically incentivize executives with respect to achieving certain corporate goals or to reward executives for exceptional performance.

Prior to this offering, we have granted all share options pursuant to our Stock Option Plan, or the 2011 Plan. Following this offering, we will grant equity incentive awards under the terms of the 2019 Equity Incentive Plan, or the 2019 Plan. The terms of our equity plans are described below under "— Equity Incentive Plans."

All options are granted with an exercise price per share that is no less than the fair market value of our common shares on the date of grant of such award. Our share option awards generally vest over a four-year period and may be subject to acceleration of vesting and exercisability under certain termination and change in control events. See "— Outstanding Equity Awards at Fiscal Year-End."

Outstanding Equity Awards at Fiscal Year-End

The following table provides information regarding the outstanding equity awards held by our named executive officers as of December 31, 2017. All awards were granted pursuant to the Stock Option Plan. See "— Equity Incentive Plans — 2011 Plan" below for additional information.

			OPTION AWARDS			
NAME AND PRINCIPAL POSITION	GRANT DATE	VESTING COMMENCEMENT DATE	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS (#) (EXERCISABLE)	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS (#) (UNEXERCISABLE)[1]	OPTION EXERCISE PRICE	OPTION EXPIRATION DATE
Joseph Oliveto	10/27/2016	9/19/2016	421,754	927,859	$ 0.21	9/19/2026
Chief Executive	1/3/2017	9/19/2016	30,544	67,199	$ 0.21	1/3/2027
Officer	12/12/2017	9/19/2016	420,312	924,689[2]	$ 0.29	9/19/2027
Philippe Douville	10/26/2011	10/26/2011	157,118	24,451	C$ 0.18	10/25/2021
Chief Science	2/18/2013	5/9/2012	139,213[3]	—	C$ 0.18	5/9/2022
Officer	7/12/2013	7/12/2013	42,669[4]	—	C$ 0.18	5/9/2023
	10/18/2013	10/18/2013	123,298[5]	—	C$ 0.18	10/18/2023
	11/11/2014	7/25/2014	99,293	16,953	C$ 0.18	7/25/2024
	8/26/2015	8/26/2015	171,418	122,442	$ 0.21	8/26/2025
Francis Plat	2/28/2014	12/18/2014	138,711	46,237	C$ 0.18	12/18/2024
Chief Medical	11/11/2014	7/25/2014	20,758	20,759	C$ 0.18	7/25/2024
Officer	8/26/2015	8/26/2015	61,220	43,729	$ 0.21	8/26/2025

(1) The common shares underlying the options vested 25% on the first anniversary of the vesting commencement date, and the remaining shares vest in 36 equal monthly installments thereafter, subject to the officer's continued service through each vesting date.

(2) 420,313 of the common shares underlying the option vested on December 12, 2017, and the remaining shares vest in 33 equal monthly installments thereafter, subject to the officer's continued service through each vesting date.

(3) The common shares underlying this option vested in full on May 9, 2016.

(4) The common shares underlying this option vested in full on July 12, 2017.

(5) The common shares underlying this option vested in full on October 18, 2017.

Employment Arrangements

We have entered into employment agreements with each of our named executive officers. The agreements generally provide for at-will employment without any specific term and set forth the named executive officer's initial base salary, bonus potential, eligibility for employee benefits and severance benefits upon a qualifying termination of employment, subject to certain non-solicitation and non-competition provisions. Any potential payments and benefits due upon a qualifying termination of employment or a change in control are further described below under "— Potential Payments and Benefits upon Termination or Change in Control."

In connection with this offering, we intend to enter new employment agreements with each of our named executive officers that will replace and supersede the agreements described below.

Agreement with Joseph Oliveto

We entered into an employment agreement with Mr. Oliveto, our President and Chief Executive Officer, in March 2017 that governs the current terms of his employment with us. Pursuant to his agreement, Mr. Oliveto is entitled to an annual base salary of $360,000, is eligible to receive an annual target performance bonus of up to 50% of his gross base salary, and was granted options to purchase an aggregate of 1,345,001 common shares.

Agreement with Philippe Douville

We entered into an employment agreement with Dr. Douville, our current Chief Scientific Officer, in December 2016 and subsequently amended that agreement, most recently in March 2017, in connection with Dr. Douville's transition from Chief Executive Officer to Chief Scientific Officer. Pursuant to his agreement, Dr. Douville is entitled to an annual base salary of C$280,000, is eligible to receive an annual target performance bonus of up to 25% of his gross base salary, and was granted an option to purchase 872,404 common shares.

Agreement with Francis Plat

We entered into an employment agreement with Dr. Plat, our President and Chief Medical Officer, in April 2014 that governs the current terms of his employment with us. Pursuant to his agreement, Dr. Plat is entitled to an annual base salary of $300,000, is eligible to receive an annual target performance bonus of up to 25% of his gross base salary, and was granted an option to purchase 184,948 common shares. In May 2017, our board of directors approved an increase to Dr. Douville's annual base salary to $330,000.

Potential Payments and Benefits upon Termination or Change in Control

Regardless of the manner in which a named executive officer's employment with us terminates, the named executive officer is entitled to receive amounts earned during his term of service, including salary and accrued unused vacation pay. In addition, each of our named executive officers is eligible to receive certain benefits pursuant to his employment agreement with us as follows:

Joseph Oliveto

If Mr. Oliveto is terminated by us without cause or if Mr. Oliveto resigns for good reason, he is entitled to salary continuation and benefits coverage for a period of 12 months, subject to his execution of a general release in favor of our company. In addition, if Mr. Oliveto is terminated without cause within the 12-month period following a change in control, he is entitled to receive (i) a one-time bonus equal to his then-current gross base salary and (ii) accelerated vesting of any outstanding and unvested share options.

Philippe Douville

If Dr. Douville is terminated by us without cause or if Dr. Douville resigns for good reason, he is entitled to salary continuation for at least six months and up to 18 months, based on the length of his employment; however, Dr. Douville is not entitled to the salary continuation such a termination is in connection with a sale of our company and Dr. Douville is offered a position of senior management with the acquiror with an equivalent base salary and Dr. Douville is based at the same location as of the date of his employment agreement or in a location within 75 kilometers of our corporate offices. Upon a liquidity event (as defined in the 2011 Plan) any outstanding and unexercised options held by Dr. Douville will vest in full.

Francis Plat

If Dr. Plat is terminated by us without cause or if Dr. Plat resigns for good reason, he is entitled to salary continuation for at least one month and up to seven months, based on the length of his employment; however, Dr. Plat is not entitled to the salary continuation such a termination is in connection with a sale of our Company and Dr. Plat is offered a position of senior management with the acquiror with an equivalent base salary and Dr. Plat is based at the same location as of the date of his employment agreement or in a location within 75 kilometers of our corporate offices. If an offer to purchase is made to all holders of our common shares, the offer is accepted by the required majority of shareholders and Dr. Plat's employment is terminated, notice of the offer must be given to Dr. Plat and all unexercised options held by Dr. Plat will

become exercisable at the exercise price effective as of the date upon which the acquisition occurs, but only to the extent necessary to enable Dr. Plat to tender his common shares in response to the offer.

Health and Welfare and Retirement Benefits; Perquisites

Prior to 2018, we did not provide any health or welfare benefits to our U.S. employees. We did provide reimbursements or extra salary payments for employees, including Mr. Oliveto, to purchase personal health and welfare insurance. In 2018, our chief executive officer received medical, dental, vision, life and accidental death and dismemberment insurance generally made available to all of our U.S. employees. We do not currently offer any private benefits to our Canadian employees, including Drs. Douville and Plat. We do not provide a 401(k) plan or any other retirement plan to our employees in the United States or Canada. We generally do not provide perquisites or personal benefits to our named executive officers, except in limited circumstances. Our board of directors may elect to adopt qualified or nonqualified benefit plans in the future, if it determines that doing so is in our best interests.

Equity Incentive Plans

2019 Plan

Our board of directors intends to adopt the 2019 Plan in connection with this offering. Our 2019 Plan will be a successor to and continuation of our 2011 Plan. The 2019 Plan will become effective upon, and no share awards may be granted under the 2019 Plan until, the date of the underwriting agreement related to this offering. Once the 2019 Plan is effective, no further grants will be made under the 2011 Plan.

Awards. Our 2019 Plan provides for the grant of incentive stock options, or ISOs, within the meaning of Section 422 of the Code, to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options, or NSOs, share appreciation rights, restricted share awards, restricted share unit awards, performance share awards, performance cash awards and other forms of share awards to employees, directors and consultants, including employees and consultants of our affiliates.

Authorized Shares. Initially, the maximum number of our common shares that may be issued under our 2019 Plan after it becomes effective will be shares, which is the sum of (1) new shares, plus (2) the number of shares (not to exceed shares) (i) that remain available for the issuance of awards under our 2011 Plan at the time our 2019 Plan becomes effective, and (ii) any shares subject to outstanding options or other share awards that were granted under our 2011 Plan that terminate or expire prior to exercise or settlement; are forfeited because of the failure to vest; or are reacquired or withheld (or not issued) to satisfy a tax withholding obligation or the purchase or exercise price. In addition, the number of our common shares reserved for issuance under our 2019 Plan will automatically increase on January 1 of each calendar year, starting on January 1, 2020 (assuming the 2019 Plan becomes effective in 2019) through January 1, 2029, in an amount equal to % of the total number of our capital shares outstanding on the last day of the calendar month before the date of each automatic increase, or a lesser number of shares determined by our board of directors. The maximum number of our common shares that may be issued on the exercise of ISOs under our 2019 Plan is shares.

Shares subject to share awards granted under our 2019 Plan that expire or terminate without being exercised in full or that are paid out in cash rather than in shares do not reduce the number of shares available for issuance under our 2019 Plan. If any common shares issued pursuant to a share award are forfeited back to or repurchased or reacquired by us for any reason, the shares that are forfeited or repurchased or reacquired will revert to and again become available for issuance under the 2019 Plan. Any shares reacquired in satisfaction of tax withholding obligations or as consideration for the exercise or purchase price of a share award will again become available for issuance under the 2019 Plan.

The maximum number of common shares subject to share awards granted under the 2019 Plan or otherwise during any one calendar year to any non-employee director, taken together with any cash fees paid by us to such non-employee director during such calendar year for service on the board of directors, will not exceed

$ in total value (calculating the value of any such share awards based on the grant date fair value of such share awards for financial reporting purposes), or, with respect to the calendar year in which a non-employee director is first appointed or elected to our board of directors, $.

Plan Administration. Our board of directors, or a duly authorized committee of our board of directors, will administer our 2019 Plan and is referred to as the "plan administrator" herein. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified share awards and (2) determine the number of shares subject to such share awards. Under our 2019 Plan, our board of directors has the authority to determine award recipients, grant dates, the numbers and types of share awards to be granted, the applicable fair market value, and the provisions of each share award, including the period of exercisability and the vesting schedule applicable to a share award.

Under the 2019 Plan, the board of directors also generally has the authority to effect, with the consent of any adversely affected participant, (A) the reduction of the exercise, purchase, or strike price of any outstanding award; (B) the cancellation of any outstanding award and the grant in substitution therefore of other awards, cash, or other consideration; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

Options. ISOs and NSOs are granted under option agreements adopted by the plan administrator. The plan administrator determines the exercise price for options, within the terms and conditions of the 2019 Plan, provided that the exercise price of a option generally cannot be less than 100% of the fair market value of our common shares on the date of grant. Options granted under the 2019 Plan vest at the rate specified in the option agreement as determined by the plan administrator.

The plan administrator determines the term of options granted under the 2019 Plan, up to a maximum of 10 years. Unless the terms of an optionholder's option agreement provide otherwise, if an optionholder's service relationship with us or any of our affiliates ceases for any reason other than disability, death, or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. This period may be extended in the event that exercise of the option is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of our affiliates ceases due to death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 18 months following the date of death. If an optionholder's service relationship with us or any of our affiliates ceases due to disability, the optionholder may generally exercise any vested options for a period of 12 months following the cessation of service. In the event of a termination for cause, options generally terminate upon the termination date. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common shares issued upon the exercise of an option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of our common shares previously owned by the optionholder, (4) a net exercise of the option if it is an NSO, or (5) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator or a duly authorized officer in each case, (i) an option may be transferred pursuant to a domestic relations order, official marital settlement agreement, or other divorce or separation instrument and (ii) an optionholder may designate a beneficiary who may exercise the option following the optionholder's death.

Tax Limitations on ISOs. The aggregate fair market value, determined at the time of grant, of our common shares with respect to ISOs that are exercisable for the first time by an award holder during any calendar

year under all of our equity benefit plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own shares possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the shares subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant.

Restricted Share Unit Awards. Restricted share unit awards are granted under restricted share unit award agreements adopted by the plan administrator. Restricted share unit awards may be granted in consideration for any form of legal consideration that may be acceptable to our board of directors and permissible under applicable law. A restricted share unit award may be settled by cash, delivery of shares, a combination of cash and shares as deemed appropriate by the plan administrator, or in any other form of consideration set forth in the restricted share unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted share unit award. Except as otherwise provided in the applicable award agreement, restricted share unit awards that have not vested will be forfeited once the participant's continuous service ends for any reason.

Restricted Share Awards. Restricted share awards are granted under restricted share award agreements adopted by the plan administrator. A restricted share award may be awarded in consideration for cash, check, bank draft or money order, past or future services to us, or any other form of legal consideration that may be acceptable to our board of directors and permissible under applicable law. The plan administrator determines the terms and conditions of restricted share awards, including vesting and forfeiture terms. If a participant's service relationship with us ends for any reason, we may receive any or all of the common shares held by the participant that have not vested as of the date the participant terminates service with us through a forfeiture condition or a repurchase right.

Share Appreciation Rights. Share appreciation rights are granted under share appreciation right agreements adopted by the plan administrator. The plan administrator determines the purchase price or strike price for a share appreciation right, which generally cannot be less than 100% of the fair market value of our common shares on the date of grant. A share appreciation right granted under the 2019 Plan vests at the rate specified in the share appreciation right agreement as determined by the plan administrator.

The plan administrator determines the term of share appreciation rights granted under the 2019 Plan, up to a maximum of 10 years. If a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability, or death, the participant may generally exercise any vested share appreciation right for a period of three months following the cessation of service. This period may be further extended in the event that exercise of the share appreciation right following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If a participant's service relationship with us, or any of our affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested share appreciation right for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, share appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a share appreciation right be exercised beyond the expiration of its term.

Performance Awards. The 2019 Plan permits the grant of performance-based share and cash awards. Our compensation committee may structure awards so that the share or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period.

The performance goals that may be selected include one or more of the following: (i) sales; (ii) revenues; (iii) assets; (iv) expenses; (v) market penetration or expansion; (vi) earnings from operations; (vii) earnings

before or after deduction for all or any portion of interest, taxes, depreciation, amortization, incentives, service fees or extraordinary or special items, whether or not on a continuing operations or an aggregate or per share basis; (viii) net income or net income per common share (basic or diluted); (ix) return on equity, investment, capital or assets; (x) one or more operating ratios; (xi) borrowing levels, leverage ratios or credit rating; (xii) market share; (xiii) capital expenditures; (xiv) cash flow, free cash flow, cash flow return on investment, or net cash provided by operations; (xv) share price, dividends or total shareholder return; (xvi) development of new technologies or products; (xvii) sales of particular products or services; (xviii) economic value created or added; (xix) operating margin or profit margin; (xx) customer acquisition or retention; (xxi) raising or refinancing of capital; (xxii) successful hiring of key individuals; (xxiii) resolution of significant litigation; (xxiv) acquisitions and divestitures (in whole or in part); (xxv) joint ventures and strategic alliances; (xxvi) spin-offs, split-ups and the like; (xxvii) reorganizations; (xxviii) recapitalizations, restructurings, financings (issuance of debt or equity) or refinancings; (xxix) or strategic business criteria, consisting of one or more objectives based on the following goals: achievement of timely development, design management or enrollment, meeting specified market penetration or value added, payor acceptance, patient adherence, peer reviewed publications, issuance of new patents, establishment of or securing of licenses to intellectual property, product development or introduction (including, without limitation, any clinical trial accomplishments, regulatory or other filings, approvals or milestones, discovery of novel products, maintenance of multiple products in pipeline, product launch or other product development milestones), geographic business expansion, cost targets, cost reductions or savings, customer satisfaction, operating efficiency, acquisition or retention, employee satisfaction, information technology, corporate development (including, without limitation, licenses, innovation, research or establishment of third-party collaborations), manufacturing or process development, legal compliance or risk reduction, patent application or issuance goals, or goals relating to acquisitions, divestitures or other business combinations (in whole or in part), joint ventures or strategic alliances; and (xxx) other measures of performance selected by the board of directors.

The performance goals may be based on company-wide performance or performance of one or more business units, divisions, affiliates, or business segments, and may be either absolute or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Our board of directors is authorized at any time in its sole discretion, to adjust or modify the calculation of a performance goal for such performance period in order to prevent the dilution or enlargement of the rights of participants, (a) in the event of, or in anticipation of, any unusual or extraordinary corporate item, transaction, event or development; (b) in recognition of, or in anticipation of, any other unusual or nonrecurring events affecting us, or our financial statements in response to, or in anticipation of, changes in applicable laws, regulations, accounting principles, or business conditions; or (c) in view of the board of director's assessment of our business strategy, performance of comparable organizations, economic and business conditions, and any other circumstances deemed relevant. Specifically, the board of directors is authorized to make adjustment in the method of calculating attainment of performance goals and objectives for a performance period as follows: (i) to exclude the dilutive effects of acquisitions or joint ventures; (ii) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; and (iii) to exclude the effect of any change in our outstanding common share by reason of any share dividend or split, share repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common shareholders other than regular cash dividends. In addition, the board of directors is authorized to make adjustment in the method of calculating attainment of performance goals and objectives for a performance period as follows: (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects, as applicable, for non-U.S. dollar denominated net sales and operating earnings; to exclude the effects of changes to generally accepted accounting standards required by the Financial Accounting Standards Board; (iv) to exclude the effects of any items that are "unusual" in nature or occur "infrequently" as determined under generally accepted

accounting principles; (v) to exclude the effects to any statutory adjustments to corporate tax rates; and (vi) to make other appropriate adjustments selected by the board of directors.

Other Share Awards. The plan administrator may grant other awards based in whole or in part by reference to our common shares. The plan administrator will set the number of shares under the share award and all other terms and conditions of such awards.

Changes to Capital Structure. In the event there is a specified type of change in our capital structure, such as a share split, reverse share split, or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2019 Plan, (2) the class and maximum number of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued on the exercise of ISOs and (4) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding share awards.

Corporate Transactions. Our 2019 Plan provides that in the event of certain specified significant corporate transactions (or a change in control, as defined below), unless otherwise provided in an award agreement or other written agreement between us and the award holder, the plan administrator may take one or more of the following actions with respect to such share awards:

- arrange for the assumption, continuation, or substitution of a share award by a successor corporation;
- arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation;
- accelerate the vesting, in whole or in part, of the share award and provide for its termination if not exercised (if applicable) at or before the effective time of the transaction;
- arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us;
- cancel or arrange for the cancellation of the share award, to the extent not vested or not exercised before the effective time of the transaction, in exchange for a cash payment, if any; or
- make a payment equal to the excess, if any, of (A) the value of the property the participant would have received on exercise of the award immediately before the effective time of the transaction, over (B) any exercise price payable by the participant in connection with the exercise.

The plan administrator is not obligated to treat all share awards or portions of share awards in the same manner and is not obligated to take the same actions with respect to all participants.

Under the 2019 Plan, a corporate transaction is generally the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, or (4) a merger or consolidation where we do survive the transaction but our common shares outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

Change in Control. In the event of a change in control, the plan administrator may take any of the above-mentioned actions. Awards granted under the 2019 Plan may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in the applicable share award agreement or in any other written agreement between us or any affiliate and the participant, but in the absence of such provision, no such acceleration will automatically occur. Under the 2019 Plan, a change in control is generally (1) the acquisition by any person or company of more than 50% of the combined voting power of our then outstanding shares, (2) a merger, consolidation or similar transaction in which our shareholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity) in substantially the same proportions as their ownership immediately prior to such transaction, (3) a sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50% of the combined voting power of which is owned by our shareholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such

transaction, (4) a complete dissolution or liquidation of the company or (5) when a majority of our board of directors becomes comprised of individuals who were not serving on our board of directors on the date of the underwriting agreement related to this offering, or the incumbent board, or whose nomination, appointment, or election was not approved by a majority of the incumbent board still in office.

Plan Amendment or Termination. Our board of directors has the authority to amend, suspend, or terminate our 2019 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our shareholders. No ISOs may be granted after the tenth anniversary of the date our board of directors adopts our 2019 Plan. No share awards may be granted under our 2019 Plan while it is suspended or after it is terminated.

2011 Plan

General. Our board of directors originally adopted and our shareholders initially approved our 2011 Plan in August 2011. We have subsequently amended and restated our 2011 Plan, most recently in October 2018, the purpose of which was to increase the number of shares available for issuance under our 2011 Plan. Our shareholders approved this recent amendment and restatement in October 2018. Our 2011 Plan will terminate upon the adoption of our 2019 Plan; however, awards outstanding under our 2011 Plan will continue in full effect in accordance with their existing terms.

Share Reserve. The aggregate number of common shares reserved for issuance under our 2011 Plan is 17,228,914. As of December 31, 2018, options to purchase common shares, at exercise prices ranging from $ to $ per share, or a weighted-average exercise price of $ per share, were outstanding under our 2011 Plan.

Administration. The compensation committee of our board of directors administers our 2011 Plan. Our board of directors has full authority and discretion to take any actions it deems necessary or advisable for the administration of our 2011 Plan. Our board of directors may cancel, amend, adjust or otherwise change any outstanding options under such circumstances as it may consider appropriate in accordance with the provisions of the 2011 Plan.

Types of Awards. Our 2011 Plan provides for the grant of incentive share options and nonstatutory share options to purchase common shares of our share capital to employees, members of our board of directors and consultants. Incentive share options may be granted only to employees.

Options. The exercise price of options granted under our 2011 Plan will be equal to or exceed the fair market value of a common share of our share capital on the grant date. Options expire at the time determined by the administrator, but in no event more than ten years after they are granted, and generally expire earlier if the optionholder's service terminates.

Capital Reorganization. If we effect a subdivision, consolidation, or similar reorganization, or any other change in capitalization that, in the option of the administrator, warrants the replacement or amendment of any existing options, the administrator may adjust: (i) the number of common shares that may be acquired on the exercise of any options; and/or (ii) the exercise price of any outstanding options, as necessary.

Other Events Affecting the Corporation. In the event of an amalgamation, combination, merger or other reorganization involving the exchange of our common shares, by sale or lease of assets or otherwise, that, in the opinion of the administrator, in its discretion, warrants the replacement or amendment of any existing options in order to adjust: (a) the number of common shares that may be acquired on the exercise of any outstanding options; and/or (b) the exercise price of any outstanding options in order to preserve proportionately the rights and obligations of the optionees, the administrator will authorize such steps to be taken as may be equitable and appropriate to that end.

Liquidity Event. Notwithstanding anything else provided in the 2011 Plan or any option agreement, upon a liquidity event, our board of directors (or a committee thereof) may:

- cause the conversion or exchange of any outstanding options into or for options, rights or other securities of substantially equivalent value (or greater value), in any entity participating in or resulting from such liquidity event; and/or
- accelerate the vesting of any or all outstanding options to provide that such outstanding options will be fully vested and exercisable contemporaneously with the completion of the transaction resulting in the liquidity event.

In general, a "liquidity event" means the acquisition of the company by another entity by means of any transaction or series of related transactions, which results in one person, together with any related entities of such person, acquiring beneficial ownership, or exercising direction or control, over more than 50% of the combined voting power attached to all of our outstanding securities; a sale, lease, transfer, exclusive license or disposition of all or substantially all of our assets; our adoption of a plan of liquidation providing for the distribution of all or substantially all of our assets; or any other event so specified by our board of directors, subject to certain exceptions.

Transferability. A participant may not transfer options under our 2011 Plan other than by will, the laws of descent and distribution, or as otherwise provided under our 2011 Plan.

Plan Amendment or Termination. Subject to any shareholders agreement, our board of directors may terminate the 2011 Plan at any time without shareholder approval. Our board of directors has the authority to amend our 2011 Plan, provided that such action is approved by our shareholders to the extent shareholder approval is necessary. As described above, our 2011 Plan will terminate upon the effective date of our 2019 Plan.

2019 Employee Share Purchase Plan

Our board of directors intends to adopt the 2019 Employee Share Purchase Plan, or the ESPP, in connection with this offering. The ESPP will become effective immediately prior to and contingent upon the date of the underwriting agreement related to this offering. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees, and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. The ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code for U.S. employees. In addition, the ESPP authorizes grants of purchase rights that do not comply with Section 423 of the Code under a separate non-423 component. In particular, where such purchase rights are granted to employees who are employed or located outside the United States, our board of directors may adopt rules that are beyond the scope of Section 423 of the Code.

Share Reserve. Following this offering, the ESPP authorizes the issuance of common shares of our share capital under purchase rights granted to our employees or to employees of any of our designated affiliates. The number of shares of our share capital reserved for issuance will automatically increase on January 1 of each calendar year, beginning on January 1, 2020 (assuming the ESPP becomes effective in 2019) through January 1, 2029, by the lesser of (1) % of the total number of shares of our share capital outstanding on the last day of the calendar month before the date of the automatic increase and (2) shares; provided that before the date of any such increase, our board of directors may determine that such increase will be less than the amount set forth in clauses (1) and (2). As of the date hereof, no shares of our share capital have been purchased under the ESPP.

Administration. Our board of directors administers the ESPP and may delegate its authority to administer the ESPP to our compensation committee. The ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our share capital on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or

more purchase dates on which shares of our share capital will be purchased for employees participating in the offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings (as defined in the ESPP) for the purchase of our share capital under the ESPP. Unless otherwise determined by our board of directors, common shares will be purchased for the accounts of employees participating in the ESPP at a price per share that is at least the lesser of (1) 85% of the fair market value of a share of our share capital on the first date of an offering or (2) 85% of the fair market value of a share of our share capital on the date of purchase.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by our board of directors, including: (1) being customarily employed for more than 20 hours per week, (2) being customarily employed for more than five months per calendar year or (3) continuous employment with us or one of our affiliates for a period of time (not to exceed two years). No employee may purchase shares under the ESPP at a rate in excess of $25,000 worth of our common shares based on the fair market value per share of our common shares at the beginning of an offering for each calendar year such a purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the ESPP if immediately after such rights are granted, such employee has voting power over 5% or more of our outstanding capital shares measured by vote or value under Section 424(d) of the Code.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a share split, merger, consolidation, reorganization, recapitalization, reincorporation, share dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or similar transaction, the board of directors will make appropriate adjustments to: (1) the class(es) and maximum number of shares reserved under the ESPP, (2) the class(es) and maximum number of shares by which the share reserve may increase automatically each year, (3) the class(es) and number of shares subject to and purchase price applicable to outstanding offerings and purchase rights and (4) the class(es) and number of shares that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of certain significant corporate transactions, any then-outstanding rights to purchase our shares under the ESPP may be assumed, continued, or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue, or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our share capital within 10 business days before such corporate transaction, and such purchase rights will terminate immediately.

Under the ESPP, a corporate transaction is generally the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction and (4) a merger or consolidation where we do survive the transaction but the shares of our share capital outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

Amendment or Termination. Our board of directors has the authority to amend or terminate our ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain shareholder approval of any amendment to our ESPP as required by applicable law or listing requirements

Non-Employee Director Compensation

We have not historically had a formal compensation policy with respect to service on our board of directors, but we have reimbursed our non-employee directors for direct expenses incurred in connection with

attending meetings of our board of directors or its committees, and occasionally granted share options. We expect that our board of directors will adopt a director compensation policy for non-employee directors to be effective following the completion of this offering.

Director Compensation Table

The following table sets forth information regarding the compensation earned for service on our board of directors by our non-employee directors and for their service as a consultant to us, if applicable, during the year ended December 31, 2017. Joseph Oliveto and Philippe Douville also served on our board of directors, but did not receive any additional compensation for their service as directors and therefore are not included in the table below. The compensation for Joseph Oliveto and Philippe Douville as named executive officers is set forth above under "— Summary Compensation Table."

NAME	FEES EARNED OR PAID IN CASH ($)	OPTION AWARDS ($)[1][2]	TOTAL ($)
Marco Boorsma.	—	—	—
Nilesh Kumar	—	—	—
Debra K. Liebert	—	—	—
Dion Madsen[3]	—	—	—
Paul Truex	15,073	2,028	17,101
Scott Weiner[3]	—	—	—

(1) In accordance with SEC rules, this column reflects the aggregate grant date fair value of the option awards granted during fiscal year 2017 computed in accordance with ASC 718. Assumptions used in the calculation of these amounts are included in note 6 to our audited consolidated financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value that will be realized by our non-employee directors upon the vesting of the share options, the exercise of the share options or the sale of the common shares underlying such share options.

(2) The following table provides information regarding the number of common shares underlying share options granted to our non-employee directors that were outstanding as of December 31, 2017:

NAME	OPTION AWARDS OUTSTANDING AT YEAR-END
Paul Truex	42,644

(3) Messrs. Madsen and Weiner resigned from our board of directors effective October 15, 2018.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

The following includes a summary of transactions since January 1, 2015 and any currently proposed transactions, to which we were or are to be a participant, in which (1) the amount involved exceeds the lesser of $120,000 or 1% of the average of our total assets at year end for the last two completed fiscal years, and (2) any of our directors, executive officers or holders of more than 5% of our share capital, or any affiliate or member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest, other than compensation and other arrangements that are described under the section titled "Executive and Director Compensation."

We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that we would pay or receive, as applicable, in arm's-length transactions.

Preferred Financings

Class B Preferred Share Financing

In various closings throughout 2015, 2016 and 2017, we issued an aggregate of 15,058,529 Class B preferred shares at a price per share ranging from $1.04 to $1.15 in a private placement to accredited investors, raising aggregate gross proceeds of $17.0 million.

The table below sets forth the number of our Class B preferred shares purchased by our executive officers, directors, holders of more than 5% of our share capital and their affiliated entities or immediate family members. Each Class B preferred share in the table below will automatically convert into one common share upon the completion of this offering.

NAME	CLASS B PREFERRED SHARES (#)	AGGREGATE CASH PURCHASE PRICE ($)
Fonds de Solidarité des Travailleurs du Québec (F.T.Q.)	3,054,849	3,409,341
Entities affiliated with A.M. Pappas Life Science Ventures IV, LP[(1)]	2,156,363	2,406,592
Entities affiliated with BDC Capital, Inc.[(2)]	3,593,940	4,010,990
Domain Partners VIII, L.P.[(3)]	6,086,957	7,000,000

(1) Scott Weiner, who was a member of our board of directors at the initial closing of our Class B preferred shares financing, is a partner at A.M. Pappas Life Science Ventures IV, L.P. Mr. Weiner resigned from our board of directors effective October 15, 2018.

(2) Ela Borenstein, who was a member of our board of directors at the initial closing of our Class B preferred shares financing, was a managing partner at BDC Capital, Inc.

(3) Debra K. Liebert, a member of our board of directors, is a managing director at Domain Partners VIII, L.P., or Domain, and was designated to our board by Domain.

Class C Preferred Share Financing

In July 2017, we issued an aggregate of 20,143,569 Class C preferred shares at a price per share of $1.3652 in a private placement to accredited investors for aggregate gross cash proceeds of $27.5 million.

The table below sets forth the number of Class C preferred shares purchased by our executive officers, directors, holders of more than 5% of our share capital and their affiliated entities or immediate family

members. Each Class C preferred share in the table below will automatically convert into one common share upon the completion of this offering.

NAME	CLASS C PREFERRED SHARES (#)	AGGREGATE CASH PURCHASE PRICE ($)
Novo Holdings A/S[1]	7,324,934	10,000,000
Forbion Capital Fund III Cooperatief U.A.[2]	3,662,467	5,000,000
Fonds de Solidarité des Travailleurs du Québec	2,325,618	3,174,934
Entities affiliated with A.M. Pappas Life Science Ventures IV, L.P.[3]	1,083,353	1,478,994
Entities affiliated with BDC Capital, Inc.[4]	1,790,943	2,444,995
Domain Partners VIII, L.P.[5]	1,758,775	2,401,080

(1) Nilesh Kumar, a member of our board of directors, is a partner at Novo Ventures (US), Inc., which is wholly owned by, and provides consulting services to, Novo Holdings A/S. Dr. Kumar was designated to our board by Novo Holdings A/S.

(2) Marco Boorsma, a member of our board of directors, is a general partner at Forbion Capital Fund III Cooperatief U.A., or Forbion, and was designated to our board by Forbion.

(3) Scott Weiner, who was a then member of our board of directors, is a partner at A.M. Pappas Life Science Ventures IV, L.P. Mr. Weiner resigned from our board of directors effective October 15, 2018.

(4) Dion Madsen, who was then a member of our board of directors, is a senior managing partner of BDC Capital, Inc. Mr. Madsen resigned from our board of directors effective October 15, 2018.

(5) Debra K. Liebert, a member of our board of directors, is a managing director at Domain and was designated to our board by Domain.

Class D Preferred Share Financing

In October 2018, we issued an aggregate of 43,176,235 Class D preferred shares at a price per share ranging from $1.7727 to $2.3045 in a private placement to accredited investors for aggregate gross cash proceeds of $80.0 million.

The table below sets forth the number of Class D preferred shares purchased by our executive officers, directors, holders of more than 5% of our share capital and their affiliated entities or immediate family

members. Each Class D preferred share in the table below will automatically convert into one common share upon the completion of this offering.

NAME	CLASS D PREFERRED SHARES (#)	AGGREGATE CASH PURCHASE PRICE ($)
Novo Holdings A/S[1]	5,128,283	9,090,907
Entities affiliated with RTW Master Fund Ltd.	15,187,615	27,500,000
Entities affiliated with Venrock Healthcare Capital Partners III, L.P.	9,655,000	20,000,000
Forbion Capital Fund III Cooperatief U.A.[2]	2,564,142	4,545,455
Entities affiliated with Tekla Healthcare Investors	1,538,485	2,727,272
Fonds de Solidarité des Travailleurs du Québec	1,628,196	2,886,303
Entities affiliated with A.M. Pappas Life Science Ventures IV, L.P.[3]	758,470	1,344,540
Entities affiliated with BDC Capital, Inc.[4]	1,253,864	2,222,724
Domain Partners VIII, L.P.[5]	1,231,342	2,182,800

(1) Nilesh Kumar, a member of our board of directors, is a partner at Novo Ventures (US), Inc., which is wholly owned by, and provides consulting services to, Novo Holdings A/S. Dr. Kumar was designated to our board by Novo Holdings A/S.

(2) Marco Boorsma, a member of our board of directors, is a general partner at Forbion and was designated to our board by Forbion.

(3) Scott Weiner, who was a then member of our board of directors, is a partner at A.M. Pappas Life Science Ventures IV, L.P. Mr. Weiner resigned from our board of directors effective October 15, 2018.

(4) Dion Madsen, who was then a member of our board of directors, is a senior managing partner of BDC Capital, Inc. Mr. Madsen resigned from our board of directors effective October 15, 2018.

(5) Debra K. Liebert, a member of our board of directors, is a managing director at Domain and was designated to our board by Domain.

Registration Rights Agreement

We are party to a third amended and restated registration rights agreement, dated October 15, 2018, with all holders of our preferred shares. This agreement provides that these holders are entitled to certain registration rights, including the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we otherwise file. The registration rights will terminate upon the earliest of (i) the occurrence of certain mergers or consolidations of the company, (ii) the date on which the shares that are the subject to the agreement are publicly sold, or if they may be publicly sold: (x) pursuant to Rule 144 of the Securities Act and (y) Section 2.5 of Regulation 45-102 respecting Resale of Securities, as adopted by the Canadian Securities Administrators of and (iii) five years after the completion this offering. For a description of the registration rights, see the section titled "Description of Share Capital — Registration Rights."

Shareholders' Agreement

We are party to a fourth amended and restated shareholders' agreement, dated October 15, 2018, with the holders of our preferred shares and certain holders of our common shares. This agreement provides that these holders will vote in accordance with the terms of the agreement, including in matters related to the composition of our board of directors. In addition, this agreement provides for certain transfer restrictions, information rights and preemptive rights in favor of certain holders of our preferred shares with regard to certain issuances of our share capital. This agreement will terminate upon the completion of this offering.

Other Transactions

We have entered into various employment-related agreements with our executive officers that, among other things, provide for compensatory and certain change in control benefits. For a description of these agreements and arrangements, see the section titled "Executive and Director Compensation — Employment Arrangements."

We have also granted options to purchase shares of our common shares to our executive officers and directors. For a description of these options, see the section titled "Executive and Director Compensation."

Indemnity Agreements

We have entered or intend to enter, and intend to continue to enter, into separate indemnity agreements with some of our directors and executive officers, in addition to the indemnification provided for in our bylaws. These indemnity agreements provide our directors and executive officers with contractual rights to indemnification and, in some cases, expense advancement in any action or proceeding arising out of their services as one of our directors or executive officers or as a director or executive officer of any other company or enterprise to which the person provides services at our request. For more information regarding these indemnity agreements, see "Management — Limitation on Liability and Indemnification Matters."

Related Party Transaction Policy

In connection with this offering, we intend to adopt a written related party transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related party transactions. This policy will become effective upon the effectiveness of the registration statement of which this prospectus is a part. For purposes of this policy only, a "related person transaction" is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we and any related person are participants involving an amount that exceeds $120,000. Transactions involving compensation for services provided to us as an employee, consultant or director are not considered related-person transactions under this policy. A "related person" is any executive officer, director, nominee to become a director or a holder of more than 5% of our share capital, or any affiliate or member of the immediate family of the foregoing.

Under the policy, where a transaction has been identified as a related-person transaction, management must present information regarding the proposed related-person transaction to our audit committee or, where review by our audit committee would be inappropriate due to a conflict of interest, to another independent body of our board of directors, for review. The presentation must include a description of, among other things, all of the parties, the direct and indirect interests of the related persons, the purpose of the transaction, the material facts, the benefits of the transaction to us and whether any alternative transactions are available, an assessment of whether the terms are comparable to the terms available from unrelated third parties and management's recommendation. To identify related-person transactions in advance, we rely on information supplied by our executive officers, directors and certain significant shareholders. In considering related-person transactions, our audit committee or another independent body of our board of directors takes into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the terms of the transaction;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties under the same or similar circumstances.

All of the transactions described in this section were entered into prior to the adoption of this policy. Although we have not had a written policy for the review and approval of transactions with related persons, our board of directors has historically reviewed and approved any transaction where a director or officer had a financial interest, including the transactions described above. Prior to approving such a transaction, the material facts as to a director's or officer's relationship or interest in the agreement or transaction were disclosed to our board of directors. Our board of directors took this information into account when evaluating the transaction and in determining whether such transaction was fair to us and in the best interest of all our shareholders.

PRINCIPAL SHAREHOLDERS

The following table sets forth information regarding beneficial ownership of our share capital as of November 30, 2018 by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common shares;
- each of our directors;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

The percentage ownership information under the column titled "Before Offering" is based on 96,554,389 common shares outstanding as of November 30, 2018, assuming the automatic conversion of all outstanding preferred shares into an aggregate of 93,378,257 common shares immediately prior to the completion of this offering. The percentage ownership information under the column titled "After Offering" is based on the sale of common shares in this offering (assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus). The percentage ownership information assumes no exercise of the underwriters' option to purchase additional shares and no purchases of any common shares in this offering by the beneficial owners identified in the table below.

Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of more than 5% of our common shares. We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include common shares issuable pursuant to the exercise of options that are either immediately exercisable or exercisable within 60 days of November 30, 2018. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for each person or entity listed in the table is c/o Milestone Pharmaceuticals Inc., 1111 Dr. Frederik-Philips Blvd., Suite 420, Montréal, Québec CA H4M 2X6.

	NUMBER OF SHARES BENEFICIALLY OWNED	PERCENTAGE OF SHARES BENEFICIALLY OWNED	
		BEFORE OFFERING	AFTER OFFERING
Greater than 5% Shareholders:			
RTW Investments, LP[1]	15,187,615	15.7%	
Novo Holdings A/S[2]	12,453,217	12.9%	
Fonds de solidarité des travailleurs du Québec (F.T.Q.)[3]	12,165,165	12.6%	
BDC Capital, Inc. and affiliates[4]	11,658,747	12.1%	
Entities affiliated with Venrock[5]	9,655,004	10.0%	
Domain Associates, L.L.C. and affiliates[6]	9,077,074	9.4%	
Pappas Capital, LLC and affiliates.[7]	6,998,186	7.2%	
Entities affiliated with Forbion[8]	6,226,609	6.4%	
Directors and Named Executive Officers:			
Joseph Oliveto[9]	2,223,019	2.3%	
Philippe Douville[10]	959,729	*	
Lorenz Muller[11]	232,886	*	
Francis Plat[12]	482,670	*	
Marco Boorsma	—	*	
Nilesh Kumar	—	*	
Debra K. Liebert	—	*	
Paul Truex[13]	216,254	*	
All current executive officers and directors as a group (8 persons)	4,114,558	4.2%	

* Represents beneficial ownership of less than 1%.

(1) Includes (i) 13,186,437 shares held directly by RTW Master Fund, Ltd. and (ii) 2,001,178 shares held directly by RTW Innovation Master Fund, Ltd. RTW Investments, LP is the investment manager of each of these funds, and has the power to vote and the power to direct the disposition of all such common shares held by the funds. Roderick Wong, M.D. is the Managing Partner and Chief Investment Officer of RTW Investments, LP and may be deemed to beneficially own such common shares. The address of RTW Investments, LP and Dr. Wong is 412 West 15th Street, Floor 9, New York, New York, 10011.

(2) The board of directors of Novo Holdings A/S, or Novo, currently consists of Viviane Monges, Jeppe Christiansen, Steen Riisgaard, Lars Rebien Sørensen, Jean-Luc Butel and Francis Cuss, who share investment and voting control with respect to the shares held by Novo and may exercise such control only with the support of a majority of the members of the Novo board of directors. No individual member of the Novo board of directors is deemed to hold any beneficial ownership or reportable pecuniary interest in the shares held by Novo. The principal business address of Novo is Tuborg Havnevej 19, DK-2900 Hellerup, Denmark.

(3) The address for this entity is 545 Cremazie Blvd. East, Suite 200, Montréal, Québec, H2M 2W4, Canada.

(4) Includes 5,829,373 shares held by BDC Capital, Inc. and 5,829,374 shares held by GO Capital, s.e.c. The address for these entities and its affiliates is 5 Place Ville-Marie, Suite 400, Montréal, Québec, H3B 5E7, Canada.

(5) Includes (i) 8,777,277 shares held directly by Venrock Healthcare Capital Partners III, LP and (ii) 877,727 shares held directly by VHCP Co-Investment Holdings III, LLC. VHCP Management III, LLC is the general partner of Venrock Healthcare Capital Partners III, LP and the manager of VNCP Co-Investment Holdings III, LLC and may be deemed to beneficially own such common shares. Bong Koh and Nimish Shah are the managing members of VHCP Management III, LLC and may be

deemed to beneficially own such common shares. The address of the Venrock entities Drs. Koh and Shah is 7 Bryant Park, 23rd Floor, New York, New York 10018.

(6) Represents 9,077,074 shares held directly by Doman Partners VIII, L.P. ("DP VIII"). The principal business of DP VIII is that of a private investment partnership. The sole general partner of DP VIII is One Palmer Square Associates VIII, LLC, a Delaware limited liability company ("OPSA VIII"). The principal business of OPSA VIII is that of acting as the general partner of DP VIII. James C. Blair, Brian H. Dovey, Brian K. Halak, Jesse I. Treu, and Nicole Vitullo are the managing members of OPSA VIII and have shared voting and dispositive power over the shares beneficially owned by DP VIII. Domain Associates, L.L.C. is ("DA") is the Manager of DPVIII. Debra K. Liebert is a member of our board of directors, a member of OPSA VIII and an employee of DA. Ms. Liebert has no voting or investment control with respect to any of the above noted holdings. Ms. Liebert disclaims beneficial ownership of the shares reflected above as beneficially owned by DPVIII except to the extent of her pecuniary interest therein. The address of Domain Associates, L.L.C. and affiliated entities is 202 Carnegie Center, Suite 104, Princeton, New Jersey, 08540.

(7) Includes (i) 6,680,242 shares held directly by A.M. Pappas Life Science Ventures IV, L.P. ("Pappas Ventures IV") and (ii) 317,954 shares held directly by PV IV CEO Fund, L.P. ("PV IV" and together with Pappas Ventures IV, the "Pappas Funds"). The principal business of the Pappas Funds is investing in early-stage life science companies. AMP&A Management IV, LLC ("Management IV") is the general partner of each of the Pappas Funds and has a management agreement with Pappas Capital, LLC ("Pappas Capital") whereby Pappas Capital provides management services for the Pappas Funds. As a result, Pappas Capital's investment committee exercises sole dispositive and voting power over the securities owned by the Pappas Funds. Arthur Pappas is the sole managing member of Pappas Capital. By virtue of these relationships, Management IV, Pappas Capital and Mr. Pappas may be deemed to beneficially own the securities owned directly by the Pappas Funds. Each of Management IV, Pappas Capital and Mr. Pappas disclaims beneficial ownership of such securities except to the extent of its or his respective pecuniary interest therein. The address of each of the foregoing is 2520 Meridian Parkway, Suite 400, Durham, North Carolina 27713.

(8) Represents shares held by Forbion Capital Fund III Coöperatief U.A ("FCF III"). Forbion III Management B.V., the director of FCF III, may be deemed to have voting and dispositive power over the common shares held by FCF III. Investment decisions with respect to the common shares held by FCF III can be made by its investment committee which may delegate such powers to the authorized representatives of Forbion III Management B.V. Mssrs. Slootweg, van Osch, Mulder, van Houten, van Deventer, Reithinger and Boorsma ("Partners") are partners of FCPM II Services B.V., which acts as the investment advisor to the directors of FCF III. Each of the Partners disclaim beneficial ownership of such common shares, except to the extent of his pecuniary interest therein. The address of FCF III, Forbion III Management B.V. and FCPM III Services B.V. is Gooimeer 2-35, 1411 DC Naarden, The Netherlands.

(9) Includes 770,019 common shares issuable upon the exercise of options.

(10) Includes 882,236 common shares issuable upon the exercise of options.

(11) Includes 31,052 common shares issuable upon the exercise of options.

(12) Includes 421,729 common shares issuable upon the exercise of options.

(13) Includes 126,332 common shares issuable upon the exercise of options.

DESCRIPTION OF SHARE CAPITAL

The following is a description of the material terms of our common shares and preferred shares as will be set forth in our amended and restated articles of incorporation as expected to be amended in connection with this offering. The following description of our share capital is intended as a summary only and is qualified in its entirety by reference to our articles of incorporation and amendments thereto, which are filed as exhibits to the registration statement of which this prospectus is a part, and to the applicable provisions of the BCA. The following also assumes the conversion of all of our preferred shares into common shares in accordance with their terms.

General

Following the completion of this offering, based upon shares outstanding as of December 31, 2018, our share capital will consist of an unlimited number of common shares, no par value per share, of which shares will be issued and outstanding, and an unlimited number of preferred shares, no par value per share, none of which will be issued and outstanding.

Common Shares

Outstanding Shares

As of December 31, 2018, we had common shares outstanding, which were held by approximately shareholders of record, assuming the automatic conversion of all outstanding preferred shares into 93,378,257 common shares immediately prior to the completion of this offering.

Voting Rights

Under our amended articles of incorporation to be in effect following the completion of this offering, the holders of common shares will be entitled to one vote for each share held at any meeting of the shareholders.

Dividends

Subject to the prior rights of the holders of our preferred shares, the holders of common shares will be entitled to receive dividends as and when declared by our board of directors. See "Dividend Policy."

Liquidation

Subject to the prior payment to the holders of our preferred shares, in the event of our liquidation, dissolution or winding-up or other distribution of our assets among our shareholders, the holders of common shares will be entitled to share *pro rata* in the distribution of the balance of our assets.

Rights and Preferences

The holders of common shares will have no preemptive, conversion rights or other subscription rights. There will be no redemption or sinking fund provisions applicable to our common shares. There will be no provision in our amended articles of incorporation to be in effect following the closing of this offering requiring the holders of common shares to contribute additional capital or permitting or restricting the issuance of additional securities or any other material restrictions. The rights, preferences and privileges of the holders of common shares will be subject to and may be adversely affected by, the rights of the holders of any series of preferred shares that we may designate in the future.

Preferred Shares

We will not have any preferred shares outstanding following the completion of this offering. Under our amended and restated articles of incorporation to be in effect following the completion of this offering, we will be authorized to issue, without shareholder approval, an unlimited number of preferred shares, issuable in one or more series, and, subject to the provisions of the BCA, having such designations, rights, privileges, restrictions and conditions, including dividend and voting rights, as our board of directors may

determine, and such rights and privileges, including dividend and voting rights, may be superior to those of the common shares. The issuance of preferred shares, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and might adversely affect the market price of our common shares and the voting and other rights of the holders of common shares. We have no current plans to issue any preferred shares following the completion of this offering.

Options

As of December 31, 2018, common shares were issuable upon the exercise of outstanding share options, at a weighted-average exercise price of $ per common share. For additional information regarding terms of our equity incentive plans, see the section titled "Executive and Director Compensation — Equity Incentive Plans."

Registration Rights

Following the completion of this offering, holders of the common shares issued upon the conversion of our preferred shares, including any accrued dividends thereon upon the completion of this offering will be entitled to certain rights with respect to registration of any securities held by such investors, as well as any under the Securities Act. These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights pursuant to the terms of our third amended and restated registration rights agreement and are described in additional detail below. The registration of common shares pursuant to the exercise of the registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses, other than underwriting discounts, selling commissions and share transfer taxes for the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below. Expenses relating to underwriting discounts, selling commissions and share transfer taxes for the shares registered will be borne by us and the participating holders in proportion to the number of common shares sold by each, or, as between the participating holders, as such participating holders may otherwise agree.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares the holders may include. The demand, piggyback and Form S-3 registration rights described below will expire upon the earliest of (i) the occurrence of certain mergers or consolidations of the company, (ii) the date on which the shares that are the subject to the agreement are publicly sold, or if they may be publicly sold: (x) pursuant to Rule 144 of the Securities Act and (y) Section 2.5 of Regulation 45-102 respecting Resale of Securities, as adopted by the Canadian Securities Administrators, and (iii) five years after the completion of this offering.

Demand Registration Rights

Upon the earlier of the one year anniversary of the completion of this offering, or October 15, 2021, holders of 93,378,257 common shares issuable upon conversion of all of our outstanding preferred shares, including the accrued dividends, if any, will be entitled to certain demand registration rights. At any time beginning on the earlier of the one year anniversary of the completion of this offering, or October 15, 2021, the holders of at least 25% of registrable securities then outstanding may, on not more than two occasions, request that we register all or a portion of their shares, subject to certain specified exceptions, pursuant to either the Securities Act, Regulation 41-101 respecting General Prospectus Requirements, as adopted by Canadian Securities Administrators or both.

Piggyback Registration Rights

Following the completion of this offering, holders of 93,378,257 common shares issuable upon conversion of all of our outstanding preferred shares, including the accrued dividends, will be entitled to include their shares of registrable securities in any registration statement we file in the event that we propose to register

any of our securities under the Securities Act in an offering, either for our own account or for the account of other security holders, subject to specified conditions and limitations.

S-3 Registration Rights

Following the completion of this offering, holders of 93,378,257 common shares issuable upon conversion of all of our outstanding preferred shares, including the accrued dividends, will initially be entitled to certain Form S-3 registration rights. The holders of at least 25% of registrable securities then outstanding may, on not more than two occasions within any 12-month period, request that we register all or a portion of their shares on Form S-3 or a form under the Canada-United States Multijurisdictional Disclosure System, or the MJDS, if we are qualified to file a registration statement on Form S-3 or the MJDS, as applicable, subject to specified exceptions. Such request for registration on Form S-3 must cover securities with an aggregate offering price which equals or exceeds $10.0 million. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Indemnification

The third amended and restated registration rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling shareholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

Transfer Agent and Registrar

Our transfer agent and registrar for our common shares is .

Nasdaq Global Market Listing

We intend to apply to list our common shares on The Nasdaq Global Market under the trading symbol "MSPH."

Advance Notice Procedures and Shareholder Proposals

Under the BCA, shareholders may make proposals for matters to be considered at the annual general meeting of shareholders. Such proposals must be sent to us in advance of any proposed meeting by delivering a timely written notice in proper form to our registered office in accordance with the requirements of the BCA. The notice must include information on the business the shareholder intends to bring before the meeting.

In addition, our amended and restated bylaws are expected to require that shareholders provide us with advance notice of their intention to nominate any persons, other than those nominated by management, for election to our board of directors at a meeting of shareholders.

These provisions could have the effect of delaying the nomination of certain persons for director that are favored by the holders of a majority of our outstanding voting securities.

MATERIAL DIFFERENCES BETWEEN THE BUSINESS CORPORATIONS ACT (QUÉBEC) AND THE DELAWARE GENERAL CORPORATION LAW

We are governed by the Business Corporations Act (Québec), or the BCA, which is generally similar to laws applicable to U.S. corporations. Significant differences between the BCA and the Delaware General Corporation Law, or DGCL, which governs companies incorporated in the State of Delaware, include the differences summarized below. This summary is not an exhaustive review of the two statutes, and reference should be made to the full text of both statutes for particulars of the differences.

	Delaware	BCA
Number and Election of Directors	Under the DGCL, the board of directors must consist of at least one director. The number of directors shall be fixed by the bylaws of the corporation, unless the certificate of incorporation fixes the number of directors, in which case a change in the number of directors shall only be made by an amendment of the certificate of incorporation. Under the DGCL, directors are elected at annual stockholder meetings by plurality vote of the stockholders, unless a shareholder-adopted bylaw prescribes a different required vote.	Under the BCA, the board of directors of a corporation must consist of at least three members, at least two of whom must not be officers or employees of the corporation or an affiliate of the corporation, so long as the corporation remains a "reporting issuer" for purposes of the BCA, which includes a corporation that has made a distribution of securities to the public. Under the BCA, directors are elected by the shareholders, in the manner and for the term, not exceeding three years, set out in the corporation's bylaws. Our bylaws provide that our directors are elected at each annual meeting of shareholders at which such an election is required.
Removal of Directors	Under the DGCL, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except (i) unless the certificate of incorporation provides otherwise, in the case of a corporation whose board of directors is classified, stockholders may effect such removal only for cause, or (ii) in the case of a corporation having cumulative voting, if less than the entire board of directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire board of directors, or, if there are classes of directors, at an election of the class of directors of which he is a part.	Under the BCA, unless the articles of a corporation provide for cumulative voting (which is not the case for us), shareholders of the corporation may, by resolution passed by a majority of the vote cast thereon at a special meeting of shareholders, remove any or all directors from office and may elect any qualified person to fill the resulting vacancy.

	Delaware	BCA
Vacancies on the Board of Directors	Under the DGCL, vacancies and newly created directorships may be filled by a majority of the directors then in office (even though less than a quorum) or by a sole remaining director unless (i) otherwise provided in the certificate of incorporation or bylaws of the corporation or (ii) the certificate of incorporation directs that a particular class of stock is to elect such director, in which case a majority of the other directors elected by such class, or a sole remaining director elected by such class, will fill such vacancy.	Under the BCA, vacancies that exist on the board of directors may generally be filled by the board if the remaining directors constitute a quorum. In the absence of a quorum, the remaining directors shall call a meeting of shareholders to fill the vacancy.
Board of Director Quorum and Vote Requirements	Under the DGCL, a majority of the total number of directors shall constitute a quorum for the transaction of business unless the certificate of incorporation or bylaws require a greater number. The bylaws may lower the number required for a quorum to one-third the number of directors, but no less. Under the DGCL, the board of directors may take action by the majority vote of the directors present at a meeting at which a quorum is present unless the certificate of incorporation or bylaws require a greater vote.	Under the BCA, subject to the corporation's bylaws, a majority of the directors in office constitutes a quorum at any meeting of the board. Our bylaws also provide that a majority of the directors in office constitutes a quorum at any meeting of the board. Under the BCA, a quorum of directors may exercise all the powers of the directors despite any vacancy on the board.

	Delaware	BCA
Transactions with Directors and Officers	The DGCL generally provides that no transaction between a corporation and one or more of its directors or officers, or between a corporation and any other corporation or other organization in which one or more of its directors or officers, are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the board or committee which authorizes the transaction, or solely because any such director's or officer's votes are counted for such purpose, if (i) the material facts as to the director's or officer's interest and as to the transaction are known to the board of directors or the committee, and the board or committee in good faith authorizes the transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum (ii) the material facts as to the director's or officer's interest and as to the transaction are disclosed or are known to the stockholders entitled to vote thereon, and the transaction is specifically approved in good faith by vote of the stockholders; or (iii) the transaction is fair as to the corporation as of the time it is authorized, approved or ratified, by the board of directors, a committee or the stockholders.	Under the BCA, every director or officer of a corporation must disclose the nature and value of any interest he or she has in a contract or transaction to which the corporation is a party. For the purposes of this rule, "interest" means any financial stake in a contract or transaction that may reasonably be considered likely to influence decision-making. Furthermore, a proposed contract or a proposed transaction, including related negotiations, is considered a contract or transaction. In addition, a director or an officer must disclose any contract or transaction to which the corporation and any of the following are a party: (i) an associate of the director or officer; (ii) a group of which the director or officer is a director or officer; or (iii) a group in which the director or officer or an associate of the director or officer has an interest. Such disclosure is required even for a contract or transaction that does not require approval by the board of directors. If a director is required to disclose his or her interest in a contract or transaction, such director is not allowed to vote on any resolution to approve, amend or terminate the contract or transaction or be present during deliberations concerning the approval, amendment or termination of such contract or transaction, unless the contract or transaction (i) relates primarily to the remuneration of the director or an associate of the director as a director, officer, employee or mandatory of the corporation or an affiliate of the corporation, (ii) is for indemnity or liability insurance under the BCA, or (iii) is with an affiliate of the corporation, and the sole interest of the director is as a director or officer of the affiliate.

Delaware	BCA
	If a director or officer does not disclose his or her interest in accordance with the BCA, or (in the case of a director) votes in respect of a resolution on a contract or transaction in which he or she is interested contrary to the BCA, the corporation or a shareholder may ask the court to declare the contract or transaction null and to require the director or officer to account to the corporation for any profit or gain realized on it by the director or officer or the associates of the director or officer, and to remit the profit or gain to the corporation, according to the conditions the court considers appropriate. However, the contract or transaction may not be declared null if it was approved by the board of directors and the contract or transaction was in the interest of the corporation when it was approved, nor may the director or officer concerned, in such a case, be required to account for any profit or gain realized or to remit the profit or gain to the corporation. In addition, the contract or transaction may not be declared null if it was approved by ordinary resolution by the shareholders entitled to vote who do not have an interest in the contract or transaction, the required disclosure was made to the shareholders and the contract or transaction was in the best interests of the corporation when it was approved, and if the director or officer acted honestly and in good faith, he or she may not be required to account for the profit or gain realized and to remit the profit or gain to the corporation.

	Delaware	BCA
Limitation on Liability of Directors	Under the DGCL, a corporation's certificate of incorporation may include a provision eliminating or limiting the personal liability of a director to the corporation and its stockholders for damages arising from a breach of fiduciary duty as a director. However, no provision can limit the liability of a director for: § breach of the director's duty of loyalty to the corporation or its stockholders; § acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law; § intentional or negligent payment of unlawful dividends or stock purchases or redemptions; or § for any transaction from which the director derived an improper personal benefit.	The BCA does not permit the limitation of a director's liability as the DGCL does.
Indemnification of Directors and Officers	The DGCL permits indemnification for derivative suits only for expenses (including legal fees) and only if the person is not found liable, unless a court determines the person is fairly and reasonably entitled to the indemnification.	Under the BCA, a corporation may indemnify a director or officer, a former director or officer or a person who acts or acted at the corporation's request as a director or officer, or an individual acting in a similar capacity of another group (who is referred to in this document as an indemnifiable person) against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the indemnifiable person on the exercise of the person's functions or arising from any investigative or other proceeding in which the person is involved if: § the person acted honestly and loyalty in the interest of the corporation or other group, and § in the case of a proceeding enforceable by a monetary penalty, the person had reasonable grounds for believing the person's conduct was lawful.

	Delaware	BCA
		An indemnifiable person is also entitled to indemnity for reasonable defense costs and expenses if the person fulfills the above-mentioned requirements and was not judged to have committed any fault or omitted to do anything the person ought to have done. In the case of a derivative action, indemnity may be made only with court approval.
Call and Notice of Shareholder Meetings	Under the DGCL, an annual or special stockholder meeting is held on such date, at such time and at such place as may be designated by the board of directors or any other person authorized to call such meeting under the corporation's certificate of incorporation or bylaws. If an annual meeting for election of directors is not held on the date designated or an action by written consent to elect directors in lieu of an annual meeting has not been taken within 30 days after the date designated for the annual meeting, or if no date has been designated, for a period of 13 months after the later of the last annual meeting or the last action by written consent to elect directors in lieu of an annual meeting, the Delaware Court of Chancery may summarily order a meeting to be held upon the application of any stockholder or director.	Under the BCA, an annual meeting of shareholders must be held no later than 15 months after holding the last preceding annual meeting. Under the BCA, the directors of a corporation may call a special meeting at any time. In addition, holders of not less than 10% of the issued shares of a corporation that carry the right to vote at a meeting sought to be held may requisition the directors to call a meeting of shareholders.
Shareholder Action by Written Consent	Under the DGCL, a majority of the stockholders of a corporation may act by written consent without a meeting unless such action is prohibited by the corporation's certificate of incorporation.	Under the BCA, a written resolution signed by all the shareholders of a corporation who would have been entitled to vote on the resolution at a meeting is effective to approve the resolution.

	Delaware	BCA
Shareholder Nominations and Proposals	Not applicable.	Under the BCA, a shareholder entitled to vote at a shareholders' meeting may submit a shareholder proposal relating to matters which the shareholder wishes to propose and discuss at an annual shareholders' meeting and, subject to such shareholder's compliance with the prescribed time periods and other requirements of the BCA pertaining to shareholder proposals, the corporation is required to include such proposal in the information circular pertaining to any annual meeting at which it solicits proxies, subject to certain exceptions. Notice of such a proposal must be provided to the corporation at least 90 days before the anniversary date of the notice of meeting for the last annual shareholders' meeting. In addition, the BCA requires that any shareholder proposal that includes nominations for the election of directors must be signed by one or more holders of shares representing in the aggregate not less than five per cent of the shares or five per cent of the shares of a class or series of shares of the corporation entitled to vote at the meeting to which the proposal is to be presented. We also expect that our amended and restated bylaws to be adopted upon consummation of this offering will require shareholders wishing to nominate directors or propose business for a meeting of shareholders to give timely advance notice in writing, as described in our bylaws.

	Delaware	BCA
Shareholder Quorum and Vote Requirements	Under the DGCL, quorum for a stock corporation is a majority of the shares entitled to vote at the meeting unless the certificate of incorporation or bylaws specify a different quorum, but in no event may a quorum be less than one-third of the shares entitled to vote. Unless the DGCL, certificate of incorporation or bylaws provide for a greater vote, generally the required vote under the DGCL is a majority of the shares present in person or represented by proxy, except for the election of directors which requires a plurality of the votes cast.	Under the BCA, unless the bylaws otherwise provide, the holders of a majority of the shares of a corporation entitled to vote at a meeting of shareholders, whether present in person or represented by proxy, constitute a quorum.
Amendment of Certificate of Incorporation	Generally, under the DGCL, the affirmative vote of the holders of a majority of the outstanding stock entitled to vote is required to approve a proposed amendment to the certificate of incorporation, following the adoption of the amendment by the board of directors of the corporation, provided that the certificate of incorporation may provide for a greater vote. Under the DGCL, holders of outstanding shares of a class or series are entitled to vote separately on an amendment to the certificate of incorporation if the amendment would have certain consequences, including changes that adversely affect the rights and preferences of such class or series.	Under the BCA, amendments to the articles of incorporation generally require the approval of not less than two-thirds of the votes cast by shareholders entitled to vote on the resolution. Specified amendments may also require the approval of other classes of shares. If the amendment is of a nature affecting a particular class or series in a manner requiring a separate class or series vote, that class or series is entitled to vote on the amendment whether or not it otherwise carries the right to vote.

	Delaware	BCA
Amendment of Bylaws	Under the DGCL, after a corporation has received any payment for any of its stock, the power to adopt, amend or repeal bylaws shall be vested in the stockholders entitled to vote; provided, however, that any corporation nay, in its certificate of incorporation, provide that bylaws may be adopted, amended or repealed by the board of directors. The fact that such power has been conferred upon the board of directors shall not divest the stockholders of the power nor limit their power to adopt, amend or repeal the bylaws.	Under the BCA, the directors may, by resolution, make, amend or repeal any bylaws that regulates the business or affairs of the corporation. Where the directors make, amend or repeal a bylaw, they are required under the BCA to submit that action to the shareholders at the next meeting of shareholders and the shareholders may confirm, reject or amend that action by simple majority, or ordinary resolution. If the action is rejected by shareholders, or the directors of a corporation do not submit the action to the shareholders at the next meeting of shareholders, the action will cease to be effective, and no subsequent resolution of the directors to make, amend or repeal a bylaw having substantially the same purpose or effect will he effective until it is confirmed.
Votes on Mergers, Consolidations and Sales of Assets	The DGCL provides that, unless otherwise provided in the certificate of incorporation or bylaws, the adoption of a merger agreement requires the approval of a majority of the outstanding stock of the corporation entitled to vote thereon.	Under the BCA, certain extraordinary corporate actions, such as amalgamations (other than with certain affiliated corporations), continuances and sales, leases or exchanges of the property of a corporation if as a result of such alienation the corporation would be unable to retain a significant part of its business activities, and other extraordinary corporate actions such as liquidations, dissolutions and (if ordered by a court) arrangements, are required to be approved by "special resolution." A "special resolution" is a resolution passed by not less than two-thirds of the votes cast by the shareholders who voted in respect of the resolution or signed by all shareholders entitled to vote on the resolution. In specified cases, a special resolution to approve the extraordinary corporate action is also required to be approved separately by the holders of a class or series of shares, including in certain cases a class or series of shares not otherwise carrying voting rights.

	Delaware	BCA
Dissenter's Rights of Appraisal	Under the DGCL, a stockholder of a Delaware corporation generally has the right to dissent flume, merger or consolidation in which the Delaware corporation is participating, subject to specified procedural requirements, including that such dissenting stockholder does not vote in favor of the merger or consolidation. However, the DGCL does not confer appraisal rights, in certain circumstances, including if the dissenting stockholder owns shares traded on a national securities exchange and will receive publicly traded shares in the merger or consolidation. Under the DGCL, a stockholder asserting appraisal rights does not receive any payment for his or her shares until the court determines the fair value or the parties otherwise agree to a value. The costs of the proceeding may be determined by the court and assessed against the parties as the court deems equitable under the circumstances.	The BCA provides that shareholders of a corporation are entitled to exercise dissent rights (called "the right to demand the repurchase of shares") and to be paid the fair value of their shares in connection with specified matters, including: § any amalgamation with another corporation (other than with certain affiliated corporations); § an amendment to the corporation's articles to add, change or remove any provisions restricting or constraining the transfer of shares; § an amendment to the corporation's articles to add. change or remove any restriction upon the businesses or businesses that the corporation may carry on; § a continuance under the laws of another jurisdiction; § a sale, lease or exchange of the property of the corporation or of its subsidiaries if, as a result of such alienation, the corporation is unable to retain a significant part of its business activity; § a court order permitting a shareholder to exercise his right to demand the repurchase of his shares in connection with an application to the court for an order approving an arrangement proposed by the corporation; § the carrying out of a going-private transaction; and certain amendments to the articles of a corporation which require a separate class or series vote by a holder of shares of any class or series. However, a shareholder is not entitled to dissent if an amendment to the articles is effected by a court order approving reorganization or by a court order made in connection with an action for an oppression remedy.

	Delaware	BCA
Oppression Remedy	The DGCL does not provide for a similar remedy.	The BCA provides an oppression remedy (called "rectification of abuse of power or iniquity") that enables a court to make any order, whether interim or final, to rectify matters that are oppressive or unfairly prejudicial to the interests of any securityholder, director or officer of the corporation if an application is made to a court by an "applicant". An "applicant" with respect to a corporation means any of the following: § a present or former registered holder or beneficiary of securities of the corporation or any of its affiliates; § a present or former officer or director of the corporation or any of its affiliates; and § any other person who in the discretion of the court has the interest to make the application. The oppression remedy provides the court with very broad and flexible powers to intervene in corporate affairs to protect shareholders and other complainants. While conduct that is in breach of fiduciary duties of directors or that is contrary to the legal right of a complainant will normally trigger the court's jurisdiction under the oppression remedy, the exercise of that jurisdiction does not depend on a finding of a breach of those legal and equitable rights. Furthermore, the court may order a corporation to pay the interim expenses of an applicant seeking an oppression remedy, but the applicant may be held accountable for interim costs on final disposition of the complaint (as in the case of a derivative action as described in "Shareholder Derivative Actions" below).

	Delaware	BCA
Shareholder Derivative Actions	Under the DGCL, stockholders may bring derivative actions on behalf of, and for the benefit of the corporation. The plaintiff in a derivative action on behalf of the corporation either must be or have been a stockholder of the corporation at the time of the transaction or must be a stockholder who became a stockholder by operation of law in the transaction regarding which the stockholder complains. A stockholder may not sue derivatively on behalf of the corporation unless the stockholder first makes demand on the corporation that it bring suit and the demand is refused, unless it is shown that making the demand would have been a futile act.	Under the BCA, a shareholder of a corporation may apply to a Québec court for leave to bring an action in the name of, and on behalf of, the corporation or any subsidiary, or to intervene in an existing action to which the corporation or any of its subsidiaries is a party, for the purpose of prosecuting, defending or discontinuing an action on behalf of the corporation or its subsidiary. Under the BCA, no action may be brought and no intervention in an action may be made unless a court is satisfied that: § the shareholder has given the required 14-day notice to the directors of the corporation or the subsidiary of the shareholder's intention to apply to the court if the directors do not bring, diligently prosecute or defend or discontinue the action; § the shareholder is acting in good faith; and § it appears to be in the interests of the corporation or the relevant subsidiary that the action be brought. prosecuted, defended or discontinued. Under the BCA, the court in a derivative action may make any order it thinks fit. In addition, under the BCA, a court may order the corporation or its relevant subsidiary to pay the shareholder's interim costs, including reasonable legal fees and disbursements. Although the shareholder may he held accountable for the interim costs on final disposition of the complaint, the shareholder is not required to give security for costs in a derivative action.

	Delaware	BCA
Anti-Takeover and Ownership Provisions	Unless an issuer opts out of the provisions of Section 203 of the DGCL, Section 203 generally prohibits a public Delaware corporation from engaging in a "business combination" with a holder of 15% or more of the corporation's voting stock (as defined in Section 203), referred to as an interested stockholder, for a period of three years after the date of the transaction in which the interested stockholder became an interested stockholder, except as otherwise provided in Section 203. For these purposes, the term "business combination" includes mergers, assets sales and other similar transactions with an interested stockholder.	While the BCA does not contain specific anti-takeover provisions with respect to "business combinations," rules and policies of certain Canadian securities regulatory authorities, including Multilateral Instrument 61-101 — Protection of Minority Security Holders in Special Transactions, or Multilateral Instrument 61-101, contain requirements in connection with, among other things, 'related party transactions" and "business combinations", including, among other things, any transaction by which an issuer directly or indirectly engages in the following with a related party: acquires, sells, leases or transfers an asset, acquires the related party, acquires or issues treasury securities, amends the terms of a security if the security is owned by the related party or assumes or becomes subject to a liability or takes certain other actions with respect to debt. The term "related party" includes directors, senior officers and holders of more than 10% of the voting rights attached to all outstanding voting securities of the issuer or holders of a sufficient number of any securities of the issuer to materially affect control of the issuer. Multilateral Instrument 61-101 requires, subject to certain exceptions, the preparation of a formal valuation relating to certain aspects of the transaction and more detailed disclosure in the proxy material sent to security holders in connection with a related party transaction including related to the valuation. Multilateral Instrument 61-101 also requires, subject to certain exceptions, that an issuer not engage in a related party transaction unless the shareholders of the issuer, other than the related parties, approve the transaction by a simple majority of the votes cast.

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our common shares, and a liquid trading market for our common shares may not develop or be sustained after this offering. Future sales of our common shares, including shares issued upon the exercise of outstanding options, in the public market after the completion of this offering, or the perception that those sales may occur, could adversely affect the prevailing market price for our common shares from time to time or impair our ability to raise equity capital in the future. As described below, only a limited number of our common shares will be available for sale in the public market for a period of several months after the completion of this offering due to contractual and legal restrictions on resale described below. Future sales of our common shares in the public market either before or after restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price of our common shares at such time and our ability to raise equity capital at a time and price we deem appropriate.

Sale of Restricted Shares

Based on the number of common shares outstanding as of December 31, 2018, upon the closing of this offering and assuming (i) the automatic conversion of our outstanding preferred shares into an aggregate of 93,378,257 common shares immediately prior to the completion of this offering, (ii) no exercise of the underwriters' option to purchase additional common shares, and (iii) no exercise of outstanding options, we will have outstanding an aggregate of approximately common shares. Of these shares, all of the common shares to be sold in this offering will be freely tradable in the public market without restriction or further registration under the Securities Act, unless the shares are held by any of our "affiliates" as such term is defined in Rule 144 of the Securities Act, or Rule 144 or subject to lock-up agreements. All remaining common shares held by existing shareholders immediately prior to the consummation of this offering will be "restricted securities," as such term is defined in Rule 144. These restricted securities were issued and sold by us in private transactions and are eligible for public sale only if registered under the Securities Act or if they qualify for an exemption from registration under the Securities Act, including the exemptions provided by Rule 144 or Rule 701 of the Securities Act, or Rule 701, which rules are summarized below.

As a result of the lock-up agreements referred to below and the provisions of Rule 144 and Rule 701 under the Securities Act, based on the number of our common shares outstanding as of December 31, 2018, the common shares (excluding the shares sold in this offering) that will be available for sale in the public market are as follows:

APPROXIMATE NUMBER OF SHARES	FIRST DATE AVAILABLE FOR SALE INTO PUBLIC MARKET
shares	181 days after the date of this prospectus, upon expiration of the lock-up agreements referred to below, subject in some cases to applicable volume, manner of sale and other limitations under Rule 144 and Rule 701.

We may issue common shares from time to time as consideration for future acquisitions, investments or other corporate purposes. In the event that any such acquisition, investment or other transaction is significant, the number of common shares that we may issue may in turn be significant. We may also grant registration rights covering those common shares issued in connection with any such acquisition and investment.

In addition, the common shares reserved for future issuance under our 2019 Plan will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, the lock-up agreements, a registration statement under the Securities Act or an exemption from registration, including Rule 144 and Rule 701.

Rule 144

In general, persons who have beneficially owned restricted common shares for at least six months, and any affiliate of the company who owns common shares, are entitled to sell their securities without registration with the SEC under an exemption from registration provided by Rule 144.

Under Rule 144, as currently in effect, once we have been subject to the public company reporting requirements of the Exchange Act for at least 90 days, and we are current in our Exchange Act reporting at the time of sale, a person (or persons whose shares are required to be aggregated) who is not deemed to have been one of our "affiliates" for purposes of Rule 144 at any time during the 90 days preceding a sale and who has beneficially owned restricted securities within the meaning of Rule 144 for at least six months, including the holding period of any prior owner other than one of our "affiliates," is entitled to sell those shares in the public market (subject to the lock-up agreement referred to below, if applicable) without complying with the manner of sale, volume limitations or notice provisions of Rule 144, but subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than "affiliates," then such person is entitled to sell such shares in the public market without complying with any of the requirements of Rule 144 (subject to the lock-up agreement referred to below, if applicable).

In general, under Rule 144, as currently in effect, once we have been subject to the public company reporting requirements of the Exchange Act for at least 90 days, our "affiliates," as defined in Rule 144, who have beneficially owned the shares proposed to be sold for at least six months, are entitled to sell in the public market, upon expiration of any applicable lock-up agreements and within any three-month period, a number of those common shares that does not exceed the greater of:

- 1% of the number of common shares then outstanding, which will equal approximately common shares immediately upon the completion of this offering (calculated as of December 31, 2018 on the basis of the assumptions described above and assuming no exercise of the underwriter's option to purchase additional shares and no exercise of outstanding options); or
- the average weekly trading volume of our common shares on Nasdaq during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Such sales under Rule 144 by our "affiliates" or persons selling shares on behalf of our "affiliates" are also subject to certain manner of sale provisions, notice requirements and to the availability of current public information about us. Notwithstanding the availability of Rule 144, the holders of substantially all of our restricted securities have entered into lock-up agreements as referenced below and their restricted securities will become eligible for sale (subject to the above limitations under Rule 144) upon the expiration of the restrictions set forth in those agreements.

Rule 701

In general, under Rule 701 as currently in effect, any of our employees, directors, officers, consultants or advisors who acquired common shares from us in connection with a written compensatory share or option plan or other written agreement in compliance with Rule 701 before the effective date of the registration statement of which this prospectus is a part (to the extent such common shares are not subject to a lock-up agreement) and who are not our "affiliates" as defined in Rule 144 during the immediately preceding 90 days, is entitled to rely on Rule 701 to resell such shares beginning 90 days after the date of this prospectus in reliance on Rule 144, but without complying with the notice, manner of sale, public

information requirements or volume limitation provisions of Rule 144. Persons who are our "affiliates" may resell those shares beginning 90 days after the date of this prospectus without compliance with Rule 144's minimum holding period requirements (subject to the terms of the lock-up agreement referred to below, if applicable).

Lock-Up Agreements

In connection with this offering, we, our directors, our executive officers and holders of all of our other outstanding common shares or securities convertible into or exchangeable for common shares outstanding upon the completion of this offering, have agreed, subject to certain exceptions, with the underwriters not to directly or indirectly offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose of or hedge any common shares or any options to purchase common shares, or any securities convertible into or exchangeable for common shares during the period from the date of the lock-up agreement continuing through the date 180 days after the date of this prospectus, except with the prior written consent of the representatives of the underwriters, and certain other exceptions. These agreements are described in the section titled "Underwriting."

In addition to the restrictions contained in the lock-up agreements described above, we have entered into agreements with certain security holders, including the third amended and restated registration rights agreement and our standard form of option agreement, that contain market stand-off provisions imposing restrictions on the ability of such security holders to offer, sell or transfer our equity securities for a period of 180 days following the date of this prospectus.

Prior to the completion of the offering, certain of our employees, including our executive officers, and/or directors, may enter into written trading plans that are intended to comply with Rule 10b5-1 under the Exchange Act. Sales under these trading plans would not be permitted until the expiration of the lock-up agreements relating to the offering described above.

Following the lock-up periods set forth in the agreements described above, and assuming that the representatives of the underwriters do not release any parties from these agreements and that there is no extension of the lock-up period, all of the common shares that are restricted securities or are held by our affiliates as of the date of this prospectus will be eligible for sale in the public market in compliance with Rule 144.

Registration Rights

Upon the completion of this offering, the holders of common shares will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements described under "— Lock-Up Agreements" above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates, immediately upon the effectiveness of the registration statement of which this prospectus is a part. Any sales of securities by these shareholders could have a material adverse effect on the trading price of our common shares. See the section titled "Description of Share Capital — Registration Rights."

Equity Incentive Plans

We intend to file with the SEC a registration statement on Form S-8 under the Securities Act covering the common shares reserved for issuance under our equity incentive plans. The registration statement is expected to be filed and become effective as soon as practicable after the completion of this offering. Accordingly, shares registered under the registration statement will be available for sale in the open market following its effective date, subject to Rule 144 volume limitations and the lock-up agreements described above, if applicable.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR U.S. HOLDERS

The following is a description of the material U.S. federal income tax consequences to the U.S. Holders described below of owning and disposing of our common shares. It is not a comprehensive description of all tax considerations that may be relevant to a particular U.S. Holder. This discussion applies only to a U.S. Holder that holds our common shares as a capital asset for U.S. federal tax purposes (generally, property held for investment). In addition, it does not describe all of the tax consequences that may be relevant in light of a U.S. Holder's particular circumstances, including state and local tax consequences, estate tax consequences, alternative minimum tax consequences, and tax consequences applicable to U.S. Holders subject to special rules, such as:

- banks, insurance companies, and certain other financial institutions;
- U.S. expatriates and certain former citizens or long-term residents of the United States;
- dealers or traders in securities who use a mark-to-market method of tax accounting;
- persons holding common shares as part of a hedging transaction, "straddle," wash sale, conversion transaction or integrated transaction or persons entering into a constructive sale with respect to common shares;
- persons whose "functional currency" for U.S. federal income tax purposes is not the U.S. dollar;
- brokers, dealers or traders in securities, commodities or currencies;
- tax-exempt entities or government organizations;
- S corporations, partnerships or other entities or arrangements classified as partnerships for U.S. federal income tax purposes, except to the limited extent set forth below;
- regulated investment companies or real estate investment trusts;
- persons who acquired our common shares pursuant to the exercise of any employee share option or otherwise as compensation;
- persons that own or are deemed to own 10% or more of the voting power or value of our shares; and
- persons holding our common shares in connection with a trade or business, permanent establishment or fixed base outside the United States.

If an entity that is classified as a partnership for U.S. federal income tax purposes holds common shares, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding common shares and partners in such partnerships are encouraged to consult their tax advisers as to the particular U.S. federal income tax consequences of holding and disposing of common shares.

U.S. Holders that own (directly, indirectly, or constructively) 10% or more of our total combined voting power or value could be subject to adverse U.S. federal income tax consequences pursuant to the controlled foreign corporation rules due to our ownership of a U.S. subsidiary. Such prospective U.S. Holders should consult with their tax advisors as to the tax consequences of acquiring, owning and disposing of our common shares.

The discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, existing, proposed and temporary U.S. Treasury Regulations promulgated thereunder and administrative and judicial interpretations thereof and the income tax treaty between Canada and the United States, or the Canada-U.S. Tax Treaty, all as of the date hereof, changes to any of which may affect the tax consequences described herein — possibly with retroactive effect. There can be no assurances that the U.S. Internal Revenue Service, or the IRS, will not take a position concerning the tax consequences of the acquisition, ownership and disposition of our common shares or that such a position would not be sustained by a court.

A "U.S. Holder" is a holder who, for U.S. federal income tax purposes, is a beneficial owner of common shares who is eligible for the benefits of the Canada-U.S. Tax Treaty, including meeting the Limitation on Benefits article thereof, and is:

(i) an individual who is a citizen or resident of the United States;

(ii) a corporation, or another entity taxable as a corporation, created or organized in or under the laws of the United States, any state therein or the District of Columbia;

(iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source; or

(iv) a trust if (1) a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have authority to control all substantial decisions of the trust or (2) the trust has a valid election to be treated as a U.S. person under applicable U.S. Treasury Regulations.

U.S. Holders are encouraged to consult their tax advisers concerning the U.S. federal, state, local and foreign tax consequences of owning and disposing of our common shares in their particular circumstances.

THESE PARAGRAPHS ARE ONLY A SUMMARY OF CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS OF AN INVESTMENT IN OUR COMMON SHARES BY U.S. PERSONS, AND ARE INTENDED AS A GENERAL GUIDE ONLY. WE STRONGLY ENCOURAGE ALL POTENTIAL U.S. PERSONS WHO MAY PURCHASE OUR COMMON SHARES TO OBTAIN ADVICE IN ADVANCE OF DOING SO FROM THEIR OWN TAX ADVISERS AS TO THE U.S. FEDERAL, STATE AND LOCAL AND FOREIGN TAX CONSEQUENCES OF THEIR ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR COMMON SHARES IN THEIR OWN SPECIFIC CIRCUMSTANCES.

Passive Foreign Investment Company Rules

If we are classified as a PFIC in any taxable year, a U.S. Holder will be subject to special rules generally intended to reduce or eliminate any benefits from the deferral of U.S. federal income tax that a U.S. Holder could derive from investing in a non-U.S. company that does not distribute all of its earnings on a current basis.

A non-U.S. corporation will be classified as a PFIC for any taxable year in which, after applying certain look-through rules, either:

- at least 75% of its gross income is passive income (such as interest income); or
- at least 50% of its gross assets (determined on the basis of a quarterly average) is attributable to assets that produce passive income or are held for the production of passive income.

We will be treated as owning our proportionate share of the assets and earning our proportionate share of the income of any other corporation, the equity of which we own, directly or indirectly, 25% or more (by value).

We may be characterized as a PFIC in our taxable years ending December 31, 2018 and December 31, 2019. The application of the PFIC rules is subject to uncertainty in several respects, and therefore, no assurances can be provided with respect to our PFIC status for our taxable year ending December 31, 2018 or with regard to our PFIC status in the past or in the future.

A separate determination must be made after the close of each taxable year as to whether we are a PFIC for that year. As a result, our PFIC status may change from year to year. The total value of our assets for purposes of the asset test generally may be determined in part by reference to the market price of the common shares, which may fluctuate considerably. Fluctuations in the market price of the common shares may result in our being a PFIC for any taxable year. Because of the uncertainties involved in establishing our PFIC status, our United States tax counsel expresses no opinion regarding our PFIC status.

If we are classified as a PFIC in any year with respect to which a U.S. Holder owns common shares, we will continue to be treated as a PFIC with respect to such U.S. Holder in all succeeding years during which the U.S. Holder owns the common shares, regardless of whether we continue to meet the tests described above unless (i) we cease to be a PFIC and the U.S. Holder has made a valid "deemed sale" election under the PFIC rules, (ii) we cease to be a PFIC and the U.S. Holder has a valid mark-to-market election in effect (as described below) or (iii) the U.S. Holder makes a valid Qualified Electing Fund Election, or QEF Election, with respect to all taxable years during such U.S. Holders holding period in which we are a PFIC. However, a U.S. Holder may make a QEF Election with respect to our common shares only if we annually provide such U.S. Holder with certain tax information, and we currently do not intend to prepare or provide such information. As a result, the QEF Election is not expected to be available to a U.S. Holder and the remainder of this discussion assumes that such election will not be available. If the "deemed sale" election is made, a U.S. Holder will be deemed to have sold the common shares the U.S. Holder holds at their fair market value and any gain from such deemed sale would be subject to the rules described below. After the deemed sale election, so long as we do not become a PFIC in a subsequent taxable year, the U.S. Holder's common shares with respect to which such election was made will not be treated as shares in a PFIC and the U.S. Holder will not be subject to the rules described below with respect to any "excess distribution" the U.S. Holder receives from us or any gain from an actual sale or other disposition of the common shares. U.S. Holders should consult their tax advisors as to the possibility and consequences of making a deemed sale election if we cease to be a PFIC and such election becomes available.

For each taxable year we are treated as a PFIC with respect to U.S. Holders, U.S. Holders will be subject to special tax rules with respect to any "excess distribution" such U.S. Holder receives and any gain such U.S. Holder recognizes from a sale or other disposition (including a pledge) of common shares, unless (i) such U.S. Holder makes a QEF Election with respect to all taxable years of a U.S. Holder's holding period during which we are a PFIC or makes a purging election to cause a deemed sale of the common shares at their fair market value in conjunction with a QEF election (however, as discussed above, such elections are expected and assumed not to be available) or (ii) our common shares constitute "marketable" securities, and such U.S. Holder makes a mark-to-market election as discussed below. Distributions a U.S. Holder receives in a taxable year that are greater than 125% of the average annual distributions a U.S. Holder received during the shorter of the three preceding taxable years or the U.S. Holder's holding period for the common shares will be treated as excess distributions; in addition, any gain recognized from the disposition of our common shares will constitute an excess distribution. Under these special tax rules:

- an excess distribution will be allocated ratably over a U.S. Holder's holding period for the common shares;
- the amount allocated to the current taxable year, and any taxable year prior to the first taxable year in which we became a PFIC, will be treated as ordinary income; and
- the amount allocated to each other year will be subject to the highest tax rate in effect for that year and the interest charge generally applicable to underpayments of tax will be imposed on the resulting tax attributable to each such year.

The tax liability for amounts allocated to years prior to the year of disposition or the year of an "excess distribution" cannot be offset by any net operating losses for such years, and gains (but not losses) realized on the sale of the common shares cannot be treated as capital, even if a U.S. Holder holds the common shares as capital assets.

If we are a PFIC, a U.S. Holder will generally be subject to similar rules with respect to distributions we receive from, and our dispositions of the shares of, any of our direct or indirect subsidiaries that also are PFICs, as if such distributions were indirectly received by, and/or dispositions were indirectly carried out by, such U.S. Holder.

If we are a PFIC, U.S. Holders can avoid the interest charge on excess distributions or gain relating to the common shares by making a mark-to-market election with respect to the common shares, provided that the

common shares are "marketable." Common shares will be marketable if they are "regularly traded" on certain U.S. stock exchanges or on a foreign stock exchange that meets certain conditions. For these purposes, the common shares will be considered regularly traded during any calendar year during which they are traded, other than in de minimis quantities, on at least 15 days during each calendar quarter. Any trades that have as their principal purpose meeting this requirement will be disregarded. Our common shares will be listed on Nasdaq, which is a qualified exchange for these purposes. Consequently, if our common shares remain listed on Nasdaq and are regularly traded, and you are a U.S. Holder that holds our common shares, we expect the mark-to-market election would be available to you if we are a PFIC. Each U.S. Holder should consult its tax advisor as to whether a mark-to-market election is available or advisable with respect to the common shares.

A U.S. Holder that makes a mark-to-market election must include as ordinary income for each year an amount equal to the excess, if any, of the fair market value of the common shares at the close of the taxable year over the U.S. Holder's adjusted tax basis in the common shares. Accordingly, such mark-to-market election may accelerate the recognition of income without a corresponding receipt of cash. An electing holder may also claim an ordinary loss deduction for the excess, if any, of the U.S. Holder's adjusted basis in the common shares over the fair market value of the common shares at the close of the taxable year, but this deduction is allowable only to the extent of any net mark-to-market gains for prior years. Gains from an actual sale or other disposition of the common shares will be treated as ordinary income, and any losses incurred on a sale or other disposition of the common shares will be treated as an ordinary loss to the extent of any net mark-to-market gains for prior years. Once made, the election cannot be revoked without the consent of the IRS, unless the common shares cease to be marketable.

However, a mark-to-market election generally cannot be made for equity interests in any lower-tier PFICs that we own, unless shares of such lower-tier PFIC are themselves "marketable." As a result, even if a U.S. Holder validly makes a mark-to-market election with respect to our common shares, the U.S. Holder may continue to be subject to the PFIC rules with respect to its indirect interest in any of our investments that are treated as an equity interest in a PFIC for U.S. federal income tax purposes. U.S. Holders should consult their tax advisors as to the availability and desirability of a mark-to-market election, as well as the impact of such election on interests in any lower-tier PFICs.

Unless otherwise provided by the U.S. Treasury, each U.S. Holder of a PFIC is required to file an annual report containing such information as the U.S. Treasury may require. A U.S. Holder's failure to file the annual report will cause the statute of limitations for such U.S. Holder's U.S. federal income tax return to remain open with regard to the items required to be included in such report until three years after the U.S. Holder files the annual report, and, unless such failure is due to reasonable cause and not willful neglect, the statute of limitations for the U.S. Holder's entire U.S. federal income tax return will remain open during such period.

WE STRONGLY URGE YOU TO CONSULT YOUR TAX ADVISOR REGARDING THE IMPACT OF OUR PFIC STATUS ON YOUR INVESTMENT IN THE COMMON SHARES AS WELL AS THE APPLICATION OF THE PFIC RULES TO YOUR INVESTMENT IN THE COMMON SHARES.

Taxation of Distributions

Subject to the discussion above under "Passive Foreign Investment Company Rules," to the extent the PFIC rules do not apply otherwise, distributions paid on common shares (including any amounts withheld in respect of foreign taxes), other than certain pro rata distributions of common shares, will generally be treated as dividends to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles). Because we may not calculate our earnings and profits under U.S. federal income tax principles, we expect that distributions generally will be reported to U.S. Holders as dividends. Subject to applicable limitations, dividends paid to certain non-corporate U.S. Holders may be taxable at preferential rates applicable to "qualified dividend income." However, the qualified dividend income treatment will not apply if we are treated as a PFIC with respect to the

U.S. Holder for the taxable year in which a dividend is paid or the preceding year. The amount of the dividend will be treated as foreign-source dividend income to U.S. Holders and will not be eligible for the dividends-received deduction generally available to U.S. corporations under the Code. Dividends will generally be included in a U.S. Holder's income on the date of the U.S. Holder's receipt of the dividend. The amount of any dividend income paid in foreign currency will be the U.S. dollar amount calculated by reference to the exchange rate in effect on the date of actual or constructive receipt, regardless of whether the payment is in fact converted into U.S. dollars. If the dividend is converted into U.S. dollars on the date of receipt, a U.S. Holder should not be required to recognize foreign currency gain or loss in respect of the dividend income. A U.S. Holder may have foreign currency gain or loss if the dividend is converted into U.S. dollars after the date of receipt. Such gain or loss would generally be treated as U.S. source ordinary income or loss. The amount of any distribution of property other than cash (and other than certain pro rata distributions of common shares or rights to acquire common shares) will be the fair market value of such property on the date of distribution.

For foreign tax credit limitation purposes, our dividends will generally be treated as passive category income. A U.S. Holder generally may claim the amount of any Canadian withholding tax as either a deduction from gross income or a credit against its U.S. federal income tax liability. However, the foreign tax credit is subject to numerous complex limitations that must be determined and applied on an individual basis.. Each U.S. Holder should consult its own tax advisors regarding the foreign tax credit rules.

Sale or Other Taxable Disposition of Common Shares

Subject to the discussion above under "Passive Foreign Investment Company Rules," to the extent the PFIC rules do not apply otherwise, gain or loss realized on the sale or other taxable disposition of common shares will be capital gain or loss, and will be a long-term capital gain or loss if the U.S. Holder held the common shares for more than one year. The amount of the gain or loss will equal the difference between the U.S. Holder's adjusted tax basis in the common shares disposed of and the amount realized on the disposition, in each case as determined in U.S. dollars. This gain or loss will generally be U.S. source gain or loss for foreign tax credit purposes. The deductibility of capital losses is subject to limitations.

If the consideration received by a U.S. Holder is not paid in U.S. dollars, the amount realized will be the U.S. dollar value of the payment received determined by reference to the spot rate of exchange on the date of the sale or other disposition. However, if the common shares are treated as traded on an "established securities market" and a U.S. Holder is either a cash basis taxpayer or an accrual basis taxpayer that has made a special election (which must be applied consistently from year to year and cannot be changed without the consent of the IRS), such U.S. Holder will determine the U.S. dollar value of the amount realized in a non-U.S. dollar currency by translating the amount received at the spot rate of exchange on the settlement date of the sale. If a U.S. Holder is an accrual basis taxpayer that is not eligible to or does not elect to determine the amount realized using the spot rate on the settlement date, such U.S. Holder will recognize foreign currency gain or loss to the extent of any difference between the U.S. dollar amount realized on the date of sale or disposition and the U.S. dollar value of the currency received at the spot rate on the settlement date.

Medicare Tax on Net Investment Income

Certain U.S. Holders who are individuals, estates or trusts are subject to an additional 3.8% U.S. federal income tax on all or a portion of their "net investment income," which generally includes dividends on the common shares and net gains from the disposition of the common shares. U.S. Holders that are individuals, estates or trusts should consult their tax advisors regarding the applicability of the Medicare tax to them.

Information Reporting and Backup Withholding

Payments of dividends and sales proceeds that are made within the United States or through certain U.S.-related financial intermediaries generally are subject to information reporting, and may be subject to backup withholding, unless (i) the U.S. Holder is a corporation or other exempt recipient or (ii) in the case

of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding (generally, by providing an IRS Form W-9).

Backup withholding is not an additional tax. The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against the holder's U.S. federal income tax liability and may entitle it to a refund, provided that the required information is timely furnished to the IRS.

Information with Respect to Foreign Financial Assets

Certain U.S. Holders who are individuals (and, under regulations, certain entities) may be required to report information relating to the common shares, subject to certain exceptions (including an exception for common shares held in accounts maintained by certain U.S. financial institutions). Such U.S. Holders who fail to timely furnish the required information may be subject to a penalty. Additionally, if a U.S. Holder does not file the required information, the statute of limitations with respect to tax returns of the U.S. Holder to which the information relates may not close until three years after such information is filed.

Certain U.S. Holders who are individuals (and, under regulations, certain entities) may be required to report information relating to the common shares, subject to certain exceptions (including an exception for common shares held in accounts maintained by certain U.S. financial institutions). Such U.S. Holders who fail to timely furnish the required information may be subject to a penalty. Additionally, if a U.S. Holder does not file the required information, the statute of limitations with respect to tax returns of the U.S. Holder to which the information relates may not close until three years after such information is filed. U.S. Holders should consult their tax advisers regarding their reporting obligations with respect to their ownership and disposition of the common shares.

MATERIAL CANADIAN FEDERAL INCOME TAX CONSIDERATIONS

The following is, as of the date hereof, a summary of the principal Canadian federal income tax considerations generally applicable under the Income Tax Act (Canada) and the regulations promulgated thereunder, collectively the Tax Act, to a purchaser who acquires, as beneficial owner, the common shares under this offering, and who, for purposes of the Tax Act and at all relevant times, (i) is not, and is not deemed to be, resident in Canada, (ii) holds the common shares as capital property, (iii) deals at arm's length with, and is not affiliated with, the company or the underwriters, and (iv) does not use or hold and will not be deemed to use or hold, the common shares in a business carried on in Canada, hereinafter, a Non-Resident Holder. Special rules, which are not discussed in this summary, may apply to an insurer that carries on an insurance business in Canada and elsewhere.

This summary is based upon the provisions of the Tax Act in force as of the date hereof, all specific proposals to amend the Tax Act that have been publicly announced by or on behalf of the Minister of Finance (Canada) prior to the date hereof, or the Proposed Amendments, the Canada-U.S. Tax Treaty, and an understanding of the current administrative policies and assessing practices of the Canada Revenue Agency, or the CRA, published in writing by it prior to the date hereof. This summary assumes the Proposed Amendments will be enacted in the form proposed. However, no assurance can be given that the Proposed Amendments will be enacted in their current form, or at all. This summary is not exhaustive of all possible Canadian federal income tax considerations and, except for the Proposed Amendments, does not take into account or anticipate any changes in the law or any changes in the CRA's administrative policies or assessing practices, whether by legislative, governmental or judicial action or decision, nor does it take into account or anticipate any other federal or any provincial, territorial or foreign tax considerations, which may differ significantly from those discussed herein.

This summary is not applicable to a Non-Resident Holder who makes or has made a "functional currency" reporting election; or that has entered or enters into a "derivative forward agreement" with respect to the common shares (each as defined in the Tax Act). **Any such Non-Resident Holder should consult its own tax advisor with respect to an investment in the common shares. This summary is of a general nature only and is not intended to be, nor should it be construed to be, legal or tax advice to any prospective purchaser or holder of the common shares, and no representations with respect to the income tax consequences to any prospective purchaser or holder are made. Consequently, prospective purchasers or holders of the common shares should consult their own tax advisors with respect to their particular circumstances.**

A Non-Resident Holder who acquires the common shares will be required to allocate the purchase price between the common shares on a reasonable basis in order to determine their respective costs for purposes of the Tax Act. Non-Resident Holders should consult their own tax advisers in this regard.

Currency Conversion

Generally, for purposes of the Tax Act, all amounts relating to the acquisition, holding or disposition of the common shares must be converted into Canadian dollars based on the exchange rates as determined in accordance with the Tax Act. The amounts subject to withholding tax and any capital gains or capital losses realized by a Non-Resident Holder may be affected by fluctuations in the Canadian-U.S. dollar exchange rate.

Dispositions

A Non-Resident Holder will not be subject to tax under the Tax Act on a disposition of a common share, unless the common share constitutes "taxable Canadian property" (as defined in the Tax Act) of the Non-Resident Holder at the time of disposition and the Non-Resident Holder is not entitled to relief under an applicable income tax treaty or convention.

Provided the common shares are listed on a "designated stock exchange," as defined in the Tax Act (which currently includes the Nasdaq Stock Market) at the time of disposition, the common shares will generally

not constitute taxable Canadian property of a Non-Resident Holder at that time, unless at any time during the 60-month period immediately preceding the disposition the following two conditions are satisfied concurrently: (i) (a) the Non-Resident Holder; (b) persons with whom the Non-Resident Holder did not deal at arm's length; (c) partnerships in which the Non-Resident Holder or a person described in (b) holds a membership interest directly or indirectly through one or more partnerships; or (d) any combination of the persons and partnerships described in (a) through (c), owned 25% or more of the issued shares of any class or series of the shares of the company; and (ii) more than 50% of the fair market value of the shares of the company was derived directly or indirectly from one or any combination of: real or immovable property situated in Canada, "Canadian resource properties", "timber resource properties" (each as defined in the Tax Act), and options in respect of, or interests in or for civil law rights in, such properties. Notwithstanding the foregoing, in certain circumstances set out in the Tax Act, the common shares could be deemed to be taxable Canadian property. Even if the common shares are taxable Canadian property to a Non-Resident Holder, such Non-Resident Holder may be exempt from tax under the Tax Act on the disposition of such common shares by virtue of an applicable income tax treaty or convention. **A Non-Resident Holder contemplating a disposition of common shares that may constitute taxable Canadian property should consult a tax advisor prior to such disposition.**

Dividends

Dividends paid or credited on the common shares or deemed to be paid or credited on the common shares to a Non-Resident Holder will be subject to Canadian withholding tax under the Tax Act at the rate of 25%, although such rate may be reduced under the provisions of an applicable income tax convention between Canada and the Non-Resident Holder's country of residence. For example, under the Canada-U.S. Tax Treaty, the applicable rate of Canadian withholding tax is generally reduced to 15%.

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, dated , 2019, among us and Jefferies LLC, Cowen and Company, LLC and Piper Jaffray & Co., as the representatives of the underwriters named below and the joint book-running managers of this offering, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the respective number of common shares shown opposite its name below:

Underwriter	Number of Shares
Jefferies LLC	
Cowen and Company, LLC	
Piper Jaffray & Co.	
Total	

The underwriting agreement provides that the obligations of the several underwriters are subject to certain conditions precedent such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the common shares if any of them are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated. We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have advised us that, following the completion of this offering, they currently intend to make a market in the common shares as permitted by applicable laws and regulations. However, the underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for the common shares, that you will be able to sell any of the common shares held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriters are offering the common shares subject to their acceptance of the common shares from us and subject to prior sale. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part. In addition, the underwriters have advised us that they do not intend to confirm sales to any account over which they exercise discretionary authority.

Commission and Expenses

The underwriters have advised us that they propose to offer the common shares to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers, which may include the underwriters, at that price less a concession not in excess of $ per common share. The underwriters may allow, and certain dealers may reallow, a discount from the concession not in excess of $ per common share to certain brokers and dealers. After the offering, the initial public offering price, concession and reallowance to dealers may be reduced by the representatives. No such reduction will change the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Per Share		Total	
	Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares	Without Option to Purchase Additional Shares	With Option to Purchase Additional Shares
Public offering price	$	$	$	$
Underwriting discounts and commissions paid by us	$	$	$	$
Proceeds to us, before expenses	$	$	$	$

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $. We have also agreed to pay the filing fees incident to, and the fees and disbursements of counsel for the underwriters in connection with, the required review by the Financial Industry Regulatory Authority, Inc.

Determination of Offering Price

Prior to this offering, there has not been a public market for our common shares. Consequently, the initial public offering price for our common shares will be determined by negotiations between us and the representatives. Among the factors to be considered in these negotiations will be prevailing market conditions, our financial information, market valuations of other companies that we and the underwriters believe to be comparable to us, estimates of our business potential, the present state of our development and other factors deemed relevant.

We offer no assurances that the initial public offering price will correspond to the price at which the common shares will trade in the public market subsequent to the offering or that an active trading market for the common shares will develop and continue after the offering.

Listing

We intend to apply to have our common shares listed on The Nasdaq Global Market under the trading symbol "MSPH."

Option to Purchase Additional Shares

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase, from time to time, in whole or in part, up to an aggregate of shares from us at the public offering price set forth on the cover page of this prospectus, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to specified conditions, to purchase a number of additional shares proportionate to that underwriter's initial purchase commitment as indicated in the table above. This option may be exercised only if the underwriters sell more shares than the total number set forth on the cover page of this prospectus.

No Sales of Similar Securities

We, our officers, directors and holders of our outstanding share capital and other securities have agreed, subject to specified exceptions, not to directly or indirectly:

- sell, offer, contract or grant any option to sell (including any short sale), pledge, transfer, establish an open "put equivalent position" within the meaning of Rule 16a-l(h) under the Exchange Act, or
- otherwise dispose of any shares of common shares, options or warrants to acquire common shares, or securities exchangeable or exercisable for or convertible into common shares currently or hereafter owned either of record or beneficially, or
- publicly announce an intention to do any of the foregoing for a period of 180 days after the date of this prospectus without the prior written consent of the representatives.

This restriction terminates after the close of trading of the common shares on and including the 180th day after the date of this prospectus.

The representatives may, in their sole discretion and at any time or from time to time before the termination of the 180-day period release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our shareholders who will execute a lock-up agreement, providing consent to the sale of shares prior to the expiration of the lock-up period.

Stabilization

The underwriters have advised us that they, pursuant to Regulation M under the Exchange Act, certain persons participating in the offering may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of the common shares at a level above that which might otherwise prevail in the open market. Establishing short sales positions may involve either "covered" short sales or "naked" short sales.

"Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional common shares in this offering. The underwriters may close out any covered short position by either exercising their option to purchase additional common shares or purchasing common shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares.

"Naked" short sales are sales in excess of the option to purchase additional common shares. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common shares in the open market after pricing that could adversely affect investors who purchase in this offering.

A stabilizing bid is a bid for the purchase of common shares on behalf of the underwriters for the purpose of fixing or maintaining the price of the common shares. A syndicate covering transaction is the bid for or the purchase of common shares on behalf of the underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, the underwriter's purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common shares or preventing or retarding a decline in the market price of our common shares. As a result, the price of our common shares may be higher than the price that might otherwise exist in the open market. A penalty bid is an arrangement permitting the underwriters to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering if the common shares originally sold by such syndicate member are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common shares. The underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

The underwriters may also engage in passive market making transactions in our common shares on The Nasdaq Global Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of common shares in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

Electronic Distribution

A prospectus in electronic format may be made available by e-mail or on the web sites or through online services maintained by one or more of the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of common shares for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriters' web sites and any information contained in any other web site maintained by any of the underwriters is not part of this prospectus, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

Other Activities and Relationships

The underwriters and certain of their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters and certain of their affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and certain of their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the underwriters or their respective affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The underwriters and their respective affiliates may hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common shares offered hereby. Any such short positions could adversely affect future trading prices of the common shares offered hereby. The underwriters and certain of their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

Canada

The common shares offered by this prospectus have not been qualified by prospectus for distribution in Canada, and may not be, directly or indirectly, offered or sold in Canada or to any residents of Canada, except in compliance with an exemption from Canadian prospectus requirements. Any sales of our common

shares in any province of Canada will only be made by a securities dealer appropriately registered in that province to make such sales, which may include a Canadian affiliate of one of the underwriters using a separate Canadian Offering Memorandum that will include a copy of this prospectus. Any common shares acquired may not be sold in Canada, except in compliance with Canadian prospectus requirements or an exemption therefrom.

Australia

This prospectus is not a disclosure document for the purposes of Australia's Corporations Act 2001 (Cth) of Australia, or Corporations Act, has not been lodged with the Australian Securities & Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this prospectus in Australia:

You confirm and warrant that you are either:

- a "sophisticated investor" under section 708(8)(a) or (b) of the Corporations Act;
- a "sophisticated investor" under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to the company which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made; or
- a "professional investor" within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor or professional investor under the Corporations Act any offer made to you under this prospectus is void and incapable of acceptance.

You warrant and agree that you will not offer any of the shares issued to you pursuant to this prospectus for resale in Australia within 12 months of those securities being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

European Economic Area

In relation to each member state of the European Economic Area which has implemented the Prospectus Directive, each referred to herein as a Relevant Member State, with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, referred to herein as the Relevant Implementation Date, no offer of any securities which are the subject of the offering contemplated by this prospectus has been or will be made to the public in that Relevant Member State other than any offer where a prospectus has been or will be published in relation to such securities that has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the relevant competent authority in that Relevant Member State in accordance with the Prospectus

Directive, except that with effect from and including the Relevant Implementation Date, an offer of such securities may be made to the public in that Relevant Member State:

- to any legal entity which is a "qualified investor" as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives of the underwriters for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of securities shall require the company or any of the underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

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

Hong Kong

No securities have been offered or sold, and no securities may be offered or sold, in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong, or SFO, and any rules made under that Ordinance; or in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong, or CO, or which do not constitute an offer to the public for the purpose of the CO or the SFO. No document, invitation or advertisement relating to the securities has been issued or may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under that Ordinance.

This prospectus has not been registered with the Registrar of Companies in Hong Kong. Accordingly, this prospectus may not be issued, circulated or distributed in Hong Kong, and the securities may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the securities will be required, and is deemed by the acquisition of the securities, to confirm that he is aware of the restriction on offers of the securities described in this prospectus and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Israel

This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this document is being distributed only to, and is directed only at, and any offer of the shares is directed only at, (i) a limited number of persons in accordance with section 15A of the Securities Law and (ii) investors listed in the first addendum, or the Addendum, to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals", each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948 of Japan, as amended), or FIEL, and the Initial Purchaser will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means, unless otherwise provided herein, any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly

or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines of Japan.

Singapore

This prospectus has not been and will not be lodged or registered with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or the invitation for subscription or purchase of the securities may not be issued, circulated or distributed, nor may the securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to the public or any member of the public in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore, or the SFA, (ii) to a relevant person as defined under Section 275(2), or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions, specified in Section 275 of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of any other applicable provision of the SFA.

Where the securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor as defined under Section 4A of the SFA) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor,

securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the common shares pursuant to an offer made under Section 275 of the SFA except:

- to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- where no consideration is or will be given for the transfer;
- where the transfer is by operation of law;
- as specified in Section 276(7) of the SFA; or
- as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This prospectus has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this prospectus nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this prospectus nor any other offering or marketing material relating to the offering, the company or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this prospectus will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

United Kingdom

This prospectus is only being distributed to, and is only directed at, persons in the United Kingdom that are qualified investors within the meaning of Article 2(1)(e) of the Prospectus Directive that are also (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended, referred to herein as the Order, and/or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the Order and other persons to whom it may lawfully be communicated. Each such person is referred to herein as a Relevant Person.

This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any person in the United Kingdom that is not a Relevant Person should not act or rely on this document or any of its contents.

LEGAL MATTERS

Certain legal matters in connection with this offering relating to U.S. law will be passed upon for us by Cooley LLP. The validity of the issuance of our common shares offered in this prospectus will be passed upon for us by Osler, Hoskin & Harcourt LLP, Montréal, Canada. Certain legal matters in connection with this offering will be passed upon for the underwriters by Wilmer Cutler Pickering Hale and Dorr LLP, New York, New York, with respect to U.S. law, and by McCarthy Tétrault LLP, with respect to Canadian law.

EXPERTS

The consolidated financial statements of Milestone Pharmaceuticals Inc. as of December 31, 2017, and for the year then ended, have been included herein and in the registration statement have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in accounting and auditing.

SERVICE OF PROCESS AND ENFORCEMENT OF LIABILITIES

We are incorporated under the laws of Canada. Substantially all of our assets are located outside the United States. In addition, several of our directors and officers are nationals and/or residents of countries other than the United States, and all or a substantial portion of such persons' assets may be located outside the United States. As a result, it may be difficult for investors to effect service of process within the United States upon us or such persons or to enforce against them or against us, judgments obtained in United States courts, including judgments predicated upon the civil liability provisions of the securities laws of the United States or any state thereof. In addition, investors should not assume that the courts of Canada (i) would enforce judgments of U.S. courts obtained in actions against us, our officers or directors, or other said persons, predicated upon the civil liability provisions of the U.S. federal securities laws or other laws of the United States or (ii) would enforce, in original actions, liabilities against us or such directors, officers or experts predicated upon the United States federal securities laws or any securities or other laws of any state or jurisdiction of the United States.

In addition, there is doubt as to the applicability of the civil liability provisions of U.S. federal securities law to original actions instituted in Canada. It may be difficult for an investor, or any other person or entity, to assert U.S. securities laws claims in original actions instituted in Canada.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1, including exhibits and schedules, under the Securities Act, with respect to the common shares being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and the common shares offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You may read our SEC filings, including this registration statement, over the Internet at the SEC's website at www.sec.gov. Upon the completion of this offering, we will be subject to the information reporting requirements of the Exchange Act and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available on the website of the SEC

referred to above. We also maintain a website at www.milestonepharmaceuticals.com, at which, following the completion of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

MILESTONE PHARMACEUTICALS INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Milestone Pharmaceuticals Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Milestone Pharmaceuticals Inc. and its subsidiary (together, the Company) as of December 31, 2017 and the related consolidated statements of operations, comprehensive loss and deficit, shareholders' deficit and convertible preferred stock and cash flows for the year then ended, including 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 as of December 31, 2017 and its results of operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America (US GAAP).

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. 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 audit of these consolidated financial statements in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud.

The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit, 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 audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP[(1)]
Montréal, Québec, Canada
December 19, 2018

We have served as the Company's auditor since 2016.

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(1) CPA auditor, CA, public accountancy permit No. A113048

Milestone Pharmaceuticals Inc.
Consolidated Balance Sheet
(expressed in US dollars)

	December 31, 2017
Assets	
Current assets	
Cash and cash equivalents	$ 10,880,312
Short-term investments	16,076,295
Sales taxes receivable	71,293
Research and development tax credits receivable	426,845
Prepaid expenses	100,048
Total current assets	27,554,793
Property and equipment (note 3)	34,711
Total assets	$ 27,589,504
Liabilities	
Current liabilities	
Accounts payable (note 4)	$ 818,898
Accrued liabilities (note 4)	781,992
Income taxes payable	3,983
	1,604,873
Convertible Preferred Shares (notes 2 and 5)	
Class A1 preferred shares, no par value, unlimited shares authorized, 1,979,924 shares issued as of December 31, 2017	2,026,950
Class A2 preferred shares, no par value, unlimited shares authorized, 13,000,000 shares issued as of December 31, 2017	12,642,840
Class B preferred shares, no par value, unlimited shares authorized, 15,058,529 shares issued as of December 31, 2017	17,198,328
Class C preferred shares, no par value, unlimited shares authorized, 20,143,569 shares issued as of December 31, 2017	27,236,276
	59,104,394
Shareholders' Deficit (note 6)	
Share capital	
Common shares, no par value, unlimited shares authorized, 1,276,678 shares issued and outstanding as of December 31, 2017	1,228,346
Additional paid-in capital	2,372,002
Cumulative translation adjustment	(1,634,580)
Accumulated deficit	(35,085,531)
Total shareholders' deficit	(33,119,763)
Total liabilities, convertible preferred shares and shareholders' deficit	$ 27,589,504
Commitments (note 9)	

The accompanying notes are an integral part of these consolidated financial statements.

Milestone Pharmaceuticals Inc.
Consolidated Statement of Operations and Comprehensive Loss
(expressed in US dollars)

	Year Ended December 31, 2017
Operating expenses	
Research and development, net of tax credits	$ 5,635,512
General and administrative	2,632,238
Total operating expenses	8,267,750
Loss from operations	(8,267,750)
Interest income, net of bank charges	185,471
Loss and comprehensive loss before income taxes	(8,082,279)
Income tax expense (note 7)	3,983
Net loss and comprehensive loss for the year	$ (8,086,262)
Weighted average number of shares outstanding, basic and diluted	1,259,346
Net loss per share, basic and diluted	$ (6.42)

The accompanying notes are an integral part of these consolidated financial statements.

Milestone Pharmaceuticals Inc.
Consolidated Statement of Shareholders' Deficit and Convertible Preferred Shares
(expressed in US dollars)

	Common Shares		Convertible Preferred Shares											
			Class A1		Class A2		Class B		Class C					
	Number of shares	Amount	Number of shares	Amount	Number of shares	Amount	Number of shares	Amount	Number of shares	Amount	Additional paid-in capital	Cumulative translation adjustment	Accumulated deficit	Total
Balance as of December 31, 2016	1,176,973	$1,191,085	1,979,924	$2,026,950	13,000,000	$12,642,840	12,015,050	$13,731,893	—	—	$2,199,020	$(1,634,580)	$ (26,999,269)	$ 3,157,9
Net loss and comprehensive loss	—	—	—	—	—	—	—	—	—	—	—	—	(8,086,262)	(8,086,2
Issuance of Class B preferred shares, net of share issuance costs (note 5)	—	—	—	—	—	—	3,043,479	3,466,435	—	—	—	—	—	3,466,4
Issuance of Class C preferred shares, net of share issuance costs (note 5)	—	—	—	—	—	—	—	—	20,143,569	$27,236,276	—	—	—	27,236,2
Exercise of stock options (note 6)	99,705	37,261	—	—	—	—	—	—	—	—	(17,372)	—	—	19,8
Share-based compensation (note 6)	—	—	—	—	—	—	—	—	—	—	190,354	—	—	190,3
Balance as of December 31, 2017	1,276,678	$1,228,346	1,979,924	$2,026,950	13,000,000	$12,642,840	15,058,529	$17,198,328	20,143,569	$27,236,276	$2,372,002	$(1,634,580)	$ (35,085,531)	$25,984,6

The accompanying notes are an integral part of these consolidated financial statements.

Milestone Pharmaceuticals Inc.
Consolidated Statement of Cash Flows
(expressed in US dollars)

	Year Ended December 31, 2017
Cash flows from	
Operating activities	
Net loss for the year	$ (8,086,262)
Adjustments to reconcile net loss to net cash used in operating activities:	
Amortization of property and equipment	7,925
Share-based compensation expense (note 6)	190,354
Changes in operating assets and liabilities:	
Sales taxes receivable	(42,171)
Research and development tax credits receivable	233,155
Prepaid expenses	(93,024)
Accounts payable	685,642
Accrued liabilities	(908,241)
Income taxes payable	3,983
Net cash used in operating activities	(8,008,639)
Investing activities	
Acquisition of property and equipment	(35,655)
Redemption of short-term investments	45,001
Acquisition of short-term investments	(16,076,295)
Net cash used in investing activities	(16,066,949)
Financing activities	
Issuance of Class B preferred shares (note 5)	3,500,000
Issuance of Class C preferred shares (note 5)	27,500,000
Issuance of common shares on exercise of share options (note 6)	19,888
Share issuance costs (note 5)	(297,289)
Net cash provided by financing activities	30,722,599
Net increase in cash and cash equivalents during the year	6,647,011
Cash and cash equivalents — Beginning of year	4,233,301
Cash and cash equivalents — End of year	$ 10,880,312

The accompanying notes are an integral part of these consolidated financial statements.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements
(expressed in US dollars)

1 Organization and nature of operations

Milestone Pharmaceuticals Inc. (Milestone or the Company) is a Phase 3 clinical-stage biopharmaceutical company incorporated under the Business Corporations Act of Québec. Milestone is dedicated to developing and commercializing etripamil for the treatment of cardiovascular indications. Etripamil is a novel, potent short-acting calcium channel blocker that the Company designed and is developing as a rapid-onset nasal spray to be administered by the patient to terminate episodes of paroxysmal supraventricular tachycardia as they occur.

2 Summary of significant accounting policies

Basis of consolidation

The consolidated financial statements include the accounts of the Company and Milestone Pharmaceuticals USA, Inc. Milestone Pharmaceuticals USA, Inc. was incorporated on March 3, 2017. All intercompany transactions and balances have been eliminated.

Basis of presentation and use of accounting estimates

These consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (US GAAP).

The preparation of consolidated financial statements in conformity with US GAAP requires the Company to make estimates and judgments that affect certain reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the year. The Company bases its estimates and assumptions on current facts, historical experience and various other factors that it believes are reasonable under the circumstances, to determine the carrying values of assets and liabilities that are not readily apparent from other sources. Significant estimates and judgments include, but are not limited to, research and development tax credits recoverable, research and development expenses, and share-based compensation. Accordingly, actual results may differ from those estimates and such differences may be material.

The Company has evaluated subsequent events and transactions for potential recognition or disclosure in the consolidated financial statements through December 19, 2018, the date at which the consolidated financial statements were authorized for issuance.

Segment information

The Company manages its operations as a single operating segment for the purposes of assessing performance and making operating decisions. As of December 31, 2017, all of the Company's long-lived assets were domiciled in Canada.

Cash and cash equivalents

Cash and cash equivalents consist of cash and highly liquid investments that are readily convertible into cash with original maturities of three months or less at acquisition date.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

2 Summary of significant accounting policies (Continued)

Short-term investments

Short-term investments are recorded at fair value and are comprised of guaranteed investment certificates with a maturity greater than 90 days but less than one year and, as such, are classified as current assets. It is the Company's intent to hold these investments to maturity.

Property and equipment

Property and equipment is stated at historical cost less accumulated amortization. Expenditures for maintenance and repairs are recorded to expense as incurred. The Company reviews its property and equipment whenever events or changes in circumstances indicate that the carrying value of certain assets might not be recoverable and recognizes an impairment loss when it is probable that an asset's realizable value is less than the carrying value. To date, no such impairment losses have been recorded. Amortization is calculated using the straight-line method over the following estimated useful lives of the assets:

Computer hardware and software	3 years
Office equipment	5 years
Furniture and fixtures	5 years
Leasehold improvements	3 years

Share issuance costs

Share issuance costs applicable to the issuance of equity instruments are recorded as a reduction of the financing equity proceeds.

Research and development and investment tax credits

Research and development costs are charged against income in the period of expenditure. The Company's research and development costs consist primarily of salaries and fees paid to contract research organizations (CROs) and to contract manufacturing organizations (CMOs).

Clinical trial expenses include direct costs associated with CROs, costs for the formulation and packaging of clinical trial material, as well as investigator and patient-related costs at sites at which the Company's trials are being conducted. Direct costs associated with the Company's CROs are generally payable on a time-and-materials basis, or when certain enrollment and monitoring milestones are achieved. Expenses related to a milestone are recognized in the period in which the milestone is achieved or in which management can determine that it is more likely than not that it will be achieved. The invoicing from clinical trial sites can lag several months. The Company records expenses for its clinical trial activities performed by third parties based upon estimates of the percentage of work completed of the total work over the life of the individual study in accordance with agreements established with CROs and clinical trial sites. The Company determines the estimates through discussions with internal clinical personnel and CROs as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services based on facts and circumstances known to the Company as of each consolidated balance sheet date.

The Company recognizes the benefit of Canadian research and development tax credits as a reduction of research and development costs for fully refundable investment tax credits and as a reduction of income taxes for investment tax credits that can only be claimed against income taxes payable when there is reasonable assurance that the claim will be recovered.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

2 Summary of significant accounting policies (Continued)

Income taxes

The provision for income taxes is computed using the liability method. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is recorded to reduce the carrying amount of deferred income tax assets when it is more likely than not that these assets will not be realized. Tax benefits related to tax positions not deemed to meet the "more-likely-than-not" threshold are not permitted to be recognized in the consolidated financial statements.

Foreign currency translations

The functional currency of the Company is the US dollar. Accordingly, transactions denominated in currencies other than the functional currency are measured and recorded in the functional currency at the exchange rate in effect on the date of the transactions. At each consolidated balance sheet date, monetary assets and liabilities denominated in currencies other than the functional currency are remeasured using the exchange rate in effect at that date. Non-monetary assets and liabilities and revenue and expense items denominated in foreign currencies are translated into the functional currency using the exchange rate prevailing at the dates of the respective transactions. Any gains or losses arising on remeasurement are included in the consolidated statement of operations.

Concentration of credit risk

Financial instruments which potentially subject the Company to concentration of credit risk consist primarily of cash and cash equivalents and investment securities classified as available-for-sale. The Company maintains deposits in federal financial institutions. Management believes that the Company is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held. Additionally, the Company has adopted an investment policy that includes guidelines relative to credit quality, diversification of maturities and liquidity.

Currency risk

The Company is exposed to currency risk due to financial instruments denominated in foreign currencies. The following table provides a summary of the Company's exposure to the Canadian dollar, which is expressed in US dollars:

	Total
Cash	$ 148,634
Short-term investments	32,094
Accounts payable and accrued liabilities	447,888
Net financial position exposure	$ 628,616

The Company does not enter into arrangements to hedge its currency risk exposure.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

2 Summary of significant accounting policies (Continued)

Accrued research and development expenses

Clinical trial costs are recorded as a component of research and development expenses. The Company accrues and expenses clinical trial activities performed by third parties based upon estimates of the percentage of work completed of the total work over the life of the individual study in accordance with agreements established with clinical research organizations and clinical trial sites. The Company determines the estimates through discussions with internal clinical personnel and CROs as to the progress or stage of completion of trials or services and the agreed-upon fee to be paid for such services based on facts and circumstances known to the Company as of each consolidated balance sheet date. However, actual costs and timing of clinical trials are highly uncertain, subject to risks and may change depending upon a number of factors, including the Company's clinical development plan. If the actual timing of the performance of services or the level of effort varies from the estimate, the Company will adjust the accrual accordingly. Adjustments to prior period estimates have not been material.

Fair value of financial instruments

Pursuant to the accounting guidance for fair value measurement and its subsequent updates, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e. the exit price) in an orderly transaction between market participants at the measurement date. The accounting guidance establishes a hierarchy for inputs used in measuring fair value that minimizes the use of unobservable inputs by requiring the use of observable market data when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on active market data. Unobservable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability based on the best information available in the circumstances.

The fair value hierarchy is broken down into the three input levels summarized below:

Level 1 — Valuations are based on quoted prices in active markets for identical assets or liabilities and readily accessible by the Company at the reporting date.

Level 2 — Valuations based on inputs other than the quoted prices in active markets that are observable either directly or indirectly in active markets.

Level 3 — Valuations based on unobservable inputs in which there is little or no market data, which requires the Company to develop its own assumptions.

The following tables present the Company's fair value hierarchy for all its financial assets (by major security type measured at fair value on a recurring basis as of December 31, 2017:

	Estimated fair value	Level 1	Level 2	Level 3
Assets				
Guaranteed investment certificates	$ 16,076,295	$ 16,076,295	$ —	$ —

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

2 Summary of significant accounting policies (Continued)

Share-based compensation

The Company has a share-based compensation plan which is described in detail in note 6 and records all share-based payments, including grants of employee share options, at their fair values. The fair value of share options granted to employees and non-employees is estimated at the date of grant using the Black-Scholes option pricing model. The Company recognizes share-based compensation expense over the requisite service period of the individual grants, which equals the vesting period, using the straight-line method. Forfeitures, if any, are recorded as they occur and there were no forfeitures for the year ended December 31, 2017. Any consideration paid by employees on exercising share options and the corresponding portion previously credited to contributed surplus are credited to share capital.

The Black-Scholes option pricing model used by the Company to calculate option values was developed to estimate fair value. This model also requires assumptions, including expected option life, volatility, risk-free interest rate and dividend yield, which greatly affect the calculated values. The assumptions applied by the Company are tabled below:

Volatility	82%
Risk-free interest rate	1.90%
Expected life	5.72 years
Dividend	0%

Expected option life is determined based on historical exercise and forfeiture patterns. Expected volatility is determined using comparable companies for which the information is publicly available. The risk-free interest rate is determined based on the US sovereign rates benchmark in effect at the time of grant with a remaining term equal to the expected life of the option. Dividend yield is based on the share option's exercise price and expected annual dividend rate at the time of grant.

Share-based payment awards with performance targets attainable after the requisite service period are treated as performance conditions that affect vesting. No compensation expense is recorded related to an award for which the transfer to the employee is contingent on the attainment of a performance target until it becomes probable that the performance target will be met.

Redeemable convertible preferred shares

The Company classifies shares that are redeemable at a fixed or determinable price on a fixed or determinable date outside of permanent equity. The redeemable convertible preferred shares are classified outside of shareholders' deficit because the shares contain certain redemption features that are not solely within the control of the Company. The Company records convertible preferred shares at fair value upon issuance, net of any issuance costs or discounts.

Net loss per share

Basic and diluted net loss per common share is determined by dividing net loss applicable to common shareholders by the weighted average number of common shares during the period. The outstanding convertible preferred shares and share-based compensation have been excluded from the calculation

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

2 Summary of significant accounting policies (Continued)

because their effects would be anti-dilutive. Therefore the weighted average number of shares used to calculate both basic and diluted loss per share are the same.

The following potentially dilutive securities have been excluded from the computation of diluted weighted average shares outstanding as of December 31, 2017, as they would be anti-dilutive:

Redeemable convertible preferred shares	50,182,022
Share options and unvested restricted share awards	5,153,718
	55,335,740

Amounts in the table above reflect the common share equivalents of the noted instruments.

Recently issued accounting pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (FASB) or other standards-setting bodies, and they are adopted by the Company as of the specified effective date.

In February 2016, the FASB issued Accounting Standards Update (ASU) No. 2016-02, Leases. Under the new standard, lessees will need to recognize a right-of-use asset and a lease liability for virtually all of their leases (other than leases that meet the definition of a short-term lease). The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for initial direct costs. For income statement purposes, the FASB retained a dual model, requiring leases to be classified as either operating or finance.

Operating leases will result in straight-line expense (similar to current operating leases) while finance leases will result in a front-loaded expense pattern (similar to current capital leases). Classification will be based on criteria that are largely similar to those applied in current lease accounting. Extensive quantitative and qualitative disclosures, including significant judgments made by management, will be required to provide greater insight into the extent of revenue and expense recognized and expected to be recognized from existing contracts. The standard is effective for fiscal years beginning after December 15, 2018. The new standard must be adopted using a modified retrospective transition and provides for certain practical expedients. Transition will require application of the new guidance at the beginning of the earliest comparative period presented. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, Compensation — Stock Compensation (Topic 718): Scope of Modification Accounting, which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The standard is effective for annual periods beginning after December 15, 2017. Early adoption is permitted. The Company is currently evaluating the impact that the adoption of ASU 2017-09 will have on its consolidated financial statements.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

2 Summary of significant accounting policies (Continued)

In June 2018, the FASB amended the accounting for share-based payment awards issued to non-employees. Under the revised guidance, the accounting for awards issued to non-employees will be similar to the accounting for employee awards. This includes allowing for the measurement of awards at the grant date and recognition of awards with performance conditions when those conditions are probable — both of which are earlier than under current guidance for non-employee awards. The new standard maintains or establishes certain specific guidance for non-employee awards on attribution of cost, requiring that an asset or expense be recognized in the same period and in the same manner as if the grantor had paid cash equal to the value of the award; and inputs to the option pricing model, providing an entity a policy choice to use the contractual term of an award as the expected term assumptions. The changes should reduce complexity and may also reduce volatility in the recognition of compensation cost for non-employee awards. The new guidance is effective for public business entities for fiscal years beginning after December 15, 2018. The Company is currently evaluating the impact that this standard will have on its consolidated financial statements.

3 Property and equipment

	Cost	Accumulated amortization	Net
Computer hardware and software	$ 3,673	$ 102	$ 3,571
Office equipment	27,727	724	27,003
Leasehold improvements	4,255	118	4,137
	$ 35,655	$ 944	$ 34,711

During the year, the Company wrote off fully amortized assets with a cost of $35,413. For the year ended December 31, 2017, amortization expense was $7,925 and was included in research and development expense.

4 Accounts payable and accrued liabilities

Accounts payable and accrued liabilities as of December 31, 2017 comprised the following:

Accounts payable for research and development activities	$ 663,457
Accounts payable for administrative activities	155,441
Accrued bonuses and other compensation-related liabilities	553,101
Accrued liabilities for research and development activities	98,834
Other accrued liabilities	130,057
	$ 1,600,890

5 Preferred shares

The Company's Class A1, A2, B and C redeemable convertible preferred shares (collectively known as "Convertible Preferred Shares") allows the holders to redeem their shares upon a change in control in the Company. As a result, the Company classifies its Convertible Preferred Shares as mezzanine equity. The Company charges specific incremental issuance costs incurred in the offering of Convertible Preferred Shares against the gross proceeds of the Convertible Preferred Shares.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

5 Preferred shares (Continued)

Authorized

An unlimited number of Class A1 preferred shares, voting based on the number of common shares into which they could be converted, annual non-cumulative dividend of 8% in preference to the holders of common shares calculated on their issue price. In addition, the Class A1 preferred shares are eligible to their pro rata shares, on an as-converted basis, to any dividend paid on common shares. The Class A1 preferred shares are subject to a weighted average antidilution adjustment in the event of a common share issuance at a price per share lower than C$1.00

An unlimited number of Class A2 preferred shares, voting based on the number of common shares into which they could be converted, preferential non-cumulative dividend of 8% *pari passu* with the Class B preferred shares and in preference to the holders of Class A1 preferred shares calculated on their issue price. In addition, the Class A2 preferred shares are eligible to their pro rata shares, on an as-converted basis, to any dividend paid on common shares. The Class A2 preferred shares are subject to a weighted average antidilution adjustment in the event of a common share issuance at a price per share lower than C$1.00

An unlimited number of Class B preferred shares, voting based on the number of common shares into which they could be converted, preferential non-cumulative dividend of 8% *pari passu* with the Class A2 preferred shares and in preference to the holders of Class A1 preferred shares calculated on their issue price. In addition, the Class B preferred shares are eligible to their pro rata shares, on an as-converted basis, to any dividend paid on common shares. The Class B preferred shares are subject to a weighted average antidilution adjustment in the event of a common share issuance at a price per share lower than $1.15

An unlimited number of Class C preferred shares, voting based on the number of common shares into which they could be converted, preferential non-cumulative dividend of 8% to the Class B and A2 preferred shares and in preference to the holders of Class A1 preferred shares calculated on their issue price. In addition, the Class B preferred shares are eligible to their pro rata shares, on an as-converted basis, to any dividend paid on common shares. The Class C preferred shares are subject to a weighted average antidilution adjustment in the event of a common share issuance at a price per share lower than $1.3652

The Company has early adopted the guidance on down round features from ASU 2017-11 with respect to the antidilution adjustments for the Class A1, Class A2, Class B and Class C preferred shares.

The Class A1, A2, B and C preferred shares are automatically converted into common shares at the applicable conversion price upon (i) closing of a qualified initial public offering resulting in gross proceeds of at least three times the issue price of the Class C preferred shares and resulting in gross proceeds of at least $60,000,000, whereby the shares would be listed on one or more Recognized Stock Exchanges; and (ii) the election to convert by a majority of the Class A1, A2, B and C preferred shares. The current conversion rate of Class A1, A2, B and C preferred shares into common shares is 1:1.

The holders of the Company's Convertible Preferred Shares will be entitled to receive non-cumulative dividends at the rate of 8% of the purchase price per annum in preference to any dividends to the holders of the common shares, payable as and if when declared by the Board of Directors. The Board has not declared any dividends as of December 31, 2017. The holders of the Convertible Preferred Shares also will be entitled to participate pro rata in any dividends paid to the holders of the common shares on an as-converted basis.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

5 Preferred shares (Continued)

Upon the liquidation of the Company, the holders of Convertible Preferred Stock will be entitled to receive, as of December 31, 2017, in preference to the holders of the common stock and in order of priority, an amount equal to $1.41 per share for Series C Convertible Preferred Stock, $1.29 per share for Series B Convertible Preferred Stock, $1.37 per share for Series A2 Convertible Preferred Stock and $1.58 per share for Series A1 Convertible Preferred Stock (the "Liquidation Preference"). Following payment in full to the holders of preferred shares of all amounts distributable to them, the remaining assets of the Company available for distribution to holders of the Company's share capital shall be distributed on a pro rata basis among (i) the holders of any preferred shares convertible into common shares of the Company on an as if converted basis; and (ii) the holders of the common shares.

The holders of 50% of Class A1, A2, B and C preferred shares, voting as a single class, may require that the Company redeem the preferred shared at the earlier of a sale or an exclusive license of all or substantially all intellectual property of the Company or all of the assets and the fifth anniversary of the second tranche closing date of the Class C preferred shares. The redemption price will be the higher of the liquidation preference or the fair market value of such preferred shares. Class A1 preferred shares may only be redeemed once Class A2 and B preferred shares are fully redeemed.

For the years ended December 31, 2016 and 2017, the Company issued the following Convertible Preferred Shares:

a) On May 20, 2016, the Company issued 3,478,260 Class B preferred shares for gross proceeds of $4,000,000. The costs related with this share issuance were $19,446.

b) On December 13, 2016, the Company issued 2,173,914 Class B preferred shares for gross proceeds of $2,500,000. The costs related with this share issuance were $6,044.

c) On March 15, 2017, the Company issued 3,043,479 Class B preferred shares for gross proceeds of $3,500,000. The costs related with this share issuance were $33,565.

d) On July 21, 2017, the Company entered into a share subscription under which it is committed to issue 40,287,138 new Class C preferred shares to its Class C preferred shareholders for a total consideration of $55,000,000. The shares will be issued in two separate tranches based on the achievement of milestones as specified in the subscription agreement.

e) On July 21, 2017, the Company issued the first tranche of 20,143,569 Class C preferred shares for gross proceeds of $27,500,000. The costs related with this share issuance were $263,724.

	Preferred shares								
	Class A1		Class A2		Class B		Class C		
	Number of shares	Amount	Number of shares	Amount	Number of shares	Amount	Number of shares	Amount	Total
Balance as of December 31, 2016	1,979,924	$2,026,950	13,000,000	$12,642,840	12,015,050	$13,731,893	—	—	$28,401,683
Issuance of Class B preferred shares, net of share issuance costs	—	—	—	—	3,043,479	3,466,435	—	—	3,466,435
Issuance of Class C preferred shares, net of share issuance costs	—	—	—	—	—	—	20,143,569	$27,236,276	27,236,276
Balance as of December 31, 2017	1,979,924	$2,026,950	13,000,000	$12,642,840	15,058,529	$17,198,328	20,143,569	$27,236,276	$59,104,394

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

6 Shareholders' deficit

Authorized share capital

An unlimited number of common shares, voting and participating, without par value

During the year ended December 31, 2017, the Company issued a total of 99,705 common shares for a total consideration of $19,888 pursuant to the exercise of 99,705 stock options at an average exercise price of US$0.200 per option. As a result, an amount of $17,372 previously included in additional paid-in capital related to the exercised options has been credited to share capital and deducted from additional paid-in capital.

Additional paid-in capital

Opening balance	$ 2,199,020
Share-based compensation expense	190,354
Exercise of stock options	(17,372)
Closing balance	$ 2,372,002

Share-based compensation

On July 22, 2017, the Company amended for a second time and restated the share option plan (the 2011 Plan) whereby options to purchase common shares of the Company's shares may be granted to directors, officers, employees, consultants and members of the scientific advisory board. The 2011 Plan is administered by the Board of Directors. The Board of Directors determines the number of options to be granted, the vesting period and the exercise price of new options. It is the Company's policy to establish the exercise price at an amount that approximates the fair value of the underlying shares on the date of grant as determined by the Board of Directors.

Under the 2011 Plan, unless otherwise decided by the Board of Directors, options vest and are exercisable as follows: 25% are exercisable from the first anniversary of grant date and 2.0833% become available at the end of each month after the first anniversary of grant date.

As of December 31, 2017, there were 10,611,245 options available for awards under the 2011 Plan, of which 5,153,178 options were granted, leaving 5,458,067 available for future grant as follows:

	Number of shares	Weighted average exercise price
Outstanding as of December 31, 2016	3,770,639	$ 0.201
Forfeited/expired	—	—
Granted	1,482,784	0.285
Exercised	(99,705)	0.200
Outstanding as of December 31, 2017	5,153,718	$ 0.213

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

6 Shareholders' deficit (Continued)

Options exercisable as of December 31, 2017 is as follows:

	Number of shares	Weighted average exercise price
Exercisable as of December 31, 2017	2,754,109	$ 0.190

As of December 31, 2017, the weighted average remaining contractual life was 7.9 years. The weighted average remaining contractual life was 7.0 years for vested options.

Options granted are valued using the Black-Scholes option pricing model. Amortization of the fair value of the options over vesting years has been expensed and credited to additional paid-in capital in shareholders' equity. The weighted average grant date fair values of options granted in 2017 was $0.197 per share. The total fair value of the options vested during 2017 was $190,354.

Total share-based compensation expense amounted to $190,354 for the year ended December 31, 2017.

As of December 31, 2017, there was $650,565 of total unrecognized compensation cost, related to non-vested share options, which is expected to be recognized over a remaining weighted average vesting period of 2.5 years.

	Number of options	Weighted average fair value
Non-vested as of December 31, 2016	2,217,035	$ 0.178
Granted	1,482,784	0.197
Vested, outstanding	(1,300,210)	0.173
Non-vested as of December 31, 2017	2,399,609	$ 0.193
Non-vested, including early exercised, as of December 31, 2017	2,399,609	$ 0.193

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

6 Shareholders' deficit (Continued)

The following table summarizes information with respect to share options outstanding as of December 31, 2017:

	Options outstanding			Options exercisable		
Exercise price	Number of options	Weighted average remaining contractual life (years)	Weighted average exercise price	Number of options	Weighted average remaining contractual life (years)	Weighted average exercise price
C$0.18	1,441,875	5.1	$ 0.144	1,364,767	5.1	$ 0.144
$0.21	2,326,842	8.5	0.210	951,276	8.3	0.210
$0.29	1,385,001	9.9	0.290	438,066	9.9	0.290
Total	5,153,718	7.9	$ 0.213	2,754,109	7.0	$ 0.190

The Company recognized share-based compensation expense as follows:

Administration	$ 83,471
Research and development	106,883
	$ 190,354

7 Income taxes

A reconciliation between tax expense and the product of accounting income multiplied by the basic income tax rate for the year ended December 31, 2017 is as follows:

Loss before income taxes	$ (8,082,279)
Basic income tax rate	26.79%
Computed income tax recovery	(2,165,242)
Effect on income tax rate resulting from	
Accounting charges not deductible for tax purposes	9,902
Share-based compensation	51,015
Unrecorded potential tax benefits of current period losses and other tax assets	2,119,612
Other	(11,304)
Income tax expense reported in the consolidated statement of operations, comprehensive loss and deficit	$ 3,983

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

7 Income taxes (Continued)

The Company has incurred Canadian federal and provincial net operating losses (NOL) from inception. As of December 31, 2017, the Company has NOL carry-forwards of approximately $25,400,000 and $24,400,000, respectively, for Canadian federal and Québec purposes, available to reduce future taxable income, which expire beginning in 2027 through 2037. The Company has no NOLs for U.S. tax purposes. The Company also has scientific research and experimental development expenditures of approximately $4,300,000 and $6,400,000, respectively, for Canadian federal and Québec income tax purposes, which have not been deducted. These expenditures are available to reduce future taxable income and have an unlimited carry-forward period. Research and development tax credits and expenditures are subject to verification by the tax authorities, and, accordingly, these amounts may vary.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

The Company's deferred tax assets consist of the following:

Net operating loss carry-forwards	$ 6,620,569
Tax basis of property and equipment in excess of carrying values	90,660
Federal SR&ED investment tax credits	(33,896)
Research and development expenditures	1,379,886
Financing costs	82,458
Others	2,689
Total gross deferred tax assets	8,142,366
Valuation allowance	(8,142,366)
Net deferred tax assets	$ —

The Company files income tax returns in Canada and the United States. The Company is subject to Canada Revenue Agency and Revenu Québec examination for fiscal years 2014 to 2017 due to unexpired statute of limitation periods.

8 Government assistance

The Company incurred research and development expenditures that are eligible for investment tax credits. The investment tax credits recorded are based on management's estimates of amounts expected to be recovered and are subject to audit by the taxation authorities. These amounts have been recorded as a reduction of research and development expenditures for an amount of $522,664 for the year ended December 31, 2017.

Milestone Pharmaceuticals Inc.
Notes to Consolidated Financial Statements (Continued)
(expressed in US dollars)

9 Commitments

Facility lease

The Company has a lease commitment for its headquarters located in Montréal, Québec, expiring on November 30, 2020 and with an option to renew for an additional three years. The minimum lease payments for the next three years are as follows:

	Lease operating expenses	Lease base rent expenses
2018	$ 93,849	$ 101,275
2019	93,849	101,275
2020	86,027	92,836
	$ 273,725	$ 295,386

Total rental expense under operating leases for the year ended December 31, 2017 was $77,361.

10 Subsequent event

On October 17, 2018, the Company issued an aggregate of 43,176,235 convertible Class D1 and D2 preferred shares for gross proceeds of $80,000,000. Upon closing, Class A1, A2, B, C, D1 and D2 preferred shares will now automatically convert into common shares upon (i) the closing of a qualified initial public offering at a price per share based on a pre-money valuation of the Company of at least $250,000,000 and resulting in gross proceeds of at least $60,000,000, whereby the common shares would be listed on one or more Recognized Stock Exchanges; or (ii) the election to convert by a majority of Class A1, A2, B, C, D1 and D2 preferred shares. See note 5.

Table of Contents

Common Shares

PRELIMINARY PROSPECTUS

Joint Book-Running Managers

Jefferies

Cowen

Piper Jaffray

, 2019

Through and including , 2019 (the 25th day after the commencement of this offering), all dealers that buy, sell or trade common shares, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the costs and expenses, other than the underwriting discounts and commissions, payable by the registrant in connection with the sale of our common shares being registered. All amounts are estimates except for the Securities and Exchange Commission, or SEC, registration fee, the Financial Industry Regulatory Authority, or FINRA, filing fee and The Nasdaq Global Market, or Nasdaq, listing fee.

ITEM	AMOUNT
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq listing fee	*
Printing expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent fees and expenses	*
Miscellaneous expenses	*
Total	$ *

* To be provided by amendment.

Item 14. Indemnification of Directors and Officers.

Under the Business Corporations Act (Québec), or the BCA, and our amended and restated by-laws, we must indemnify our current or former directors and officers, agents or any other individuals who act or has acted at our request as a director or officer of a related entity, against all costs, charges and expenses reasonably incurred by such individual in connection with any civil, criminal, administrative, investigative or other proceeding in which such individual is involved because of his or her association with us or a related entity. The BCA also provides that we may, with the approval of the court, also make an advance payment to such individual for costs, charges and expenses reasonably incurred in connection with such a proceeding, provided, however, that such individual shall repay such payment if he or she does not fulfill the conditions described below.

Indemnification is prohibited under the BCA unless the individual:

- acted with honestly and loyalty in our interests, or in the interests of the other entity for which the individual acted as director or officer or in a similar capacity at our request;
- in the case of a proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that his or her conduct was lawful; and
- was not judged by the court to have committed an intentional or gross fault.

The BCA and our by-laws authorize us to purchase and maintain insurance for the benefit of each of our current or former directors or officers and other agents and each person who acts or acted at our request as a director, officer or other agents or an individual acting in a similar capacity, of another entity.

In addition, we have entered, or intend to enter, into separate indemnity agreements with each of our directors and officers pursuant to which we agree to indemnify and hold harmless our directors and officers

against any and all liability, loss, damage, cost or expense in accordance with the terms and conditions of the BCA and our by-laws.

The Registrant has purchased and currently intends to maintain insurance on behalf of each and every person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

The form of Underwriting Agreement for this initial public offering provides for indemnification by the underwriters of us and our officers and directors who sign this Registration Statement for specified liabilities, including matters arising under the Securities Act.

Item 15. Recent Sales of Unregistered Securities.

The following list sets forth information as to all securities we have sold since December 1, 2015 up to the date of the prospectus that is a part of this registration statement:

(1) We granted options under our Stock Option Plan, as amended and restated, or 2011 Plan, to purchase an aggregate of 12,070,010 common shares, with exercise prices ranging from $0.21 to $0.50 per share, to employees, directors and consultants. Of these 1,670,876 shares have been issued upon the exercise of options, at a weighted average exercise price of $0.25 per share, for aggregate proceeds of $423,031 and 38,958 options have been cancelled.

(2) In July 2017, we issued and sold an aggregate of 20,143,569 Class C preferred shares to 10 accredited investors at a price per share of $1.3652 for an aggregate purchase price of $27.5 million.

(3) In October 2018, we issued and sold an aggregate of 33,667,231 Class D1 preferred shares to 16 accredited investors at a price per share of $1.7727 for an aggregate purchase price of $65.0 million.

(4) In October 2018, we issued and sold an aggregate of 6,509,004 Class D2 preferred shares to 4 accredited investors at a price per share of $2.3045 for an aggregate purchase price of $15.0 million.

The offers, sales and issuances of the securities described in paragraph (1) were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were employees, directors or bona fide consultants of the Registrant and received the securities under the 2011 Plan. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about the Registrant.

The offers, sales and issuances of the securities described in paragraphs (2) through (4) above were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act and Rule 506 promulgated under Regulation D promulgated thereunder as transactions by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act and had adequate access, through employment, business or other relationships, to information about the Registrant. No underwriters or placement agents were involved in these transactions.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

The exhibits listed below are filed as part of this registration statement.

EXHIBIT NUMBER	DESCRIPTION
1.1*	Form of Underwriting Agreement.
3.1	Articles of Incorporation, as amended, as currently in effect.
3.2*	Form of Amended and Restated Articles of Incorporation, to be effective immediately after to the completion of this offering.
3.3	Bylaws, as amended, as currently in effect.
3.4*	Form of Amended and Restated Bylaws, to be effective immediately prior to the completion of this offering.
4.1*	Form of Common Share Certificate of the Registrant.
4.2	Third Amended and Restated Registration Rights Agreement, by and among the Registrant and certain of its shareholders, dated October 15, 2018.
5.1*	Opinion of Osler, Hoskin & Harcourt LLP.
10.1+	Third Amended and Restated Stock Option Plan.
10.2+	Form of Award and Grant Notices under the Third Amended and Restated Stock Option Plan.
10.3+*	Form of 2019 Equity Incentive Plan.
10.4+*	Form of Stock Option Grant Notice and Stock Option Agreement under the 2019 Equity Incentive Plan.
10.5+*	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement under the 2019 Equity Incentive Plan.
10.6+*	2019 Employee Stock Purchase Plan.
10.7+*	Amended and Restated Employment Agreement between Joseph Oliveto and Milestone Pharmaceuticals USA, Inc.
10.8+*	Amended and Restated Employment Agreement between Philippe Douville and Milestone Pharmaceuticals Inc.
10.9+*	Amended and Restated Employment Agreement between Francis Plat and Milestone Pharmaceuticals Inc.
23.1*	Consent of PricewaterhouseCoopers LLP, an Independent Registered Public Accounting Firm.
23.2*	Consent of Osler, Hoskin & Harcourt LLP (included in Exhibit 5.1).
24.1*	Power of Attorney (included on the signature page to this registration statement).

* To be filed by amendment.

\+ Indicates a management contract or compensatory plan.

(b) Financial Statement Schedules.

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

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

The undersigned Registrant hereby undertakes that:

1. For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

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

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Montréal, Province of Québec, Canada on , 2019.

MILESTONE PHARMACEUTICALS INC.

By: _____

Joseph Oliveto
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Joseph Oliveto, and , and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
_____ Joseph Oliveto	President, Chief Executive Officer and Director (Principal Executive Officer)	, 2019
_____ [ ]	[ ] (Principal Financial and Accounting Officer)	, 2019
_____ Marco Boorsma	Director	, 2019
_____ Nilesh Kumar	Director	, 2019

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SIGNATURE	TITLE	DATE
_____ Debra K. Liebert	Director	, 2019
_____ Paul Truex	Director	, 2019

SIGNATURE OF AUTHORIZED U.S. REPRESENTATIVE OF THE REGISTRANT

Pursuant to the Securities Act, the undersigned, the duly authorized representative in the United States of Milestone Pharmaceuticals Inc. has signed this registration statement or amendment thereto on the day of , 2019.

MILESTONE PHARMACEUTICALS USA, INC.

By:

Joseph Oliveto
President and Chief Executive Officer

Exhibit 3.1

ARTICLES

OF

MILESTONE PHARMACEUTIQUES INC.
MILESTONE PHARMACEUTICALS INC.

(the "Corporation")

SCHEDULE 1

The Articles of the Corporation are amended as follows:

The provisions relating to the authorized share capital of the Corporation, as provided for in the Articles of the Corporation, are amended:

a) by creating an unlimited number of Class D1 Preferred Shares with an issuance price of $1.7727 per Class D1 Preferred Share and an unlimited number of Class D2 Preferred Shares with an issuance price of $2.3045 per Class D2 Preferred Share; and

b) by repealing the current share capital of the Corporation and replacing same with Schedule 1A attached to these articles of amendment, in order to provide for the existing shares and the newly created Class D1 Preferred Shares and Class D2 Preferred Shares, such that upon the issuance of a Certificate of Amendment in respect of these articles of amendment, the Corporation will be authorized to issue an unlimited number of Common Shares, an unlimited number of Class A1 Preferred Shares, an unlimited number of Class A2 Preferred Shares, an unlimited number of Class B Preferred Shares, an unlimited number of Class C Preferred Shares, an unlimited number of Class D1 Preferred Shares and an unlimited number of Class D2 Preferred Shares, having the rights and restrictions substantially as described in Schedule 1A attached hereto.

SCHEDULE 1A

DESCRIPTION OF SHARE CAPITAL

The authorized share capital of the Corporation consists of an unlimited number of Common Shares, an unlimited number of Class A1 Preferred Shares, an unlimited number of Class A2 Preferred Shares, an unlimited number of Class B Preferred Shares, an unlimited number of Class C Preferred Shares, an unlimited number of Class D1 Preferred Shares and an unlimited number of Class D2 Preferred Shares, all without par value, having the following rights and restrictions:

1. DEFINITIONS

"**Act**" means the *Business Corporations Act* (Québec), as amended from time to time;

"**Additional Common Shares**" means all Shares issued or deemed (including, under Section 3.9.2) to be issued by the Corporation after the Effective Date, other than:

(a) Common Shares issued or issuable upon conversion of Preferred Shares;

(b) Common Shares issuable under any employee stock option plan, share purchase plan or similar incentive plan, in each case as adopted by the Board and in accordance with the provisions of the shareholders' agreement then in force;

(c) Shares issued or issuable in connection with *bona fide* (i) business acquisitions by the Corporation, (ii) loans, equipment leases or other debt financing transactions, (iii) technology licenses, vendor or customer relationships or (iv) similar non-equity financing transactions approved by the Board and in accordance with the provisions of the shareholders agreement then in force;

(d) Common Shares issuable upon a QIPO;

(e) Shares issued or issuable pursuant to the Subscription Agreement; and

(f) Shares issued or issuable in connection with any transaction for which adjustment is made under Section 3.9.6, 3.9.7 or 3.9.8 hereof;

"**Articles**" means the articles of amendment of the Corporation dated as of the Effective Date, as amended or restated from time to time;

"**As-Converted Basis**" means that all Shares (including Preferred Shares) convertible into Common Shares outstanding at that time are deemed to have been fully converted, at the then applicable Conversion Price and in accordance with the rights, privileges, restrictions and conditions attached thereto, into Common Shares and the Common Shares issuable as a result thereof are deemed to have been issued and to form part of the holdings of the person entitled to receive such Common Shares. For greater certainty, As-Converted Basis does not include Common Shares issuable pursuant to the exercise of any Options issued under the Corporation's stock option plan or any Convertible Securities (other than Preferred Shares);

"**Asset Sale**" means a sale or exclusive license of all or substantially all intellectual property of the Corporation or the sale of all or substantially all of the assets or enterprise of the Corporation;

"**Automatic Conversion Date**" has the meaning ascribed thereto in Section 3.8.2;

"**Available Proceeds**" means the proceeds of any Change of Control, or Asset Sale, as applicable, available for distribution, directly or indirectly (including, via dividend, redemption of shares, reduction of stated capital or otherwise), to the shareholders or the Corporation;

"**Board**" means the Corporation's board of directors;

"**Change of Control**" means, unless a Preferred Majority elects otherwise, (i) any acquisition of the Corporation by means of merger, amalgamation, arrangement, compromise or other form of corporate reorganization as a result of which the shareholders of the Corporation immediately prior to such event do not hold a majority of the outstanding shares or interest of the surviving company or entity and as a result of which outstanding Shares are exchanged for securities or other consideration issued (or caused to be issued) by the acquiring company, entity or its subsidiary (other than a mere re-incorporation transaction), or any transaction or series of transactions to which the Corporation is a party in which in excess of 50% of the then-outstanding voting power in the Corporation is transferred to any person or entity that was not a shareholder of the Corporation immediately prior to such transaction(s), (ii) any issuance, sale or other disposition (or series of related sales or dispositions) of Shares in which the shareholders of the Corporation immediately prior to such event do not hold a majority of the outstanding Shares immediately after such event other than: (A) an event occurring under Section 3.8; (B) an event occurring in the course of a corporate reorganization which has been approved by a Preferred Majority; or (C) an issuance of Shares or Convertible Securities concurrent to a financing; or (iii) an Asset Sale;

"**Class A Preferred Shares**" means, collectively, the Class A1 Preferred Shares and the Class A2 Preferred Shares;

"**Class A1 Liquidation Preference**" has the meaning ascribed thereto in Section 3.10.4;

"**Class A1 Original Issue Date**" means May 31, 2011;

"**Class A1 Preferred Dividend Obligation**" has the meaning ascribed thereto in Section 3.4.4;

"**Class A1 Preferred Share Redemption Amount**" has the meaning ascribed thereto in Section 3.12.4;

"**Class A1 Preferred Shares**" means the Class A1 Preferred Shares in the capital of the Corporation;

"**Class A2 Liquidation Preference**" means the per share Class A2 Dividend Obligation payable as of the applicable date of determination, if any, plus the Issue Price then in effect for the Class A2 Preferred Shares, plus any other declared but unpaid dividends payable on the Class A2 Preferred Shares pursuant to Section 3.10.3;

"**Class A2 Preferred Dividend Obligation**" has the meaning ascribed thereto in Section 3.4.3;

"**Class A2 Preferred Shares**" means the Class A2 Preferred Shares in the capital of the Corporation;

"**Class B & Class A2 Distributable Amount**" has the meaning ascribed thereto in Section 3.10.3;

"**Class B & Class A2 Liquidation Preference**" has the meaning ascribed thereto in Section 3.10.3;

"**Class B & Class A2 Preferred Dividend Obligation**" has the meaning ascribed thereto in Section 3.4.3;

"**Class B & Class A2 Preferred Share Redemption Amount**" has the meaning ascribed thereto in Section 3.12.2.2;

"**Class B Liquidation Preference**" means the per share Class B Preferred Dividend Obligation payable as of the applicable date of determination, if any, plus the Issue Price then in effect for the Class B Preferred Shares, plus any other declared but unpaid dividends payable on the Class B Preferred Shares pursuant to Section 3.10.3;

"**Class B Preferred Shares**" means the Class B Preferred Shares in the capital of the Corporation;

"**Class C Liquidation Preference**" has the meaning ascribed thereto in Section 3.10.2;

"**Class C Preferred Dividend Obligation**" has the meaning ascribed thereto in Section 3.4.1;

"**Class C Preferred Share Redemption Amount**" has the meaning ascribed thereto in Section 3.12.3.1;

"**Class C Preferred Shares**" means the Class C Preferred Shares in the capital of the Corporation;

"**Class D Preferred Shares**" means, collectively, the Class D1 Preferred Shares and the Class D2 Preferred Shares;

"**Class D1 Liquidation Preference**" means the per share Class D1 Dividend Obligation payable as of the applicable date of determination, if any, plus the Issue Price then in effect for the Class D1 Preferred Shares, plus any other declared but unpaid dividends payable on the Class D1 Preferred Shares pursuant to Section 3.10.1;

"**Class D1 Preferred Dividend Obligations**" has the meaning ascribed thereto in Section 3.4.3;

"**Class D1 Preferred Shares**" means the Class D1 Preferred Shares in the capital of the Corporation;

"**Class D1 & Class D2 Distributable Amount**" has the meaning ascribed thereto in Section 3.10.1;

"**Class D1 & Class D2 Liquidation Preference**" has the meaning ascribed thereto in Section 3.10.1;

"**Class D1 & Class D2 Preferred Dividend Obligation**" has the meaning ascribed thereto in Section 3.4.1;

"**Class D1 & Class D2 Preferred Share Redemption Amount**" has the meaning ascribed thereto in Section 3.12.1;

"**Class D2 Liquidation Preference**" means the per share Class D2 Dividend Obligation payable as of the applicable date of determination, if any, plus the Issue Price then in effect for the Class D2 Preferred Shares, plus any other declared but unpaid dividends payable on the Class D2 Preferred Shares pursuant to Section 3.10.1;

"**Class D2 Preferred Dividend Obligations**" has the meaning ascribed thereto in Section 3.4.3;

"**Class D2 Preferred Shares**" means the Class D2 Preferred Shares in the capital of the Corporation;

"**Common Shares**" means the common shares in the share capital of the Corporation;

"**Consideration per Share**" has the meaning ascribed thereto in Section 3.9.5;

"**Control**" means with respect to any company or other person, the ownership, beneficially and legally, of voting securities or interests in the capital of such company or other person, to which are attached more than 50% of the votes that may be cast to elect the directors or directing managers of such company or other person and such votes are sufficient to elect a majority of the directors or directing managers thereof, and "**Controlled**" has a corresponding meaning;

"**Conversion Date**" has the meaning ascribed thereto in Section 3.7;

"**Conversion Price**" means the conversion price at which Common Shares are deliverable upon conversion of a Preferred Share, without payment of additional consideration by the holder thereof;

"**Convertible Securities**" means any evidence of indebtedness, Shares, Options, warrants, subscription rights or other securities directly or indirectly (and with or without consideration) convertible into or exchangeable or exercisable for Common Shares;

"**Distribution of Assets**" means a voluntary or involuntary liquidation, dissolution or winding-up of the affairs of the Corporation or any other distribution to its shareholders of all or substantially all of the assets of the Corporation, including in connection with and following an Asset Sale;

"**Effective Date**" means the date of filing of these articles;

"**Fair Market Value**" means the fair market value of a Share, without a discount for a minority position or premium for a majority position, established at the relevant date, by a nationally recognized Canadian firm of independent chartered accountants or business valuators chosen by the Board with valuation costs being assumed by the Corporation; provided that the existing auditors or consultants of the Corporation at that time may not be retained for the purposes of determining the Fair Market Value;

"**Initial Public Offering**" means a distribution of Common Shares to members of the public pursuant to an effective prospectus or registration statement as contemplated in the applicable securities laws;

"**Issue Price**" means (i) in respect of the Class A1 Preferred Shares and the Class A2 Preferred Shares, CDN$1.00, subject to adjustment for stock splits, stock dividends, recapitalizations and similar events with respect to the Class A1 Preferred Shares or Class A2 Preferred Shares, as applicable, (ii) in respect of the Class B Preferred Shares, US$1.15, subject to adjustment for stock splits, stock dividends, recapitalizations and similar events with respect to the Class B Preferred Shares, (iii) in respect of the Class C Preferred Shares, US$1.3652, subject to adjustment for stock splits, stock dividends, recapitalization and similar events with respect to the Class C Preferred Shares, (iv) in respect of the Class D1 Preferred Shares, US$1.7727, subject to adjustment for stock splits, stock dividends, recapitalizations and similar events with respect to the Class D1 Preferred Shares and (v) in respect of the Class D2 Preferred Shares, US$2.3045, subject to adjustment for stock splits, stock dividends, recapitalizations and similar events with respect to the Class D2 Preferred Shares;

"**Liquidation Preference**" has the meaning ascribed thereto in Section 3.10;

"**Optional Redemption Notice**" has the meaning ascribed thereto in Section 3.12;

"**Options**" means rights, options or warrants, in all cases whether conditional or not, to subscribe for or otherwise acquire Common Shares or Convertible Securities;

"**Pappas**" means A.M. Pappas Life Science Ventures IV, LP and PV IV CEO Fund, L.P. collectively;

"**Preferred Majority**" means the approval by the holders of at least 70% in voting power of the then-outstanding Class A Preferred Shares, Class B Preferred Shares, Class C Preferred Shares and Class D Preferred Shares, voting together as a single class, on an As-Converted Basis;

"**Preferred Share Redemption Amount**" means the Class A1 Preferred Share Redemption Amount, the Class B & Class A2 Preferred Share Redemption Amount, the Class C Preferred Share Redemption Amount or the Class D1 & Class D2 Preferred Share Redemption Amount, as applicable;

"**Preferred Shares**" means, collectively, the Class A Preferred Shares, the Class B Preferred Shares, the Class C Preferred Shares and the Class D Preferred Shares;

"**Qualified Initial Public Offering**" or "**QIPO**" means any firm commitment Initial Public Offering at a price per share based on a pre-money valuation of the Corporation of at least $250,000,000 and resulting in gross proceeds of at least US$60 million, whereby the Shares would be listed on one or more Recognized Stock Exchanges;

"**Recognized Stock Exchange**" means the New York Stock Exchange, the NASDAQ, and such other exchange approved by a Preferred Majority;

"**Redemption Date**" has the meaning ascribed thereto in Section 3.12.5.1;

"**Shareholders Agreement**" means the Fourth Amended and Restated Shareholders Agreement between the Corporation and its shareholders dated on or about the Effective Date, as amended and/or restated from time to time;

"**Shares**" means shares in the capital of the Corporation;

"**Subscription Agreement**" means the Class D Preferred Share subscription agreement between the Corporation, RTW Investments, LP, Boxer Capital, LLC, MVA Investors, LLC, Venrock Healthcare Capital Partners III, L.P., VHCP Co-Investment Holdings III, LLC, Novo Holdings A/S, Forbion Capital Fund III Cooperatief U.A., Tekla Healthcare Investors, Tekla Life Sciences Investors, Domain Partners VIII, L.P., Pappas, BDC Capital Inc., GO Capital L.P., and Fonds de solidarité des travailleurs du Québec (F.T.Q), dated on or about the Effective Date; and

"**Subsidiary**" means any legal entity currently or in the future Controlled by the Corporation, including Milestone Pharmaceuticals USA, Inc.

2. COMMON SHARES

2.1 **Voting Right**. The holders of Common Shares have the right to receive notice of any meeting of shareholders of the Corporation, to attend such meeting and to vote thereat on the basis of one vote per Common Share, with the exception of meetings at which only holders of other classes of shares are entitled to vote.

2.2 **Single Class**. Except as otherwise provided in these provisions or required by applicable law, the holders of Common Shares will vote together with the holders of Preferred Shares as a single class on all matters submitted to a vote or consent of shareholders.

2.3 **Dividend**. Subject to the rights, privileges, conditions and restrictions attaching to the Preferred Shares, the holders of Common Shares and the holders of Preferred Shares are entitled, rateably and *pari passu* with one another on an As-Converted Basis, to receive non-cumulative dividends if, as and when declared by the directors of the Corporation out of the monies of the Corporation legally available for the payment of dividends, the amount of which the directors, in their absolute discretion may from time to time or at any time determine in accordance with the provisions of the Shareholders Agreement.

2.4 **Liquidation**. Subject to the rights, privileges, conditions and restrictions attaching to the Preferred Shares, any residual assets of the Corporation in the event of a voluntary or involuntary liquidation, dissolution or winding up of the Corporation or any other distribution of the assets of the Corporation among the shareholders for the purpose of winding up its affairs shall be distributed rateably and *pari passu* among the holders of Common Shares and Preferred Shares, on an As-Converted Basis.

3. PREFERRED SHARES

A. Rights Pertaining to Votes and Dividends

3.1 **Voting Right**. The holders of Preferred Shares have the right to receive notice of any meeting of shareholders of the Corporation, to attend such meeting and to vote thereat.

3.2 **Single Class**. Except as otherwise provided in these provisions, in the Shareholders Agreement, or required by applicable law, the holders of Preferred Shares will vote together with the holders of Common Shares as a single class on all matters submitted to a vote or consent of shareholders.

3.3 **Number of Votes**. Each Preferred Share entitles its holder to the number of votes per share equal to the number of Common Shares into which such Preferred Share is convertible under these articles (without regard as to whether or not such Preferred Share is then convertible at the holder's option under Section 3.6) as of the record date for the determination of shareholders of the Corporation entitled to vote on such matter, or if no record date is established, the date such vote is taken or any consent of shareholders is solicited.

3.4 **Dividends.**

3.4.1 The holders of Class D1 Preferred Shares and the holders of Class D2 Preferred Shares are entitled to receive, during each fiscal year, rateably and *pari passu* with one another, when, as and if declared by the Board and out of the monies legally available for that purpose, a non-cumulative dividend in preference to the holders of Class C Preferred Shares, the holders of Class B Preferred Shares, the holders of Class A2 Preferred Shares, the holders of Class A1 Preferred Shares and the holders of Common Shares, at the rate of 8% of the applicable Issue Price; calculation of such dividend rate starts as at the date of issuance of the

relevant Class D1 Preferred Share or Class D2 Preferred Share, as applicable, (the amount of dividends payable under this Section 3.4.1 on any Class D1 Preferred Share at any time is herein referred to as the "**Class D1 Preferred Dividend Obligation**" and the amount of dividends payable under this Section 3.4.1 on any Class D2 Preferred Share at any time is herein referred to as the "**Class D2 Preferred Dividend Obligation**" and the sum of the total amount of the Class D1 Preferred Dividend Obligation under this Section 3.4.1 and the total amount of the Class D2 Preferred Dividend Obligation payable under this Section 3.4.1 at any time is referred to as the "**Class D1 & Class D2 Preferred Dividend Obligation**").

3.4.2 Subject to the rights, privileges, conditions and restrictions attaching to the Class D Preferred Shares, the holders of Class C Preferred Shares are entitled to receive, during each fiscal year, rateably and *pari passu* with one another, when, as and if declared by the Board and out of the monies legally available for that purpose, a non-cumulative dividend in preference to the holders of Class B Preferred Shares, the holders of Class A2 Preferred Shares, the holders of Class A1 Preferred Shares and the holders of Common Shares, at the rate of 8% of the applicable Issue Price; calculation of such dividend rate starts as at the date of issuance of the relevant Class C Preferred Share (the total amount of dividends payable under this Section 3.4.2 on any Class C Preferred Share at any time is herein referred to as the "**Class C Preferred Dividend Obligation**").

3.4.3 Subject to the rights, privileges, conditions and restrictions attaching to the Class D Preferred Shares and Class C Preferred Shares, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares are entitled to receive, during each fiscal year, rateably and *pari passu* with one another, when, as and if declared by the Board and out of the monies legally available for that purpose, a non-cumulative dividend in preference to the holders of Class A1 Preferred Shares and the holders of Common Shares, at the rate of 8% of the applicable Issue Price; calculation of such dividend rate starts as at the date of issuance of the relevant Class B Preferred Share or Class A2 Preferred Share, as applicable, (the amount of dividends payable under this Section 3.4.3 on any Class A2 Preferred Share at any time is herein referred to as the "**Class A2 Preferred Dividend Obligation**" and the amount of dividends payable under this Section 3.4.3 on any Class B Preferred Share at any time is herein referred to as the "**Class B Preferred Dividend Obligation**" and the sum of the total amount of the Class A2 Preferred Dividend Obligation payable under this Section 3.4.3 on the Class A2 Preferred Shares and the total amount of the Class B Preferred Dividend Obligation payable under this Section 3.4.3 on Class B Preferred Shares at any time is herein referred to as the "**Class B & Class A2 Preferred Dividend Obligation**").

3.4.4 Subject to the rights, privileges, conditions and restrictions attaching to the Class D Preferred Shares, Class C Preferred Shares, Class B Preferred

Shares and Class A2 Preferred Shares, the holders of Class A1 Preferred Shares are entitled to receive during each fiscal year, rateably and *pari passu* with one another, when, as and if declared by the Board and out of the monies legally available for that purpose, a non-cumulative dividend in preference to the holders of Common Shares at the rate of 8% of the Issue Price; calculation of such dividend rate starts as of the Class A1 Original Issue Date (the total amount of dividends payable under this Section 3.4.4 on any Class A1 Preferred Share at any time is herein referred to as the "**Class A1 Preferred Dividend Obligation**").

3.4.5 Subject to the rights, privileges, conditions and restrictions attaching to the Preferred Shares, the holders of Common Shares and the holders of Preferred Shares are entitled to receive, rateably and *pari passu* with one another, on an As-Converted Basis, non-cumulative dividends if, as and when declared by the Board out of the monies of the Corporation legally available for the payment of dividends, the amount of which the Board, in its absolute discretion may from time to time or at any time determine in accordance with the provisions of the shareholders' agreement then in force.

3.4.6 Upon conversion of a Preferred Share into Common Shares, any declared but unpaid applicable Class D1 & Class D2 Preferred Dividend Obligation, Class C Preferred Dividend Obligation, Class B & Class A2 Preferred Dividend Obligation or Class A1 Preferred Dividend Obligation on such Preferred Share will convert into Common Shares at the then applicable Conversion Price for such Preferred Share.

B. <u>Conversion Rights and Anti-dilution Provisions</u>

3.5 Conversion. Subject to the terms and conditions hereof, each class of Preferred Shares is convertible into such number of fully paid and non-assessable Common Shares as determined by dividing the applicable Issue Price for such class of Preferred Shares by the applicable Conversion Price for such class of Preferred Shares in effect at the time of conversion, which is at the outset equal to the applicable Issue Price for each class of Preferred Shares (the "**Initial Conversion Price**"). Each such Initial Conversion Price is subject to adjustment from time to time to reflect any shares split, subdivisions, recapitalization or the like with respect to such Preferred Share or as otherwise set forth in this Section B.

3.6 Optional Conversion. Subject to the terms and conditions hereof, each holder of Preferred Shares has the right, at the holder's discretion, to convert its Preferred Shares, at any time and from time to time, including, without limitation, in connection with a Distribution of Assets or a Change of Control in which the holder of such Preferred Shares would otherwise be entitled to its respective Liquidation Preference.

3.7 Mechanics of Optional Conversion. The conversion privilege may be exercised by notice in writing given to the Corporation accompanied by a certificate or certificates representing the Preferred Shares in respect of which the holder

thereof desires to exercise such right of conversion (or the holder notifies the Corporation that such certificates have been lost, stolen, or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation for any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity bond). Such notice shall be signed by the holder of Preferred Shares in respect of which such right is being exercised and shall specify the number of Preferred Shares which the holder of Preferred Shares desires to have converted. Upon receipt of such notice by the Corporation, the Preferred Shares specified in the notice shall be irrevocably cancelled and the corresponding Common Shares issued, and the Corporation shall promptly issue certificates representing fully paid Common Shares upon the basis herein prescribed and in accordance with the provisions hereof to such holder. Such conversion will be deemed to have been made immediately prior to the close of business on the date of receipt of such notice and certificate or certificates (the "**Conversion Date**"), and the person or persons entitled to receive the Common Shares issuable upon such conversion will be treated for all purposes as the holder or holders of record of such Common Shares as of such date. If the conversion is in connection with (i) any Initial Public Offering (other than a QIPO), or (ii) a Change of Control, the conversion may, at the option of the holder of Preferred Shares tendering the Preferred Shares for conversion, be conditional upon the closing of the sale of securities under such public offering or under such Change of Control, as the case may be, in which event the person entitled to receive the Common Shares issuable upon such conversion of Preferred Shares will not be deemed to have converted such Preferred Shares until immediately prior to the closing of such sale of securities under such public offering or under such Change of Control. If fewer than all of the Preferred Shares represented by any certificate are to be converted, the holder of Preferred Shares will be entitled to receive a new certificate for the Preferred Shares representing the shares comprised in the original certificate which are not to be converted.

All Preferred Shares that have been surrendered for conversion will no longer be deemed to be outstanding, and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, will immediately cease and terminate on the Conversion Date, except only the right of the holders thereof to receive Common Shares in exchange therefor. Any Preferred Share so converted shall be retired and cancelled.

No fractional Common Shares shall be issued upon conversion of the Preferred Shares. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay in cash an amount equal to such fraction multiplied by the then effective Conversion Price.

3.8 Automatic Conversion.

3.8.1 Each Preferred Share will be converted automatically into a number of fully paid and non-assessable Common Shares at the then applicable Conversion Price (a) upon a QIPO or (b) with the written consent of a Preferred Majority.

3.8.2 **Mechanics of Automatic Conversion**. Upon the occurrence of an automatic conversion as set out in Section 3.8.1, all the then outstanding Preferred Shares will be converted automatically without any further action by the holders thereof and whether or not the certificates representing such Shares are surrendered to the Corporation or its transfer agent; provided, however, that all holders of Preferred Shares being converted shall be given written notice of the occurrence of an event specified in Section 3.8.1 including the date such event occurred. Such automatic conversion will be deemed to have occurred (i) immediately prior to the closing of the sale of securities under the QIPO or (ii) on the time and date specified in the written consent of a Preferred Majority (the "**Automatic Conversion Date**"). The Corporation will not be obligated to issue certificates evidencing the Common Shares issuable upon such conversion unless certificates evidencing the Preferred Shares being converted are either delivered to the Corporation or its transfer agent, or the holder notifies the Corporation or its transfer agent that such certificates have been lost, stolen, or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation for any loss incurred by it in connection therewith and, if the Corporation so elects, provides an appropriate indemnity bond. On the Automatic Conversion Date, all rights with respect to the Preferred Shares will terminate, except for any of the rights of the holder thereof, upon surrender of the holder's certificate or certificates therefor, to receive certificates for the number of Common Shares into which such Preferred Shares have been converted. If so required by the Corporation, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by the holder's attorney duly authorized in writing. Upon surrender of such certificates, the Corporation shall promptly issue and deliver to such holder, in such holder's name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of Common Shares into which the Preferred Shares surrendered were converted on the Automatic Conversion Date. The person or persons entitled to receive the Common Shares issuable upon conversion will be treated for all purposes as the record holder or holders of such Common Shares as of the Automatic Conversion Date.

3.8.3 No fractional Common Shares shall be issued upon the conversion of any Preferred Shares pursuant to the terms of this Section 3.8. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay in cash an amount equal to such fraction multiplied by the then effective Conversion Price.

3.9 Adjustment to Conversion Price (Anti-Dilution Adjustments)

3.9.1 **No Adjustment in Conversion Price**. No adjustment in the number of Common Shares into which a Preferred Share is convertible shall be made by adjustment to the applicable Conversion Price thereof pursuant to the

terms of Section 3.9 unless the Consideration per Share (determined under Section 3.9.5) for an Additional Common Share issued or deemed to be issued by the Corporation is less than the applicable Conversion Price in effect on the date of, and immediately prior to, the issue of such Additional Common Shares or unless specifically provided in these articles.

3.9.2 **Issue of Options and Convertible Securities Deemed Issued as Additional Common Shares**. If the Corporation at any time or from time to time after the Effective Date issues any Options or Convertible Securities or fixes a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of Common Shares (as set forth in the instrument relating thereto without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange or exercise of such Convertible Securities, will be deemed to be Additional Common Shares issued as of the time of such issue or, in case such a record date has been fixed, as of the close of business on such record date; provided, however, that Additional Common Shares will not be deemed to have been issued unless the Consideration per Share (determined under Section 3.9.5 hereof) of such Additional Common Shares is less than the applicable Conversion Price in effect on the date of and immediately prior to such issue, or such record date, as the case may be, and further provided that in any such case in which Additional Common Shares are deemed to be issued:

3.9.2.1 no further adjustment in the applicable Conversion Price will be made upon the subsequent issue of Convertible Securities or Common Shares upon the exercise of such Options or conversion or exchange or exercise of such Convertible Securities and, upon the expiration of any such Option or the termination of any such right to convert or exchange or exercise such Convertible Securities, without such right being exercised, the applicable Conversion Price then in effect hereunder will forthwith be increased to the applicable Conversion Price which would have been in effect at the time of such expiration or termination had such Option or Convertible Securities, to the extent outstanding immediately prior to such expiration or termination, never been issued, and the Common Shares issuable thereunder will no longer be deemed to be outstanding; and

3.9.2.2 if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase in the consideration payable to the Corporation, or decrease in the number of Common Shares issuable, upon the exercise,

conversion or exchange thereof, the applicable Conversion Price computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities, provided that no readjustment under this Section 3.9.2.2 will have the effect of increasing the applicable Conversion Price to an amount which exceeds the lower of (i) the applicable Conversion Price on the original adjustment date, or (ii) the applicable Conversion Price that would have resulted from any other issuance of Additional Common Shares between the original adjustment date and such readjustment date.

3.9.3 **Adjustment of Conversion Price Upon Issuance of Additional Common Shares**. If the Corporation issues Additional Common Shares (including Additional Common Shares deemed to be issued under Section 3.9.2), without consideration or for a Consideration per Share less than the applicable Conversion Price for a Preferred Share in effect on the date of and immediately prior to such issuance, then and in such event, the applicable Conversion Price for such Preferred Share will be reduced, concurrently with such issuance, to a price determined by multiplying the applicable Conversion Price in effect immediately prior to such issuance or sale by a fraction (A) the numerator of which will be (i) the number of Common Shares deemed outstanding (as determined below) immediately prior to such issue or sale, plus (ii) the number of Common Shares which the aggregate consideration received by the Corporation for the total number of Additional Common Shares so issued would purchase at such then-existing Conversion Price, and (B) the denominator of which will be the number of Common Shares deemed outstanding (as determined below) immediately prior to such issue or sale plus the total number of Additional Common Shares so issued. For the purposes of the preceding sentence, the number of Common Shares deemed to be outstanding as of a given date will be the sum of (X) the number of Common Shares outstanding, (Y) the number of Common Shares into which the then outstanding Preferred Shares could be converted if fully converted immediately prior to such issuance or transaction and (Z) the number of Common Shares into which the then outstanding Convertible Securities are convertible, exchangeable or exercisable.

3.9.4 **Adjustment for Change of Control**. In the event (a) of a Change of Control, where (b) each holder of an applicable class of Preferred Shares does not or would not, pursuant to the application of Section 3.10 or otherwise, receive from such Change of Control with respect to such applicable class of Preferred Shares an amount which, or a number of shares the value of which, is at least equal to the amount it would have

received with respect to such applicable class of Preferred Shares under Section 3.10 had the consideration paid for the Change of Control been paid as a Distribution of Assets to the shareholders of the Corporation, the applicable Conversion Price for each Preferred Share in such applicable class of Preferred Shares will be adjusted so as to ensure that the holders of such Preferred Shares receive, prior to or contemporaneously with the Change of Control, upon conversion thereof, that number of Common Shares which will provide to such holders of such Preferred Shares participating in the Change of Control, upon the Change of Control, that amount which the holders of such Preferred Shares would have received under Section 3.10 if the Change of Control had been a Distribution of Assets. The Corporation shall give each holder of Preferred Shares of record written notice 15 days prior to the closing of such Change of Control. Such notice shall describe the provisions of this Section 3.9.4.

3.9.5 **Determination of Consideration**. For the purposes of this Section 3.9, the "**Consideration per Share**" means the per share consideration received by the Corporation for the issue of any Additional Common Share and shall be computed as follows:

3.9.5.1 **Cash and Property**. Such consideration:

a) insofar as it consists of cash, shall be computed at the aggregate of cash received by the Corporation;

b) insofar as it consists of property other than cash, shall be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board; and

c) in the event Additional Common Shares are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, shall be the proportion of such consideration so received, computed as provided in clauses a) and b) above, as determined in good faith by the Board;

provided, however, that if a Preferred Majority objects to any determination by the Board within ten days of receiving notice of such determination, the fair market value shall be determined by an independent appraiser mutually agreeable to the Board and a Preferred Majority whose decision is final and binding on all shareholders of the Corporation.

3.9.5.2 **Options and Convertible Securities**. The Consideration per Share received by the Corporation for Additional Common Shares deemed to have been issued under Section 3.9.2, relating to Options and Convertible Securities, shall be determined by dividing:

(x) the total amount, if any, received by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange or exercise of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange or exercise of such Convertible Securities,

by:

(y) the maximum number of Common Shares (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange or exercise of such Convertible Securities.

3.9.6 **Adjustment for Consolidation of Common Shares**. Notwithstanding Section 3.9.1 if, at any time after the Effective Date the number of Common Shares outstanding is decreased by a consolidation of the outstanding Common Shares, then on the date of such combination, the applicable Conversion Price shall be increased so that the number of Common Shares issuable on conversion of each Preferred Share will be decreased in proportion to such decrease in outstanding Common Shares.

3.9.7 **Adjustment for Splits, Other Distributions, Etc**. If the Corporation at any time after the Effective Date fixes a record date for the subdivision or split-up of Common Shares, then on the date of such subdivision or split-up, the applicable Conversion Price will be appropriately decreased so that the number of Common Shares issuable on conversion of each Preferred Share will be increased in proportion to such increase in outstanding shares. In the event the Corporation after the Effective Date declares a distribution payable in securities of other persons, evidences of indebtedness issued by the Corporation or other persons, assets (excluding dividends), options or rights not referred to in Section 3.9.2 in accordance with the provisions of the shareholders' agreement then in force, then, in each such case for the purposes of this Section 3.9.7, but subject to Section 3.4, the holders of Preferred Shares will be entitled to a proportionate share of any such distribution as though they were the holders of the number of Common Shares into which their Preferred

Shares are convertible as of the record date fixed for the determination of the holders of Common Shares entitled to receive such distribution.

3.9.8 **Adjustment for Merger or Reorganization, Etc**. In case of any consolidation, recapitalization or merger of the Corporation with or into another corporation (other than a subdivision or combination provided for elsewhere in this Section 3.9), each Preferred Share will thereafter be convertible into the kind and number of shares of stock or other securities or property to which a holder of the number of Common Shares deliverable upon conversion of such Preferred Share would have been entitled upon such consolidation, recapitalization or merger; and, in such case, appropriate adjustment (as determined in good faith by the Board) shall be made in the application of the provisions in this Section 3.9 set forth with respect to the rights and interest thereafter of the holders of Preferred Shares, to the end that the provisions set forth in this Section 3.9 (including provisions with respect to changes in and other adjustments of the applicable Conversion Price) will thereafter be applicable, as nearly as reasonably may be, in relation to any shares or other property thereafter deliverable upon the conversion of the Preferred Shares.

3.9.9 **Certificate as to Adjustments**. Upon the occurrence of each adjustment or readjustment of the applicable Conversion Price under this Section 3.9, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Shares a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of a holder of Preferred Shares, furnish or cause to be furnished to such holder a similar certificate setting forth (i) such adjustments and readjustments, (ii) the applicable Conversion Price then in effect, and (iii) the number of Common Shares which then would be received upon the conversion of the applicable class of Preferred Shares.

3.9.10 **Notice of Record Date**. In the event:

3.9.10.1 that the Corporation takes a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend (other than a cash dividend) or any other distribution, any right to subscribe for, purchase or otherwise acquire any shares of any class or any other securities or property, or to receive any other right;

3.9.10.2 that the Corporation subdivides or combines its outstanding Common Shares;

3.9.10.3 of any reclassification of the Common Shares (other than a subdivision or combination of its outstanding Common Shares or a share dividend or share distribution thereon), or of any consolidation or merger of the Corporation into or with another

corporation, or of the sale of all or substantially all of the assets or the enterprise of the Corporation; or

3.9.10.4 of the involuntary or voluntary dissolution, liquidation, or winding-up of the Corporation;

then the Corporation shall cause to be filed at its registered office and shall cause to be mailed to the holders of Preferred Shares at their last addresses as shown on the records of the Corporation, at least 10 days prior to the record date specified in a) below or 20 days before the date specified in b) below, a notice stating:

a) the record date of such dividend, distribution, subdivision or combination, or, if a record is not to be taken, the date as of which the holders of Common Shares of record to be entitled to such dividend, distribution, subdivision or combination are to be determined, or

b) the date on which such reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up is expected to become effective, and the date as of which it is expected that holders of Common Shares of record shall be entitled to exchange their Common Shares for securities or other property deliverable upon such reclassification, consolidation, merger, sale, dissolution, liquidation or winding-up.

3.9.11 **No Impairment**. The Corporation shall not, by amendment of its Articles or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but will at all times in good faith assist in the carrying out of all the provisions of this Section 3.9 and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Preferred Shares against impairment. This obligation shall not be interpreted as preventing the Corporation from complying with any decision taken in accordance with the shareholders agreement then in force.

3.10 Liquidation Preference/Distribution of Assets. In the event of a Distribution of Assets, the property or assets of the Corporation shall be distributed as follows (the "**Liquidation Preference**"):

3.10.1 For each Class D Preferred Share held, the holders of Class D Preferred Shares will be entitled to receive, with equal priority and *pro rata* among the holders of Class D1 Preferred Shares and the holders of Class D2 Preferred Shares, but in priority to any distribution of the property or assets of the Corporation to the holders of the other classes of Shares ranking

junior to the Class D Preferred Shares, out of the property or assets of the Corporation legally available for distribution to the holders of the Corporation's capital stock, an amount per share equal to, in the case of the Class D1 Preferred Shares, the Class D1 Liquidation Preference and, in the case of the Class D2 Preferred Shares, the Class D2 Liquidation Preference (the sum of (i) the total amount of the Class D1 Liquidation Preference for all Class D1 Preferred Shares and (ii) the total amount of the Class D2 Liquidation Preference for all Class D2 Preferred Shares, is herein referred to as the "**Class D1 & Class D2 Liquidation Preference**"). If, in the event of a Distribution of Assets, the property or assets of the Corporation are insufficient to permit the payment of the full Class D1 & Class D2 Liquidation Preference to the holders of Class D1 Preferred Shares and the holders of Class D2 Preferred Shares, then (a) the holders of Class D1 Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the total of the property or assets legally available for distribution towards the full Class D1 & Class D2 Liquidation Preference (the "**Class D1 & Class D2 Distributable Amount**") multiplied by a fraction, (1) the numerator of which is (A) the total number of Class D1 Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class D1 Liquidation Preference and (2) the denominator of which is the Class D 1 & Class D2 Liquidation Preference, such aggregate amount to be distributed with equal priority and pro rata among the holders of the Class D1 Preferred Shares and (b) the holders of Class D2 Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the Class D1 & Class D2 Distributable Amount multiplied by a fraction, (1) the numerator of which is (A) the total number of Class D2 Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class D2 Liquidation Preference and (2) the denominator of which is the Class D 1 & Class D2 Liquidation Preference, such aggregate amount to be distributed with equal priority and *pro rata* among the holders of the Class D2 Preferred Shares; and

3.10.2 Subject to the rights, privileges, conditions and restrictions attaching to the Class D Preferred Shares, for each Class C Preferred Share held, the holders of the Class C Preferred Shares will be entitled to receive, in priority to any distribution of the property or assets of the Corporation to the holders of the other classes of Shares ranking junior to the Class C Preferred Shares, out of the assets of the Corporation legally available for distribution to the holders of the Corporation's capital stock, an amount equal to the Issue Price applicable to the Class C Preferred Shares plus the Class C Preferred Dividend Obligation, if any, plus any other declared but unpaid dividends on the Class C Preferred Shares (the "**Class C Liquidation Preference**"). If the assets of the Corporation legally available for distribution to the holders of the Class C Preferred Shares are insufficient to permit the payment to such holders of the full amounts specified in this Section 3.10.2, then the entire assets of the Corporation legally available for distribution to the holders of Class C Preferred Shares shall be distributed with equal priority and pro rata among the holders of

the Class C Preferred Shares in proportion to the full amounts they would otherwise be entitled to receive pursuant to this Section 3.10.2; and

3.10.3 Subject to the rights, privileges, conditions and restrictions attaching to the Class D Preferred Shares and the Class C Preferred Shares, for each Class B Preferred Share and Class A2 Preferred Share held, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares will be entitled to receive, with equal priority and pro rata among the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares, but in priority to any distribution of the property or assets of the Corporation to the holders of the other classes of Shares ranking junior to the Class B Preferred Shares and the Class A2 Preferred Shares, out of the property or assets of the Corporation legally available for distribution to the holders of the Corporation's capital stock, an amount per share equal to, in the case of the Class A2 Preferred Shares, the Class A2 Liquidation Preference and, in the case of the Class B Preferred Shares, the Class B Liquidation Preference (the sum of (i) the total amount of the Class A2 Liquidation Preference and (ii) the total amount of the Class B Liquidation Preference, is herein referred to as the "**Class B & Class A2 Liquidation Preference**"). If, in the event of a Distribution of Assets, the property or assets of the Corporation are insufficient to permit the payment of the full Class B & Class A2 Liquidation Preference to the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares, then (a) the holders of Class A2 Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the total of the property or assets legally available for distribution towards the full Class B & Class A2 Liquidation Preference (the "**Class B & Class A2 Distributable Amount**") multiplied by a fraction, (1) the numerator of which is (A) the total number of Class A2 Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class A2 Liquidation Preference and (2) the denominator of which is the Class B & Class A2 Liquidation Preference, such aggregate amount to be distributed with equal priority and pro rata among the holders of the Class A2 Preferred Shares and (b) the holders of Class B Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the Distributable Amount multiplied by a fraction, (1) the numerator of which is (A) the total number of Class B Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class B Liquidation Preference and (2) the denominator of which is the Class B & Class A2 Liquidation Preference, such aggregate amount to be distributed with equal priority and pro rata among the holders of the Class B Preferred Shares; and

3.10.4 Subject to the rights, privileges, conditions and restrictions attaching to the Class D Preferred Shares, Class C Preferred Shares, Class B Preferred Shares and Class A2 Preferred Shares, for each Class A1 Preferred Share held, the holders of Class A1 Preferred Shares will be entitled to receive, in priority to any distribution of the property or assets of the Corporation to the holders of the other classes of Shares ranking junior to the Class A1

Preferred Shares out of the assets of the Corporation legally available for distribution to the holders of the Corporation's capital stock, an amount equal to the Issue Price applicable to the Class A1 Preferred Shares plus the Class A1 Preferred Dividend Obligation for such Class A1 Preferred Share, if any, plus any other declared but unpaid dividends on the Class A1 Preferred Shares (the "**Class A1 Liquidation Preference**"); and

3.10.5 After payment has been made in full as provided in Sections 3.10.1, 3.10.2, 3.10.3 and 3.10.4, then any assets remaining available for distribution shall be distributed with equal priority and *pro rata* among the holders of Common Shares and the holders of Preferred Shares, on an As-Converted Basis.

3.11 Liquidation Preference on Change of Control. For greater certainty and without affecting the application of Section 3.9.4, in the event of a Change of Control, the shareholders of the Corporation will be entitled to the following distributions:

3.11.1 for each Class D Preferred Share held, the holders of Class D Preferred Shares will be entitled to receive, with equal priority and *pro rata* among the holders of Class D1 Preferred Shares and Class D2 Preferred Shares, out of the Available Proceeds, regardless of any other dispositions among the parties, prior to and in preference to any distribution to the holders of Class C Preferred Shares, the holders of Class B Preferred Shares, the holders of Class A2 Preferred Shares, the holders of Class A1 Preferred Shares and the holders of Common Shares, an amount per share equal to, in the case of the Class D1 Preferred Shares, the Class D1 Liquidation Preference and, in the case of the Class D2 Preferred Shares, the Class D2 Liquidation Preference. If, in the event of a Change of Control, the Available Proceeds are insufficient to permit the payment of the full Class D1 & Class D2 Liquidation Preference to the holders of Class D1 Preferred Shares and the holders of Class D2 Preferred Shares, then (a) the holders of Class D1 Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the total Available Proceeds for distribution towards the full Class D1 & Class D2 Liquidation Preference ("**Change in Control Distributable Amount Balance I**") multiplied by a fraction, (1) the numerator of which is (A) the total number of Class D1 Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class D1 Liquidation Preference and (2) the denominator of which is the Class D1 & Class D2 Liquidation Preference, such aggregate amount to be distributed with equal priority and pro rata among the holders of the Class D1 Preferred Shares, and (b) the holders of Class D2 Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the Change of Control Distributable Amount Balance I multiplied by a fraction, (1) the numerator of which is (A) total number of Class D2 Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class D2 Liquidation Preference and (2) the denominator of which is the Class D1 & Class D2 Liquidation Preference, such aggregate

amount to be distributed with equal priority and pro rata among the holders of the Class D2 Preferred Shares.

3.11.2 once all amounts payable to the holders of Class D Preferred Shares under Section 3.11.1 have been paid, for each Class C Preferred Share held, the holders of Class C Preferred Shares will be entitled to receive, out of the Available Proceeds, regardless of any other dispositions among the parties, prior to and in preference to any distribution to the holders of Class B Preferred Shares, the holders of Class A2 Preferred Shares, the holders of Class A1 Preferred Shares and the holders of Common Shares, an amount per share equal to the Class C Liquidation Preference. If the assets of the Corporation legally available for distribution to the holders of the Class C Preferred Shares are insufficient to permit the payment to such holders of the full amounts specified in this Section 3.11.2, then the entire assets of the Corporation legally available for distribution to the holders of Class C Preferred Shares shall be distributed with equal priority and pro rata among the holders of the Class C Preferred Shares in proportion to the full amounts they would otherwise be entitled to receive pursuant to this Section 3.11.2.

3.11.3 once all amounts payable to the holders of Class D Preferred Shares under Section 3.11.1 and the holders of Class C Preferred Shares under Section 3.11.2 have been paid, for each Class B Preferred Share and Class A2 Preferred Share held, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares will be entitled to receive, with equal priority and pro rata among the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares, out of the Available Proceeds, regardless of any other dispositions among the parties, prior to and in preference to any distribution to the holders of Class A1 Preferred Shares and the holders of Common Shares, an amount per share equal to, in the case of the Class A2 Preferred Shares, the Class A2 Liquidation Preference and, in the case of the Class B Preferred Shares, the Class B Liquidation Preference. If, in the event of a Change of Control, after payment in full of the Class D Liquidation Preference and Class C Liquidation Preference, the remaining Available Proceeds are insufficient to permit the payment of the full Class B & Class A2 Liquidation Preference to the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares, then (a) the holders of Class A2 Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the total of the remaining Available Proceeds towards the full Class B & Class A2 Liquidation Preference ("**Change in Control Distributable Amount Balance II**") multiplied by a fraction, (1) the numerator of which is (A) the total number of Class A2 Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class A2 Liquidation Preference and (2) the denominator of which is the Class B & Class A2 Liquidation Preference, such aggregate amount to be distributed with equal priority and pro rata among the holders of the Class A2 Preferred Shares, and (b) the holders of Class B Preferred Shares shall be entitled to receive, in the aggregate, an amount equal to the Change in Control Distributable Amount Balance II

multiplied by a fraction, (1) the numerator of which is (A) the total number of Class B Preferred Shares then issued and outstanding multiplied by (B) the then applicable Class B Liquidation Preference and (2) the denominator of which is the Class B & Class A2 Liquidation Preference, such aggregate amount to be distributed with equal priority and pro rata among the holders of the Class B Preferred Shares.

3.11.4 once all amounts payable to the holders of Class D Preferred Shares, the holders of Class C Preferred Shares, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares under Sections 3.11.1, 3.11.2 and 3.11.3 have been paid, each holder of Class A1 Preferred Shares will be entitled to receive, out of the Available Proceeds, regardless of any other dispositions among the parties, prior to and in preference to any distribution to the holders of Common Shares, an amount equal to the Class A1 Liquidation Preference for each Class A1 Preferred Share then held;

3.11.5 once all amounts payable to the holders of Class D Preferred Shares, Class C Preferred Shares, Class B Preferred Shares, Class A2 Preferred Shares and Class A1 Preferred Shares under Sections 3.11.1, 3.11.4, 3.11.4 and 3.11.4 have been paid, then any remaining Available Proceeds received as part of the Change of Control will be distributed with equal priority and pro rata among the holders of Common Shares and the holders of Preferred Shares, on an As-Converted Basis; and

3.11.6 if any portion of the consideration payable to the shareholders of the Corporation is placed into escrow and/or is payable to the shareholders of the Corporation subject to contingencies, the agreement related to such Change of Control shall provide that (a) the portion of such consideration that is not placed in escrow and not subject to any contingencies (the "**Initial Consideration**") shall be allocated among the shareholders of the Corporation as if the Initial Consideration were the only consideration payable in connection with such Change of Control and (b) any additional consideration which becomes payable to the shareholders of the Corporation upon release from escrow or satisfaction of contingencies shall be allocated among the shareholders of the Corporation after taking into account the previous payment of the Initial Consideration as part of the same transaction.

C. Optional Redemption of Preferred Shares

3.12 Optional Redemption of Preferred Shares. From the earlier of: (i) the closing of an Asset Sale and (ii) the fifth anniversary of the Effective Date, a Preferred Majority may require the Corporation to redeem Preferred Shares upon a 30 day prior written notice in case of (i) of this Section 3.12 and a 90 day prior written notice in case of (ii) of this Section 3.12 (each an "**Optional Redemption Notice**"). For clarity purposes, no holder of Preferred Shares may require the Corporation to redeem any or all of its Preferred Shares if an Optional Redemption

Notice has not been sent to the Corporation. The redemption amount to be paid by the Corporation to a holder of:

3.12.1 Class D1 Preferred Shares or Class D2 Preferred Shares is equal to:

3.12.1.1 in case of paragraph (i) of this Section 3.12, an amount per Class D1 Preferred Share or Class D2 Preferred Share, as applicable, to which such holder would be entitled pursuant to Section 3.10; and

3.12.1.2 in case of paragraph (ii) of this Section 3.12, an amount per Class D1 Preferred Share or Class D2 Preferred Share that is equal to the higher of: (A) the applicable Class D1 or D2 Liquidation Preference and (B) the applicable Fair Market Value of such applicable Class D1 Preferred Share or Class D2 Preferred Share as of the date of the Optional Redemption Notice,

(each a "**Class D1 & Class D2 Preferred Share Redemption Amount**").

3.12.2 Class C Preferred Shares is equal to:

3.12.2.1 in case of paragraph (i) of this Section 3.12, an amount per Class C Preferred Share to which such holder would be entitled pursuant to Section 3.10; and

3.12.2.2 in case of paragraph (ii) of this Section 3.12, an amount per Class C Preferred Share that is equal to the higher of: (A) the Class C Liquidation Preference and (B) the Fair Market Value of such Class C Preferred Share as of the date of the Optional Redemption Notice,

(each a "**Class C Preferred Share Redemption Amount**").

3.12.3 Class B Preferred Shares or Class A2 Preferred Shares, as applicable, is equal to:

3.12.3.1 in case of paragraph (i) of this Section 3.12, an amount per Class B Preferred Share and/or Class A2 Preferred Share to which such holder would be entitled pursuant to Section 3.10; and

3.12.3.2 in case of paragraph (ii) of this Section 3.12, an amount per Class B Preferred Share and/or Class A2 Preferred Share that is equal to the higher of: (A) the Class B & Class A2 Liquidation Preference and (B) the Fair Market Value of such Class B Preferred Share or Class A2 Preferred Share, as applicable, as of the date of the Optional Redemption Notice,

(each a "**Class B & Class A2 Preferred Share Redemption Amount**"); and

3.12.4 Class A1 Preferred Shares is equal to:

3.12.4.1 in case of paragraph (i) of this Section 3.12, an amount per Class A1 Preferred Share to which such holder would be entitled pursuant to Section 3.10; and

3.12.4.2 in case of paragraph (ii) of this Section 3.12, an amount per Class A1 Preferred Share that is equal to the higher of: (A) the Class A1 Liquidation Preference and (B) the Fair Market Value of such Class A1 Preferred Share as of the date of the Optional Redemption Notice,

(each a "**Class A1 Preferred Share Redemption Amount**").

3.12.5 **Method of Redemption of Preferred Shares**. The Optional Redemption Notice shall be signed by at least the Preferred Majority and given to the secretary of the Corporation. The Corporation shall forward the Optional Redemption Notice to all other holders of Preferred Shares within three business days and deliver notice to all of the holders of Preferred Shares of the expected Redemption Date (as defined below). If such holders wish to have their Preferred Shares redeemed by the Corporation, they shall deliver their certificates reflecting such Preferred Shares to be redeemed to the Corporation prior to the proposed Redemption Date.

3.12.5.1 at the latest, 30 days (in case of a redemption pursuant to paragraph (i) of Section 3.12) or 90 days (in case of a redemption pursuant to paragraph (ii) of Section 3.12) following the day of the receipt of Optional Redemption Notice by the Corporation referred to in Section 3.12, as applicable, (the "**Redemption Date**"), the Corporation shall proceed first with the redemption of all of the Class D Preferred Shares, and the holders thereof shall receive payment of the entire portion of the Class D Preferred Share Redemption Amount for each Class D Preferred Share that the Corporation may pay without contravening the provisions of Section 95 of the Act;

3.12.5.2 once all amounts payable to the holders of Class D Preferred Shares under Section 3.12.5.1 have been made, the redemption of all of the Class C Preferred Shares and the holders thereof shall receive payment of the entire portion of the Class C Preferred Share Redemption Amount for each Class C Preferred Share that the Corporation may pay without contravening the provisions of Section 95 of the Act;

3.12.5.3 once all amounts payable to the holders of Class D Preferred Shares and the holders of Class C Preferred Shares under Sections 3.12.5.1 and 3.12.5.2 have been made, the redemption of all of the Class B Preferred Shares and Class A2 Preferred Shares, with equal priority and pro rata among the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares shall receive payment of the entire portion of the Class B & Class A2 Preferred Share Redemption Amount for each Class B Preferred Share and Class A2 Preferred Share that the Corporation may pay without contravening the provisions of Section 95 of the Act;

3.12.5.4 once all amounts payable to the holders of Class D Preferred Shares, the holders of Class C Preferred Shares, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares under Sections 3.12.5.1, 3.12.5.2 and 3.12.5.3 have been made, the redemption of all of the Class A1 Preferred Shares, and the holders thereof shall receive payment of the entire portion of the Class A1 Preferred Share Redemption Amount for each Class A1 Preferred Share redeemed that the Corporation may pay without contravening the provisions of Section 95 of the Act;

3.12.5.5 failure to pay the requisite portion of the applicable Preferred Share Redemption Amount on or prior to the Redemption Date will result in the Preferred Share Redemption Amount increasing by an amount equal to 5% calculated on an annual basis, compounded monthly; and

3.12.5.6 the right to convert the Preferred Shares to Common Shares will survive the delivery of the Optional Redemption Notice pursuant to Section 3.12.5.1 up until the day that such Preferred Shares have actually been redeemed and the Preferred Share Redemption Amounts have been paid in full to the holders of such Preferred Shares.

3.12.6 On the Redemption Date, other than as set forth in Section 3.12.5.5, all of the Preferred Shares redeemed will be deemed to be irrevocably cancelled, and their holders will cease to benefit from the rights attached to such Shares, except the right to receive payment of their Preferred Share Redemption Amount (as adjusted pursuant to Section 3.12.5.5).

3.12.7 Notwithstanding any other provisions, at any time after receipt by the Corporation of an Optional Redemption Notice, (i) as long as the holders of Class D Preferred Shares have not received all of their Class D Preferred Share Redemption Amount, no dividends, redemptions, or repurchases of Class C Preferred Shares, Class B Preferred Shares or Class A2 Preferred Shares will be paid or made by the Corporation, (ii) as long

as the holders of Class D Preferred Shares and the holders of Class C Preferred Shares have not received all of their Class D Redemption Amount and Class C Preferred Share Redemption Amount, no dividends, redemptions, or repurchases of Class B Preferred Shares or Class A2 Preferred Shares will be paid or made by the Corporation, and (iii) as long as the holders of Class D Preferred Shares, the holders of Class C Preferred Shares, the holders of Class B Preferred Shares and the holders of Class A2 Preferred Shares have not received, as applicable, all of their Class D Preferred Shares Redemption Amount, Class C Preferred Share Redemption Amount or Class B & Class A2 Preferred Share Redemption Amounts, no dividends, redemptions, or repurchases of Class A1 Preferred Shares or Common Shares will be paid or made by the Corporation.

SCHEDULE

RESTRICTIONS ON SECURITY TRANSFERS

The securities of the Corporation (including shares), other than non-convertible debt securities, shall not be transferred without the approval of the board of directors or of the holder or holders of more than 50% of the voting shares of the Corporation, to be evidenced in either case by a resolution of such directors or shareholders.

SCHEDULE

OTHER PROVISIONS

1. The annual meeting of the shareholders may be held at any place, in or outside of the Province of Québec, as may be determined by the directors.

2. In the event the corporation becomes a reporting issuer (as defined in the *Business Corporations Act* (Québec) (the "**Act**")) in any province or territory of Canada or has more than 50 shareholders, the directors may appoint from time to time one or more additional directors within the limits provided in the Act.

Exhibit 3.3

BY-LAW NO. 2017-1

a by-law relating generally to the transaction of the business and affairs of

MILESTONE PHARMACEUTICALS INC.
MILESTONE PHARMACEUTIQUES INC.
(the "Corporation")

TABLE OF CONTENTS

1 - DEFINITIONS

1.1 Definitions

In this by-law, and all other by-laws of the Corporation, unless the context indicates otherwise:

a) "Act" means the *Business Corporations Act* (Québec), or any statute which may be substituted therefor, including the regulations made thereunder as amended from time to time;

b) "Articles" shall mean original or restated articles of constitution, of amendment, of amalgamation, of continuance, of dissolution and any other documents by which the Corporation is formed;

c) "Board" means the board of directors of the Corporation;

d) "Director" means a member of the board;

e) "Person" includes an individual, a sole proprietorship, a partnership, an association, a labour organization, an organization, a trust, a body corporate and all individuals acting as a trustee, executor, curator or as any other legal representative;

f) "Shareholders Meeting" means an annual shareholders meeting or a special meeting of shareholders; and

g) "Unanimous Shareholder Agreement" means an agreement referred to in section 213 of the Act among all the shareholders of the Corporation.

1.2 Interpretation

a) words importing the singular number also include the plural and vice-versa; words importing the masculine gender include the feminine and vice-versa;

b) all words used in this by-law and defined in the Act shall have the meanings given to such words in the Act or in the related parts thereof.

1.3 Execution in Counterpart, by Facsimile and by Electronic Signature

Subject to the Act, any notice, resolution, requisition, statement or other document required or permitted to be executed for the purposes of the Act, may be signed by way of electronic signature, by way of a facsimile signature or by way of signing several similar documents by one or more persons, and those documents, when duly signed by all persons required or permitted to sign, as appropriate, shall constitute a single document for the purposes of the Act.

1.4 Unanimous Shareholder Agreement

Where any provision in this by-law conflicts with any provision of a unanimous shareholder agreement, the provision of such unanimous shareholder agreement shall govern to the extent permitted by the Act.

2 - GENERAL BUSINESS

2.1 Head Office

The head office of the Corporation must be permanently located in Québec. The Corporation may relocate its head office in accordance with the Act.

2.2 Seal

The Corporation may have a seal, which shall be adopted and may be changed by the board. The absence of a seal on a document of the Corporation does not render the document invalid.

2.3 Financial Year

Until changed by the board, the financial year of the Corporation shall end on the 31st day of December in each year.

2.4 Execution of Instruments

Deeds, transfers, assignments, contracts, obligations, certificates and other instruments shall be signed on behalf of the Corporation by any director or officer of the Corporation. In addition, the board may from time to time direct the manner in which, and the person or persons by whom, any particular instrument or class of instruments may or shall be signed.

Notwithstanding the foregoing, the secretary or any other officer or any director may sign certificates and similar instruments (other than share certificates) on the Corporation’s behalf with respect to any factual matters relating to the Corporation’s business and affairs, including certificates verifying copies of the articles, by-laws, resolutions and minutes of meetings of the Corporation.

2.5 Banking Arrangements

The banking business of the Corporation, or any part or division of the Corporation, shall be transacted with such bank, trust company or other firm or body corporate as the board may designate, appoint or authorize from time to time and all such banking business, or any part thereof, shall be transacted on the Corporation’s behalf by such one or more officers or other persons as the board may designate, direct or authorize from time to time and to the extent thereby provided.

2.6 Voting Rights in Other Bodies Corporate

Except as otherwise provided by the board, the president has the full power to represent the Corporation, and more particularly to vote all of the shares or other securities carrying voting rights of any other entity held from time to time by the Corporation, at any and all meetings of shareholders, bondholders, debentureholders or holders of other securities (as the case may be) of such other entity and exercise all other rights attached to the said shares or securities as if he were the owner thereof. The board may, from time to time, appoint any other officer for the same purpose.

3 - DIRECTORS

3.1 Duties of Directors

Subject to any unanimous shareholder agreement, the board exercises all the powers necessary to manage, or supervise the management of the business and affairs of the Corporation.

3.2 Qualifications of Directors

Any natural person may be a director of the Corporation unless such a person is less than 18 years of age, is under guardianship or curatorship, is of unsound mind and has been so found by a court in Canada or elsewhere, is a person for whom the court prohibits the exercise of this function, or has the status of bankrupt. A director is not required to hold shares of the Corporation.

3.3 Number of Directors

The board is composed of one or more directors. The board will consist of the number of directors as required by the articles or will be fixed pursuant to the Act.

If the Corporation is a reporting issuer, the board is composed of not fewer than three directors, at least two of whom must not be officers or employees of the Corporation or an affiliate of the Corporation.

3.4 Quorum

A majority of the directors in office constitutes a quorum at any meeting of the board. In the absence of a quorum within the first fifteen (15) minutes following the start of the meeting, the directors may only deliberate on the meeting’s adjournment. A quorum of directors may exercise all the powers of the board despite any vacancy on the board.

3.5 Election and Term

Directors shall be elected by the shareholders at the first meeting of shareholders and at each subsequent annual meeting at which an election of directors is required, by an ordinary resolution adopted by a majority of the votes cast by shareholders able to vote on such resolution, and shall hold office until the next annual meeting of shareholders or, if elected for an expressly stated term, for a term expiring no later than three (3) years following the election. The

election need not be by ballot unless a ballot is demanded by any shareholder or required by the chairperson in accordance with section 7.20. If an election of directors is not held at an annual meeting of shareholders at which such election is required, the incumbent directors shall continue in office until their resignation, replacement or removal.

3.6 Removal of Directors

Subject to the Act, the shareholders may, by ordinary resolution passed by a majority of votes cast at a special meeting of shareholders duly called for that purpose, remove any director or directors and may at that meeting elect a qualified person for the remainder of such term.

If shareholders holding a certain class or series of shares have an exclusive right to elect one or more directors, a director so elected may only be removed by ordinary resolution passed at a meeting of the shareholders holding such class or series of shares.

A director whose removal is to be proposed at a shareholders meeting must be informed of the time and place of the meeting within the same delays as those prescribed for the calling of such meeting. Such director may attend the meeting and be heard or, if not in attendance, may explain, in a written statement read by the person presiding over the meeting or made available to the shareholders before or at the meeting, why he or she opposes the resolution proposing his or her removal. In addition, any vacancy created by the removal of a director may be filled by a resolution of the shareholders at the shareholders meeting at which the director is removed or, if it is not, at a subsequent meeting of the board.

3.7 Cessation of Office

A director ceases to hold office when he dies, resigns, is removed or becomes disqualified from holding office.

3.8 Resignation

A director may resign from office by delivering or sending a written notice to the Corporation and such resignation becomes effective at the time the director’s written resignation is received by the Corporation or at the time specified in the notice, whichever is later. A director will immediately cease to hold office when such director no longer meets the requirements to hold office as specified by the Act.

3.9 Vacancies

Subject to the Act or to the articles, a quorum of directors may fill a vacancy on the board.

If there is no quorum of directors, or if there has been a failure to elect the number or minimum number of directors required by the articles, the directors then in office must without delay call a special shareholders meeting to fill the vacancies on the board. If the directors refuse or fail to call a meeting or if there are no directors then in office, the meeting may be called by any shareholder.

A director appointed or elected to fill a vacancy holds office for the unexpired term of his or her predecessor and remains in office until his successor is elected or nominated.

3.10 Borrowings

Subject to any unanimous shareholder agreement, the board may, on behalf of the Corporation:

a) borrow money;

b) issue, reissue, sell or hypothecate its debt obligations;

c) enter into a suretyship to secure performance of an obligation of any person; and

d) hypothecate all or any of its property, owned or subsequently acquired, to secure any obligation.

3.11 Action by the Board

Subject to any unanimous shareholder agreement and the Act, the board shall exercise its powers by or pursuant to a resolution passed at a meeting of the board at which a quorum is present or approved in writing by all directors in office. The sole director of the Corporation may regularly constitute a meeting.

3.12 Delegation

Subject to the Act, the articles, any by-laws and any unanimous shareholder agreement, the board may from time to time delegate to a director, a committee of the board or an officer or such other person or persons so designated by the board all or any of the powers conferred on the board by the Act to such extent and in such manner as the board shall determine at the time of each such delegation.

3.13 Resolution in writing

A resolution in writing, signed by all the directors entitled to vote thereon is as valid as if it had been passed at a meeting of the board or, as the case may be, of a committee of the board. If the Corporation has only one director, such director may pass a resolution in lieu of holding a meeting. A copy of the resolution must be kept with the minutes of the meetings of the board.

3.14 Meetings by Telephone, Electronic or other Communication Facility

A director may, if all of the directors present or participating at a meeting consent, participate in a meeting of the board or of a committee of the board by means of a telephonic, electronic or other communication facility that permits all participants to communicate adequately with each other during the meeting. A director who participates in such meeting by such means is deemed to be present at that meeting.

3.15 Place of Meetings

Meetings of the board are held at the registered office of the Corporation or at any other place within or outside of Québec.

3.16 Calling of Meetings

Meetings of the board shall be held from time to time at such place, on such day and at such time as the board, the chairperson of the board, the president, the secretary or any two directors may determine. Meetings are called by the chairperson of the board, the president or two directors or by the secretary upon being asked to call such a meeting by the chairperson of the board, the president or two directors.

3.17 Notice of Meetings

The notice stating the time and place of the meeting and specifying any matter to be dealt with relating to powers which the board may not delegate, shall be given to each director at least 48 hours before the meeting is to occur. This notice does not have to be given in writing.

Any director may waive a notice of a meeting of the board. Attendance of a director at a meeting of the board constitutes a waiver of notice of such meeting unless the director attends such meeting for the sole purpose of objecting to the holding of the meeting on the grounds that it was not duly called.

3.18 First Meeting of New Board

Provided a quorum of directors is present, each newly elected board may without notice hold its first meeting following the meeting of shareholders at which such board is elected.

3.19 Adjourned Meeting

Notice of an adjourned meeting of the board is not required if the time and place of the adjourned meeting is announced at the original meeting.

3.20 Votes to Govern

Subject to the Act or any unanimous shareholders agreement, at all meetings of the board, any question shall be decided by a majority of the votes cast on the question and, in the case of an equality of votes, the chairperson of the meeting shall not be entitled to a second or casting vote. Any question at a meeting of the board shall be decided by a show of hands unless a ballot is required or demanded.

3.21 Chairperson and Secretary

The chairperson of the board or, in the chairperson’s absence, the president or, in the president’s absence, a vice-president shall be chairperson of any meeting of the board. If none of these officers are present, the directors present shall choose one of their number to be chairperson. The secretary of the Corporation shall act as secretary at any meeting of the board and, if the

secretary of the Corporation is absent, the chairperson of the meeting shall appoint a person, who need not be a director, to act as secretary of the meeting.

3.22 Remuneration and Expenses

Subject to any unanimous shareholder agreement, the directors shall be paid such remuneration for their services as directors as the board may from time to time authorize. In addition, the board may authorize, by resolution, a special remuneration to a director who executes specific or additional duties on behalf of the Corporation. The directors shall also be entitled to be paid in respect of travelling and other expenses properly incurred by them in attending meetings of the board or any committee thereof or in otherwise serving the Corporation. Nothing herein contained shall preclude any director from serving the Corporation in any other capacity and receiving remuneration therefor.

3.23 Duty of Loyalty and Conflict of Interest

Subject to the Act, the directors are bound by the same obligations as are imposed by the *Civil Code of Québec* (Québec) on any director of a legal person. Consequently, in the exercise of their functions, the directors are duty-bound toward the Corporation to act with prudence and diligence, honesty and loyalty and in the interest of the Corporation.

In particular, but without limiting the generality of the foregoing, a director may not mingle the property of the Corporation with his own property nor may he use for his own profit or that of a third person any property of the Corporation or any information he obtains by reason of his duties, unless he is authorized to do so by the shareholders of the Corporation. Directors shall avoid placing themselves in any situation where their personal interests would be in conflict with their obligations as a director.

3.24 Contracts or Transactions - Disclosure of Interest

A director must disclose the nature and value of any interest he or she has in a contract or transaction to which the Corporation is a party. “Interest” means any financial stake in a contract or transaction that may reasonably be considered likely to influence decision-making. Furthermore, a proposed contract or a proposed transaction, including related negotiations, is considered a contract or transaction.

A director must also disclose any contract or transaction to which the Corporation and any of the following are a party:

a) an associate of the director or officer;

b) a group of which the director or officer is a director or officer; or

c) a group in which the director or officer or an associate of the director or officer has an interest.

The director satisfies the requirement if he or she discloses, in a case specified in subparagraph b) above, the directorship or office held within the group or, in a case specified in subparagraph c) above, the nature and value of the interest he or she or his or her associate has in the group.

Unless it is recorded in the minutes of the first meeting of the board at which the contract or transaction is discussed, the disclosure of an interest, contract or transaction must be made in writing to the board as soon as the director becomes aware of the interest, contract or transaction.

The disclosure must be made even in the case of a contract or transaction that does not require approval by the board.

3.25 Contracts or Transactions — Votes

No director may vote on a resolution to approve, amend or terminate a contract or transaction described in section 3.24 or be present during deliberations concerning the approval, amendment or termination of such a contract or transaction, unless the contract or transaction:

a) relates primarily to the remuneration of the director or an associate of the director as a director of the Corporation or an affiliate of the Corporation;

b) relates primarily to the remuneration of the director or an associate of the director as an officer, employee or mandatary of the Corporation or an affiliate of the Corporation, if the Corporation is not a reporting issuer;

c) is for indemnity or liability insurance; or

d) is with an affiliate of the Corporation, and the sole interest of the director is as a director or officer of the affiliate.

If no quorum exists for the purpose of voting on a resolution to approve a contract or transaction only because a director is not permitted to be present during deliberations, the other directors present are deemed to constitute a quorum for the purpose of voting on the resolution.

If all the directors are required to abstain from voting, the contract or transaction may be approved solely by the shareholders entitled to vote, by ordinary resolution. The disclosure required by section 3.24 must be made to the shareholders in a sufficiently clear manner before the contract or transaction is approved.

3.26 Dissent

A director who is present at a meeting of the board or a committee of the board is deemed to have consented to any resolution passed at the meeting unless:

a) the director’s dissent has been entered in the minutes;

b) the director sends a written dissent to the secretary of the meeting before the meeting is adjourned; or

c) the director delivers a written dissent to the chair of the board, sends it to the chair by any means providing proof of the date of receipt or delivers it to the head office of the Corporation immediately after the meeting is adjourned.

A director is not entitled to dissent after voting for or consenting to a resolution.

A director who was not present at a meeting at which a resolution was passed is deemed to have consented to the resolution unless he delivers a written dissent to the chair of the board, sends it to the chair of the board by any means providing proof of the date of receipt or delivers it to the head office of the Corporation within seven days after becoming aware of the resolution.

4 - COMMITTEES

4.1 Committees of the Board

The board may, by resolution, appoint one or more committees composed of directors and delegate to any such committee any of the powers of the board, except for the following powers which, in accordance with the Act, must be exclusively exercised by the board:

a) submit to the shareholders any question or matter requiring their approval;

b) fill a vacancy among the directors or in the office of auditor, or appoint additional directors;

c) appoint the president of the Corporation, the chair of the board, the chief executive officer, the chief operating officer or the chief financial officer, regardless of their title, and to determine their remuneration;

d) authorize the issue of shares;

e) approve the transfer of unpaid shares;

f) declare dividends;

g) acquire, including by purchase, redemption or exchange, shares issued by the Corporation;

h) split, consolidate or convert shares;

i) authorize the payment of a commission to a person who purchases shares or other securities of the Corporation, or procures or agrees to procure purchasers for those shares or securities;

j) approve the financial statements presented at the annual shareholders meeting;

k) adopt, amend or repeal by-laws;

l) authorize calls for payment;

m) authorize the confiscation of shares;

n) approve an amendment to the articles allowing a class of unissued shares to be divided into series, and to determine the designation of and the rights and restrictions attaching to those shares; or

o) approve a short-form amalgamation.

4.2 Transaction of Business

The powers of a committee of the board may be exercised by a meeting at which a quorum is present or by resolution in writing signed by all the members of such committee who would have been entitled to vote on that resolution at a meeting of the committee. Meetings of such committee may be held at any place in or outside of Québec and, subject to the provisions of paragraph 3.14 which apply with the necessary modifications, the meetings may be held by telephone, electronic or other communication facility.

4.3 Procedure

Unless otherwise determined by a resolution of the board, each committee shall have the power to fix its quorum at not less than a majority of its members, to elect its chairperson and to regulate its procedure. Each committee must provide the board with a report concerning its activities if the board makes such a request. The board may cancel or modify any decision made by the committee.

5 - OFFICERS

5.1 Appointment of Officers

Subject to any unanimous shareholder agreement, the board may from time to time appoint a chairperson of the board, a president, one or more vice-presidents, a secretary, a treasurer and such other officers as the board may determine, including one or more assistants to any of the officers so appointed. The board may specify the duties of and, in accordance with this by-law and subject to the Act, delegate to such officers powers to manage, or supervise the management of, the business and affairs of the Corporation other than any of the powers listed in section 4.1. An officer may but need not be a director and any person may hold more than one office.

5.2 Agents and Attorneys

The board shall have the power from time to time to appoint agents or attorneys for the Corporation in or out of the Province of Québec with such powers of management or otherwise (including the power to sub-delegate) as the board may determine.

5.3 Disclosure of Interest

An officer must disclose the nature and value of any interest he or she has in a contract or transaction to which the Corporation is a party, in the same way that a director must disclose

such an interest pursuant to section 3.24. In the case of an officer who is not a director, disclosure must be made as soon as:

a) the officer becomes an officer;

b) the officer becomes aware that the contract or transaction is to be discussed or has been discussed at a meeting of the board; or

c) the officer or the officer's associate acquires an interest in the contract or transaction, if it was entered into earlier.

5.4 Mandate

The board may, at its own discretion, remove any officer of the Corporation, without harming his rights under his terms of employment. Each officer appointed by the board will remain in office until his resignation, replacement or removal.

5.5 Employment Conditions and Remuneration

Subject to a unanimous shareholders agreement, the board shall fix, from time to time, by resolution, the terms of employment and the remuneration of the officers it appoints.

6 - PROTECTION OF DIRECTORS AND OFFICERS

6.1 Indemnity of Directors and Officers

Subject to the following, the Corporation must indemnify a director or officer of the Corporation, a former director or officer of the Corporation, a mandatary, or any other person who acts or acted at the Corporation's request as a director or officer of another group, against all costs, charges and expenses reasonably incurred in the exercise of their functions, including an amount paid to settle an action or satisfy a judgment, or arising from any investigative or other proceeding in which the person is involved if:

a) the person acted with honesty and loyalty in the interest of the Corporation or, as the case may be, in the interest of the other group for which the person acted as director or officer or in a similar capacity at the Corporation's request; and

b) in the case of a proceeding that is enforced by a monetary penalty, the person had reasonable grounds for believing that his or her conduct was lawful.

The Corporation must also advance moneys to such a person for the costs, charges and expenses of a proceeding referred to in the above paragraph.

However, in the event that a court or any other competent authority judges that the conditions set out in subparagraphs 1 and 2 above are not fulfilled, the Corporation may not indemnify the person and the person must repay to the Corporation any moneys advanced. In addition, the Corporation is not required to indemnify the person if a court has judged that the person

committed an intentional or gross fault. The person will then be required to repay to the Corporation any moneys advanced.

The Corporation may, with the approval of the court, in respect of an action by or on behalf of the Corporation or other group referred to above, against a person referred to above, advance the necessary monies to the person or indemnify the person against all costs, charges and expenses reasonably incurred by the person in connection with the action, if the person fulfills the conditions set out above.

6.2 Insurance

The Corporation may purchase and maintain insurance for the benefit of its directors, officers and other mandataries against any liability they may incur as such or in their capacity as directors, officers or mandataries of another group, if they act or acted in that capacity at the Corporation's request.

7 - MEETINGS OF SHAREHOLDERS

7.1 General Business

The Corporation must hold an annual shareholders meeting; if necessary, the Corporation may also hold one or more special shareholder meetings.

7.2 Annual Meetings

An annual shareholders meeting of shareholders entitled to vote at such a meeting must be held not later than 18 months after the Corporation is constituted and, subsequently, not later than 15 months after the last preceding annual shareholders meeting, for the purpose of:

a) considering the financial statements of the Corporation for the fiscal year ending within six (6) months preceding the date of such meeting and the auditor's report thereon, if any;

b) considering any other financial information presentation of which is required by the articles, the by-laws or a unanimous shareholder agreement;

c) electing directors;

d) appointing the auditor, if any; and

e) deliberating with respect to all other matters which may be presented at the meeting.

The board calls the annual shareholders meeting. Otherwise, the meeting may be called by the shareholders in accordance with the Act or with section 7.3 below.

7.3 Special Meetings

The board may at any time call a special shareholders meeting.

The holders of not less than 10% of the issued shares that carry the right to vote at a shareholders meeting sought to be held may requisition the board to call a shareholders meeting for the purposes stated in the requisition. The requisition, signed by at least one shareholder, must state the business to be transacted at the meeting and must be sent to each director and to the head office of the Corporation. On receiving the requisition, the board calls a shareholders meeting to transact the business stated in the requisition. If the board does not within 21 days after receiving the requisition call a meeting, any shareholder who signed the requisition may call the meeting. Unless the shareholders otherwise resolve at a meeting called by shareholders, the Corporation must reimburse the shareholders for the expenses reasonably incurred by them in requisitioning, calling and holding the meeting.

7.4 Resolution in Lieu of Meeting

A resolution in writing signed by all the shareholders entitled to vote thereon at a meeting of shareholders is as valid as if it had been passed at a meeting of the shareholders.

A copy of the resolution must be kept with the minutes of the shareholders meetings.

7.5 Place of Meetings

Subject to the articles or any unanimous shareholder agreement, shareholders meetings must be held in Québec at the place determined by the board. If the articles so allow, or in the absence of such a provision, if all the shareholders entitled to vote at the meeting agree, the meeting may be held at a place outside of Québec.

7.6 Participation in Meetings by Electronic Means

A meeting may be held solely by means of equipment enabling all participants to communicate directly with one another.

In addition, any person entitled to attend a shareholders meeting may participate in the meeting by means of any equipment enabling all participants to communicate directly with one another. A person participating in a meeting by such means is deemed present at the meeting.

Any shareholder participating in a shareholders meeting by means of equipment enabling all participants to communicate directly with one another may vote by any means enabling votes to be cast in a way that allows them to be verified afterwards and protects the secrecy of the vote when a secret ballot has been requested.

7.7 Notice of Meetings

Any notice of a meeting of shareholders specifying the time and place of the meeting must be sent, in writing and by any means providing proof of the date of receipt, to each shareholder entitled to vote at the meeting, not less than 10 days before the meeting; in the case of a reporting issuer, the notice must be sent not less than 21 days and not more than 60 days before the meeting.

Notice of a meeting of shareholders at which special business is to be transacted shall state the nature of that business in sufficient detail to permit the shareholder to form a reasoned judgment thereon, and contain the text of any special resolution to be submitted to the meeting. All business transacted at a special meeting of the shareholders and all business transacted at an annual shareholders meeting, except consideration of the financial statements and auditor's report, the appointment of the auditor and the election of directors, is deemed to be special business.

If a director or a shareholder entitled to vote at a shareholders meeting gives written notice not less than 10 days before the meeting to the auditor or a former auditor of the Corporation, the auditor or former auditor attends the meeting at the Corporation's expense and answers any question relating to their duties as auditor.

7.8 Waiver of Notice

A shareholder or director may waive notice of a shareholder meeting; the waiver may be given either before or after the meeting. Their attendance at the meeting is a waiver of notice of the meeting unless they attend the meeting for the sole purpose of objecting to the holding of the meeting on the grounds that it was not lawfully called or held.

7.9 Record Date for Notice

If the Corporation is a reporting issuer or has 50 or more shareholders, the board may fix in advance, not less than 21 days and not more than 60 days before the meeting, a record date for the purpose of determining the shareholders entitled to receive a notice of the meeting or entitled to vote at the meeting. If no record date is fixed, the record date for the purpose of determining the shareholders entitled to receive a notice or entitled to vote shall be the close of business on the day immediately preceding the day on which the notice of the meeting is given.

7.10 Chairperson and Secretary

The chairperson of the board or, in the chairperson's absence, the president or, in the president's absence, a vice-president shall be chairperson of any meeting of shareholders. If none of these officers are present within 15 minutes after the time appointed for holding the meeting, the persons present and entitled to vote shall choose a chairperson from amongst themselves. The secretary of the Corporation shall act as secretary at any meeting of shareholders or, if the secretary of the Corporation is absent, the chairperson of the meeting shall appoint some person, who need not be a shareholder, to act as secretary of the meeting. If desired, one or more scrutineers, who need not be shareholders, may be appointed by resolution or by the chairperson with the consent of the meeting in accordance with the procedure set out in section 7.17.

7.11 Persons Entitled to be Present

The only persons entitled to be present at a meeting of shareholders shall be those entitled to vote thereat, the directors and auditors of the Corporation and others who, although not entitled to vote, are entitled or required under any provision of the Act or the articles or by-laws to be present at the meeting. Any other person may be admitted only on the invitation of the

chairperson of the meeting or with the consent of the meeting in accordance with the procedure set out in section 7.17.

7.12 Quorum

A quorum of shareholders is present at a meeting of shareholders irrespective of the number of persons actually present at the meeting, if the holders of a majority of the shares entitled to vote at the meeting are present in person or represented by proxy. A quorum need not be present throughout the meeting provided a quorum is present at the opening of the meeting.

7.13 Right to Vote

Subject to a record date established in accordance with section 7.9, at a shareholders meeting, the shareholders registered on the securities register of the Corporation are entitled to exercise the voting rights attached to the shares in their name.

7.14 Proxies and Representatives

Every shareholder entitled to vote at a meeting of shareholders may, by means of a proxy, appoint a proxyholder, or one or more alternate proxyholders, who need not be shareholders, to attend and act at the meeting in the manner and to the extent authorized and with the authority conferred by the proxy. A proxy shall be signed in writing or by electronic signature by the shareholder or the shareholder's representative authorized in writing or by electronic signature.

Unless otherwise indicated, a proxy lapses one year after the date it is given. It may be revoked at any time.

A proxyholder has the same rights as the shareholder represented to speak at a shareholders meeting in respect of any matter and to vote at the meeting. However, a proxyholder who has conflicting instructions from more than one shareholder may not vote by a show of hands.

7.15 Time for Deposit of Proxies

The board may specify in a notice calling a meeting of shareholders a time, preceding the time of such meeting by not more than 48 hours exclusive of non-business days, before which proxies to be used at such meeting must be deposited. A proxy shall be acted upon only if, prior to the time so specified, it shall have been deposited with the Corporation or an agent thereof specified in such notice or, if no such time is specified in such notice, it shall have been received prior to the time of voting by the secretary of the Corporation or by the chairperson of the meeting or any adjournment thereof.

7.16 Joint Shareholders

If two or more persons hold shares jointly, one of those holders present at a meeting of shareholders may in the absence of the others vote the share, but if two or more of those persons who are present, in person or by proxy, vote, they shall vote as one on the shares jointly held by them.

7.17 Votes to Govern

Except as otherwise required by the Act, the articles and any unanimous shareholder agreement, all questions proposed for the consideration of shareholders at a meeting of shareholders shall be determined by a majority of the votes cast by all who are entitled to vote.

7.18 Casting Vote

In case of an equality of votes at any meeting of shareholders, regardless of the manner of voting, the chairperson of the meeting shall not be entitled to a second or casting vote.

7.19 Show of Hands

Any question at a meeting of shareholders shall be decided by a show of hands, unless a ballot thereon is required or demanded as hereinafter provided. Every person who is present and entitled to vote thereon shall have one vote. Whenever a vote by any means other than by ballot is taken, a declaration by the chairperson of the meeting that the vote upon the question has been carried or carried by a particular majority or not carried and an entry to that effect in the minutes of the meeting shall be prima facie evidence of the fact without proof of the number or proportion of the votes recorded in favour of or against any resolution or other proceeding in respect of the said question, and the result of the vote so taken shall be the decision of the shareholders upon the said question.

7.20 Ballots

On any question proposed for consideration at a meeting of shareholders, and whether or not a show of hands has been taken thereon, the chairperson may require, or any shareholder or proxyholder entitled to vote at the meeting may demand, a ballot. A ballot so required or demanded shall be taken in such manner as the chairperson shall direct. A requirement or demand for a ballot may be withdrawn at any time prior to the taking of the ballot. If a ballot is taken each person present shall be entitled, in respect of the shares which the person is entitled to vote at the meeting upon the question, to that number of votes provided by the Act or the articles, and the result of the ballot so taken shall be the decision of the shareholders upon the said question.

7.21 Adjournment

If a meeting of shareholders is adjourned for less than 30 days, it shall not be necessary to give notice of the adjourned meeting, other than by announcement at the earliest meeting that is adjourned. If a meeting of shareholders is adjourned by one or more adjournments for an aggregate of 30 days or more, notice of the adjourned meeting shall be given as for an original meeting.

7.22 One Shareholder

Where the Corporation has only one shareholder or only one holder of any class or series of shares, the shareholder present in person or by proxy constitutes a meeting.

7.23 Storage of Ballots and Proxies

The Corporation must, for at least three months after a shareholders meeting, keep at its head office the ballots cast and the proxies presented at the meeting. Any shareholder or proxyholder who was entitled to vote at the meeting may, without charge, inspect the ballots and proxies kept by the Corporation.

8 - SHARES AND CERTIFICATES

8.1 Issuance of Shares

Subject to any provision providing otherwise in the articles or in a unanimous shareholder agreement, including a provision granting pre-emptive rights to shareholders, shares may be issued at the times, to the persons, including directors and officers, and for the consideration that the board determines. The board may, by resolution, accept subscriptions, issue and allot unissued shares from the Corporation's share capital and grant exchange rights, options or acquisition rights with respect to those shares.

8.2 Payment of Shares

Shares may be issued whether or not they are fully paid. However, shares may only be considered paid if consideration equal to the issue price determined by the board has been paid to the Corporation.

Consideration for the shares issued by the Corporation is payable in money, or in property or past services determined by the board to be the fair equivalent of the money consideration, considering all the circumstances.

A promissory note or a promise to pay made by a person to whom shares are issued, or a person who does not deal at arm's length, within the meaning of that expression in the Taxation Act (Québec), with a person to whom shares are issued does not constitute consideration for the shares.

8.3 Unpaid Shares

Unless the terms of payment for shares are determined by contract, the board may call for payment of all or part of the unpaid amounts on shares subscribed or held by the shareholders.

A call for payment is deemed to be made on the day the board passes a resolution providing for it. Notice of the call for payment stating the amount due and the time for payment must be sent to the shareholders.

If a shareholder does not make the required payment following a call for payment, the board may confiscate, without further formality, the shares for which payment has not been made. The confiscation is recorded in the securities register.

The board may transfer the shares so confiscated to a new acquirer, register their transfer and, if applicable, cancel the certificates representing them, whether or not the shareholder has returned the endorsed certificates to the Corporation, and issue a new certificate to the acquirer.

If the terms of payment for shares are determined by contract, the board may, after sending a demand letter, confiscate the shares without further formality if the shareholder who subscribed for or acquired them has failed to comply with such terms.

If the acquirer is not bound by a contract with the Corporation with respect to payment of the shares, the provisions relating to a call for payment apply to the acquirer.

Within 10 days after disposing of the confiscated shares, the Corporation must inform the shareholder of the proceeds obtained from the disposition and remit any surplus to the shareholder. The shareholder is liable for the unpaid balance on the shares if the proceeds of disposition do not cover the amounts payable.

Instead of confiscating shares, the Corporation may apply to the court in order to recover the amounts due from defaulting shareholders.

A shareholder who is in arrears with respect to a call for payment or has defaulted on payment of shares in accordance with the contract between the shareholder and the Corporation may not vote at any shareholders meeting.

The unpaid amounts on shares subscribed to by shareholders exercising with respect to those shares a right to demand repurchase of shares pursuant to section 372 and following of the Act become payable from the moment the shareholder sends a notice to the Corporation pursuant to section 376 of the Act.

8.4 Commissions

The board may, from time to time, authorize the Corporation to pay a reasonable commission to any person in consideration of the person’s purchasing or agreeing to purchase shares or other securities of the Corporation from the Corporation, or procuring or agreeing to procure purchasers for any such shares or securities.

8.5 Securities Records

The securities register of the Corporation must contain the following information with respect to its shares:

a) the names, in alphabetical order, and the addresses of present and past shareholders;

b) the number of shares held by each such shareholder;

c) the date and details of the issue and transfer of each share; and

d) any amount due on any share.

The register must contain, if applicable, the same information with respect to the Corporation's debentures, bonds, notes and other securities, with the necessary modifications.

8.6 Register of Transfer

The Corporation shall cause to be kept a register of transfers in which all transfers of securities issued by the Corporation in registered form and the date and other particulars of each transfer shall be set out.

Subject to the Act, the transfer of shares is governed by the Act respecting the transfer of securities and the establishment of security entitlements (Québec).

8.7 Registration of Transfer

If an endorsed share certificate in registered form is presented to the Corporation with a request to register a transfer of the certificated share or an instruction is presented to the Corporation with a request to register a transfer of an uncertificated share, the Corporation registers the transfer as requested if:

a) under the terms of the share, the purchaser is eligible to have the share registered in that person's name;

b) the endorsement or instruction is made by the appropriate person or by that person's representative;

c) reasonable assurance is given that the endorsement or instruction is neither forged nor counterfeited and is authorized;

d) any applicable fiscal law that imposes duties on the Corporation at the time of the transfer has been complied with;

e) the transfer does not violate any restriction on transfer imposed by the Corporation that is enforceable against the purchaser or imposed by law; and

f) the transfer is rightful or is to a protected purchaser, pursuant to the Act respecting the transfer of securities and the establishment of security entitlements (Québec).

Shares that are not fully paid but for which no instalment is payable may only be transferred with the authorization of the board. The directors must reasonably verify the acquirer's ability to pay for the shares before authorizing the transfer.

A share may not be transferred until all instalments payable up to the time of transfer have been fully paid.

8.8 Non-recognition of Trusts

Subject to the Act, the Corporation may treat the registered owner of a share as the person exclusively entitled to vote, to receive notices, to receive any dividend or other payments in respect thereof and otherwise to exercise all the rights and powers of an owner of a share.

8.9 Share Certificates

A share issued by the Corporation may be a certificated share or an uncertificated share. A certificated share is represented by a paper certificate in registered form, and an uncertificated share is represented by an entry in the securities register in the name of the shareholder.

Unless otherwise provided in the articles of the Corporation, shares are issued as certificated shares unless the board determines, by resolution, that the shares of any class or series or certain shares of a class or series are to be issued as uncertificated shares.

The board may also, by resolution, determine that a certificated share becomes an uncertificated share as soon as the paper certificate is surrendered to the Corporation.

Inversely, the board may, by resolution, determine that an uncertificated share becomes a certificated share on delivery to the shareholder of a certificate in the shareholder's name or, in the case of a control agreement under the *Act respecting the transfer of securities and the establishment of security entitlements* (Québec), on delivery to the purchaser, within the meaning of the *Act respecting the transfer of securities and the establishment of security entitlements* (Québec), of a certificate in the purchaser's name, unless there are provisions inconsistent with such a control agreement, in which case those provisions apply. The board must give notice of the resolution to the shareholders of the classes or series of shares concerned.

8.10 Certificated Shares

In the case of certificated shares, the Corporation must issue to the shareholder, without charge, a certificate in registered form.

Share certificates shall be in such form as the board may from time to time approve.

Subject to any resolution of the board providing otherwise, the share certificates of the Corporation must be signed by any one of the Corporation's directors or officers or by a person acting in their name. The signature may be affixed by an automatic device or electronic process.

In the absence of any evidence to the contrary, the certificate is proof of the shareholder's title to the shares represented by the certificate.

Share certificates need not be under corporate seal.

8.11 Uncertificated Shares

In the case of uncertificated shares, the Corporation must send the shareholder a written notice containing the information required under the Act.

8.12 Replacement of Share Certificates

If the shareholder of a certificated share claims that the certificate has been lost, wrongfully taken or destroyed, the Corporation must issue a new certificate if the shareholder:

a) so requests before the Corporation has notice that the lost, wrongfully taken or allegedly destroyed certificate has been delivered to a protected purchaser, as such term is defined in the *Act respecting the transfer of securities and the establishment of security entitlements* (Québec);

b) provides security sufficient in the Corporation's judgment to protect the Corporation from any loss that the Corporation may suffer by issuing a new certificate; and

c) satisfies any other reasonable requirements imposed by the Corporation.

8.13 Joint Shareholders

If two or more persons are registered as joint holders of any share, the Corporation shall not be bound to issue more than one certificate in respect thereof, and delivery of such certificate to one of such persons shall be sufficient delivery to all of them. Any one of such persons may give effectual receipts for the certificate issued in respect thereof or for any dividend, bonus, return of capital or other money payable or warrant issuable in respect of such share.

8.14 Deceased Shareholders

In the event of the death of a holder, or of one of the joint holders, of any share, the Corporation shall not be required to make any entry in the securities register in respect thereof or to make payment of any dividends thereon except upon production of all such documents as may be required by the Act and upon compliance with the reasonable requirements of the Corporation.

9 - DIVIDENDS AND RIGHTS

9.1 Dividends

Subject to the provisions of the Act, the articles and any unanimous shareholder agreement, the board may from time to time declare dividends payable to the shareholders according to their respective rights and interests in the Corporation. Dividends may be paid in money or property or by issuing fully paid shares or options or rights to acquire fully paid shares of the Corporation.

If shares of the Corporation are issued in payment of a dividend, the Corporation may add all or part of the value of those shares to the appropriate issued and paid-up share capital account.

The Corporation may not declare and pay a dividend, except by issuing shares or options or rights to acquire shares, if there are reasonable grounds for believing that the Corporation is, or would after the payment be, unable to pay its liabilities as they become due.

The Corporation may deduct from the dividends payable to a shareholder any amount due to the Corporation by the shareholder, on account of calls for payment or otherwise.

9.2 Dividend Cheques

A dividend payable in cash shall be paid by cheque drawn on the Corporation's banks or one of them to the order of each registered holder of shares of the class or series in respect of which it has been declared and mailed by prepaid ordinary mail to such registered holder at such holder's address recorded in the Corporation's securities register, unless in each case such holder otherwise directs. In the case of joint holders the cheque shall, unless such joint holders otherwise direct, be made payable to the order of all of such joint holders and, if more than one address is recorded in the Corporation's securities register in respect of such joint holding, the cheque shall be mailed to the first address so appearing. The mailing of such cheque, in such manner, unless the cheque is not paid on due presentation, shall satisfy and discharge the liability for the dividend to the extent of the sum represented thereby plus the amount of any tax which the Corporation is required to and does withhold.

9.3 Non-receipt or Loss of Cheques

In the event of non-receipt or loss of any dividend cheque by the person to whom it is sent, the Corporation shall issue to such person a replacement cheque for a like amount on such terms as to indemnity, reimbursement of expenses and evidence of non-receipt or loss and of title as the board may from time to time prescribe, whether generally or in any particular case.

9.4 Record Date for Dividends and Rights

If the Corporation is a reporting issuer or has 50 or more shareholders, the board may fix in advance, in a specified manner, a date as the record date for the purpose of determining shareholders entitled to receive payment of a dividend, participate in a liquidation distribution or for any other purpose. If no record date is fixed in advance, the record date for the determination of the shareholders entitled to receive payment of any dividend shall be at the close of business on the day on which the resolution relating to such dividend is passed by the board.

9.5 Unclaimed Dividends

Any dividend unclaimed after a period of two years from the date on which the dividend has been declared to be payable shall be forfeited and shall revert to the Corporation.

10 - NOTICES

10.1 Method of Giving Notices

Any notice, communication or document ("notice") to be given or sent pursuant to the Act, the articles, a unanimous shareholder agreement, the by-laws or otherwise to a shareholder, director, officer or auditor shall be sufficiently given or sent if given or sent by prepaid mail, prepaid transmitted, recorded, or electronic communication capable of providing a written copy of such notice, or delivered personally to such person's latest address as shown on the securities register of the Corporation or, in the case of a director, if more current, the address as shown in the most recent declaration filed under the Act Respecting the Legal Publicity of Enterprises (Québec). A notice shall be deemed to have been received on the date when it is delivered personally, or on the fifth day after mailing, or on the date of dispatch of a transmitted or recorded electronic

communication. The secretary may change or cause to be changed the recorded address of any shareholder, director, officer or auditor in accordance with any information believed by the secretary to be reliable.

10.2 Notice to Joint Shareholders

If two or more persons are registered as joint holders of any share, any notice shall be addressed to all of such joint holders but notice to one of such persons shall be sufficient notice to all of them.

10.3 Computation of Time

In computing the date when notice must be sent under any provision requiring a specified period of days' notice of any meeting or other event, the period of days shall commence on the day following the sending of such notice and shall terminate on the day preceding the date of the meeting or other event provided that the last day of the period shall not be a non-business day.

10.4 Undelivered Notices

If any notice given to a shareholder pursuant to section 10.1 is returned on two consecutive occasions because the shareholder cannot be found, the Corporation shall not be required to give any further notice to such shareholder until such shareholder informs the Corporation in writing of the shareholder's new address.

10.5 Omissions and Errors

The accidental omission to give or send any notice to any shareholder, director, officer or auditor, or the non-receipt of any notice by any such person or any error in any notice not affecting the substance thereof, shall not invalidate any action taken at any meeting held pursuant to such notice or otherwise based thereon.

10.6 Persons Entitled by Death or Operation of Law

Every person who, by operation of law, transfer, death of a shareholder or any other means whatsoever, shall become entitled to any share, shall be bound by every notice in respect of such share which shall have been duly given or sent to the shareholder from whom the person derives title to such share prior to that person's name and address being entered on the securities register (whether such notice was given or sent before or after the happening of the event upon which that person becomes so entitled) and prior to that person furnishing to the Corporation the proof of authority or evidence of entitlement prescribed by the Act.

10.7 Waiver of Notice

Any shareholder (or shareholder's duly appointed proxyholder), director, officer or auditor may at any time waive the giving or sending of any notice, or waive or abridge the time for any notice, required to be given to that person under any provision of the Act, the articles, a unanimous shareholder agreement, the by-laws or otherwise and such waiver or abridgement shall cure any default in the giving or sending or in the time of such notice, as the case may be.

Any such waiver or abridgement shall be in writing or given by electronic signature except a waiver of notice of a meeting of shareholders or of the board which may be given in any manner.

THE PRESENT BY-LAW WAS ADOPTED BY THE DIRECTORS AND SANCTIONED BY THE SHAREHOLDERS OF THE CORPORATION ON JULY 14, 2017 AND REPLACES THE GENERAL BY-LAWS OF THE CORPORATION.

Exhibit 4.2

MILESTONE PHARMACEUTICALS INC.

THIRD AMENDED & RESTATED REGISTRATION RIGHTS AGREEMENT

Dated as of October 15, 2018

MILESTONE PHARMACEUTICALS INC.

THIRD AMENDED & RESTATED REGISTRATION RIGHTS AGREEMENT

THIS THIRD AMENDED & RESTATED REGISTRATION RIGHTS AGREEMENT is made as of October 15, 2018 between Milestone Pharmaceuticals Inc. (the "**Corporation**"), a legal person existing under the laws of the Province of Québec, represented herein by Joseph Oliveto, its Chief Executive Officer, duly authorized for the purposes hereof as he so declares, and the holders of Class A Preferred Shares, the holders of Class B Preferred Shares, the holders of Class C Preferred Shares and the holders of Class D Preferred Shares of the Corporation listed on Schedule A, as such Schedule may be amended from time to time (collectively, the "**Investors**").

In consideration of the agreement by the Investors to purchase Class D Preferred Shares of the Corporation pursuant to the Subscription Agreement dated as of the date hereof (the "**Subscription Agreement**"), and as an inducement to the Investors to consummate the transactions contemplated by the Subscription Agreement and ancillary agreements, the Corporation agrees with the Investors to enter into this Agreement and make certain arrangements with respect to the registration of the Registrable Securities (as defined below) held by the Investors under the *1933 Act* (as defined below) and/or the qualification of such shares for distribution under the securities laws of the provinces and territories of Canada, as set forth in this Agreement.

ARTICLE 1
CERTAIN DEFINITIONS

1.1 Definitions

As used in this Agreement, the following terms have the following meanings:

(a) "**1933 Act**" means the United States *Securities Act of 1933*, as amended.

(b) "**Articles**" means the articles of continuance of the Corporation as amended from time to time.

(c) "**As-Converted Basis**" has the meaning ascribed thereto in the Shareholders' Agreement.

(d) "**Canadian Prospectus**" means a (final) Prospectus filed by the Corporation under *Canadian Securities Laws*.

(e) "**Canadian Securities Commissions**" means the securities commissions or other securities regulatory authorities in each of the provinces and territories of Canada.

(f) "**Canadian Securities Laws**" means the securities legislation of the applicable provinces or territories of Canada, and the rules, regulations, blanket orders,

blanket rulings under such laws and published policies, policy statements and notices of the applicable Canadian Securities Commissions.

(g) "**Canadian Short Form Qualification Procedure**" means the procedures for the distribution of securities by way of a short form Prospectus available under *Canadian Securities Laws*, including Regulation 44-101 respecting Short Form Prospectus Distributions.

(h) "**Common Shares**" means the common shares in the capital of the Corporation.

(i) "**Class A1 Preferred Shares**" means the Class A1 Preferred Shares in the capital of the Corporation.

(j) "**Class A2 Preferred Shares**" means the Class A2 Preferred Shares in the capital of the Corporation.

(k) **"Class A Preferred Shares**" means the Class A1 Preferred Shares or the Class A2 Preferred Shares.

(l) "**Class B Preferred Shares**" means the Class B Preferred Shares in the capital of the Corporation.

(m) "**Class C Preferred Shares**" means the Class C Preferred Shares in the capital of the Corporation.

(n) "**Class D Preferred Shares**" means, collectively, the Class D1 Preferred Shares and the Class D2 Preferred Shares.

(o) "**Class D1 Preferred Shares**" means the Class D1 Preferred Shares in the capital of the Corporation;

(p) "**Class D2 Preferred Shares**" means the Class D2 Preferred Shares in the capital of the Corporation;

(q) "**Closing**" has the meaning ascribed thereto in the Subscription Agreement.

(r) "***Exchange Act***" means the United States *Securities Exchange Act of 1934*, as amended.

(s) "**Fully Diluted Basis**" has the meaning ascribed thereto in the Shareholders' Agreement.

(t) "**Holder**" means any Investor owning of record Class A Preferred Shares, Class B Preferred Shares, Class C Preferred Shares, Class D Preferred Shares or Registrable Securities that have not been sold to the public, or any assignee or transferee (in accordance with Section 10.2) of such Class A Preferred Shares, Class B Preferred Shares, Class C Preferred Shares, Class D Preferred Shares, or Registrable Securities, or, with respect to Article 8, any seller of Registrable

Securities.

(u) "**Initial Public Offering**" means the Corporation's first underwritten public offering of its Common Shares registered under the *1933 Act* or qualified pursuant to a Canadian Prospectus, or both.

(v) "**Preferred Majority**" means the holders of at least 70% of all then issued and outstanding Class A Preferred Shares, Class B Preferred Shares, Class C Preferred Shares and Class D Preferred Shares, voting together as a single class, on an As-Converted Basis.

(w) "**MJDS**" means the Canada-United States Multijurisdictional Disclosure System.

(x) "**Passport Receipt**" means a receipt of the principal regulator pursuant to the passport system procedures provided for under Policy Statement 11-202 respecting Process for Prospectus Reviews in Multiple Jurisdictions and Regulation 11-102 respecting Passport System, adopted by certain Canadian Securities Commissions, as amended or replaced from time to time.

(y) "**Prospectus**" means, with respect to a public offering or distribution in the United States, the prospectus included in any Registration Statement, or, with respect to a public offering or distribution in Canada, a Canadian Prospectus, in each case, as such documents may be amended or supplemented by an amendment or prospectus supplement, including post-effective amendments, and all material incorporated by reference in such prospectus.

(z) "**Qualified Public Offering**" or "**QIPO**" means any firm commitment Initial Public Offering at a price per share based on a pre-money valuation of the Corporation of at least $250,000,000 and resulting in gross proceeds of at least $60 million, whereby the Shares would be listed on one or more Recognized Stock Exchanges;

(aa) "**Recognized Stock Exchange**" means the New York Stock Exchange, the NASDAQ and such other exchange approved by a Preferred Majority.

(bb) "**Registrable Securities**" means:

(i) any Common Shares of the Corporation issued or issuable that are held by the Investors or that could be held by the Investors from time to time;

(ii) any Common Shares of the Corporation issued or issuable in respect of the conversion of the Class A Preferred Shares, Class B Preferred Shares, Class C Preferred Shares or Class D Preferred Shares (whether acquired before or after the date of this Agreement); and

(iii) any Common Shares of the Corporation issued or issuable in respect of share splits, share dividends, reclassifications, recapitalizations or other similar events affecting such Class A Preferred Shares, Class B Preferred

Shares, Class C Preferred Shares, Class D Preferred Shares or Common Shares of the Corporation held by the Investors from time to time; excluding in all cases, however, any Registrable Securities sold or transferred in a transaction in which the rights herein are not assigned or any shares for which registration rights have terminated pursuant to Section 6.4 of this Agreement.

Whenever reference is made in this Agreement to a request or consent of holders of a certain percentage of Registrable Securities, the determination of such percentage shall include Common Shares issuable upon conversion of the Class A Preferred Shares, Class B Preferred Shares, Class C Preferred Shares and Class D Preferred Shares even if such conversion has not been effected.

(cc) "**Registration Statement**" means with respect to a public offering in the United States, a registration statement filed by the Corporation with the SEC for a public offering and sale of securities of the Corporation for cash, other than a registration statement on Form S-8, Form S-4 or Form F-4, or their successors, or any form for a similar limited purpose, or any registration statement covering only securities proposed to be issued in exchange for securities or assets of another corporation.

(dd) "**Regulation 45-102**" means Regulation 45-102 respecting Resale of Securities adopted by the Canadian Securities Commissions, as amended or replaced from time to time.

(ee) "**SEC**" means the United States Securities and Exchange Commission, or any other federal agency at the time administering the *1933 Act*.

(ff) "**Shareholders' Agreement**" means the Fourth Amended & Restated Shareholders' Agreement dated on or about the date hereof between the Corporation and its Shareholders, as further amended from time to time.

(gg) "**Subscription Agreement**" means the Subscription Agreement dated on or about the date hereof between the Corporation and some of the Investors in respect of the issuance of Class D Preferred Shares.

1.2 Certain Rules of Interpretation

In this Agreement:

(a) **Currency** — Unless otherwise specified, all references to money amounts are to the lawful currency of the United States of America.

(b) **Governing Law** — This Agreement is a contract made under and is governed by and construed in accordance with the law of the Province of Québec and the federal laws of Canada applicable in the Province of Québec.

(c) **Headings** — Headings of Articles and Sections are inserted for convenience of reference only and do not affect the construction or interpretation of this Agreement**.**

(d) **Including** — Where the word "**including**" or "**includes**" is used in this Agreement, it means "**including (or includes) without limitation**".

(e) **Number and Gender** — Unless the context otherwise requires, words importing the singular include the plural and vice versa and words importing gender include all genders.

(f) **Severability** — If, in any jurisdiction, any provision of this Agreement or its application to any party or circumstance is restricted, prohibited or unenforceable, such provision is, as to such jurisdiction, ineffective only to the extent of such restriction, prohibition or unenforceability without invalidating the remaining provisions of this Agreement and without affecting the validity or enforceability of such provision in any other jurisdiction or without affecting its application to other parties or circumstances.

(g) **Statutory references** — A reference to a statute includes all regulations and rules made pursuant to such statute and, unless otherwise specified, the provisions of any statute or regulation that amends, supplements or supersedes any such statute or any such regulation.

(h) **Time Periods** — Unless otherwise specified, time periods within or following which any act is to be done are calculated by excluding the day on which the period commences and including the day on which the period ends and by extending the period to the next business day if the last day of the period is not a business day.

1.3 Entire Agreement

This Agreement and the agreements and other documents required to be delivered pursuant to this Agreement, constitute the entire agreement between the parties and set out all the covenants, promises, warranties, representations, conditions, understandings and agreements between the parties pertaining to the subject matter of this Agreement and supersede all prior agreements, understandings, negotiations and discussions, whether oral or written. There are no covenants, promises, warranties, representations, conditions, understandings or other agreements, oral or written, express, implied or collateral between the parties in connection with the subject matter of this Agreement except as specifically set forth in this Agreement and any document required to be delivered pursuant to this Agreement.

ARTICLE 2
CROSS BORDER ISSUES

2.1 Jurisdiction of Initial Public Offering

Subject to Section 2.2, if the Corporation proposes to undertake an Initial Public Offering, the Corporation may determine, in its sole discretion (subject to the applicable provisions of the Shareholders' Agreement, if any), whether such Initial Public Offering will be made in both the United States and Canada, or in only one of such jurisdictions.

2.2 Initial Public Offering

If the Initial Public Offering is made:

(a) under the *1933 Act* only and not under *Canadian Securities Laws*, the Corporation will, concurrently with the filing of the Registration Statement for the Initial Public Offering, file a Canadian Prospectus under the securities laws of Québec, and the Corporation will use its best efforts to obtain a receipt or Passport Receipt for the Canadian Prospectus;

(b) under *Canadian Securities Laws* only and not under the *1933 Act*, the Corporation will (i) file the Canadian Prospectus for the Initial Public Offering under the securities laws of Québec (which filing may be made concurrently with the filing of a Canadian Prospectus under the securities laws of any other province or territory of Canada), and the Corporation will use its best efforts to obtain a receipt or Passport Receipt for such Canadian Prospectus, (ii) file a Registration Statement under the *1933 Act*, in respect of all of the Registrable Securities then held by residents of the United States in the event such U.S. residents are not otherwise permitted, in the opinion of counsel reasonably acceptable to both the Corporation and such U.S. residents, to sell their Registrable Securities in Canada in reliance on an exemption from registration under the *1933 Act*, including, without limitation pursuant to Regulation S thereunder (provided that such Registration Statement may be in the nature of a "shelf" registration), and the Corporation shall use its best efforts to have such Registration Statement declared effective, and (iii) use its commercially reasonable efforts to maintain a listing on the Toronto Stock Exchange or another "designated offshore securities market" within the meaning of Rule 902 of Regulation S under the *1933 Act* until such time as the Registrable Securities become freely tradable in the United States by persons other than affiliates pursuant to Rule 144 under the *1933 Act*; and

(c) concurrently under the *1933 Act* and under *Canadian Securities Laws*, the Corporation will file the Canadian Prospectus for the Initial Public Offering under the securities laws of Québec (which filing may be made concurrently with the filing of a Canadian Prospectus under the securities laws of any other province or territory of Canada), and the Corporation will use its best efforts to obtain a receipt or Passport Receipt for such Canadian Prospectus.

ARTICLE 3
DEMAND REGISTRATIONS

3.1 Required Registration Statement

(a) At any time and from time to time after the earlier of (i) the date that is one year after the closing date of a Qualified Public Offering, or (ii) October 15, 2021, Holder(s) holding at least 25% of the outstanding Registrable Securities (the "**Initiating Holders**") may by written notice to the Corporation (the "**Demand Notice**") request the Corporation to prepare and to file with respect to all or any portion of such Holders' Registrable Securities:

(i) a Registration Statement under the *1933 Act*;

(ii) a Canadian Prospectus prepared in accordance with Regulation 41-101 respecting General Prospectus Requirements or similar long form Prospectus; and

(iii) a Registration Statement under the *1933 Act* and a Canadian Prospectus in accordance with Regulation 41-101 respecting General Prospectus Requirements or similar long form prospectus.

(b) Within ten days of the receipt of the Demand Notice, the Corporation will give written notice of such request to all other Holders of Registrable Securities.

(c) Subject to the limitations of this Article 3, the Corporation will as soon as possible, but in any event within 90 days after the date of the Demand Notice, prepare and file the required Registration Statement and/or Canadian Prospectus and will use its best efforts to effect, as soon as practicable, the requested registration or qualification under the *1933 Act* and/or *Canadian Securities Laws*, as applicable, of all Registrable Securities that the Initiating Holders desire to be registered or qualified as specified in the initial Demand Notice and any additional Registrable Securities requested to be included in such registration in all notices received by the Corporation from other Holders within 20 days after the giving of the notice by the Corporation pursuant to this Section 3.1.

(d) Subject to Section 3.2(b), the Company may include securities for its own account in such registration if the number of Registrable Securities that would otherwise have been included in such registration and underwriting will not thereby be limited.

3.2 Underwriting

(a) If the Initiating Holders intend to dispose of the Registrable Securities covered by the Demand Notice by means of an underwriting, they must so advise the Corporation as a part of the Demand Notice, and the Corporation will include such information in the written notice to Holders referred to in Section 3.1(b). In such event, the right of any Holder to include its Registrable Securities in such

registration or qualification is conditional upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting (unless otherwise agreed by the Initiating Holders). All Holders proposing to distribute their Registrable Securities through such underwriting (together with the Corporation and any officers, directors or other security holders distributing their securities through such underwriting) must enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by the Initiating Holders and approved by the Corporation, acting reasonably.

(b) Notwithstanding anything to the contrary herein, if the underwriter advises the Initiating Holders that marketing factors require a limitation of the number of securities to be underwritten (including Registrable Securities), then the number of Registrable Securities to be included in the underwriting shall be reduced and such reduced number of shares will be allocated to the Holders requesting registration or qualification (including the Initiating Holders) on a pro rata basis based on the number of Registrable Securities requested by each such Holder to be included in such underwriting. However, Registrable Securities requested to be registered or qualified under this Article 3 may only be excluded from such underwriting, registration and/or qualification if all securities held by holders (for certainty, including securities to be offered for sale by the Corporation) other than the Holders of Registrable Securities are first excluded. Any Registrable Securities excluded or withdrawn from such underwriting will be withdrawn from the registration or qualification. No securities of the Corporation or any other security holder will be included in such registration or qualification if, in the sole opinion of the underwriter, such inclusion would adversely affect the marketing or the price of the Registrable Securities to be sold.

3.3 No Other Filings

Except for registration statements in the United States on Form S-4 or S-8 or any successor to them (or the equivalent form for foreign private issuers as defined under the *1933 Act*), the Corporation will not file with the SEC any other Registration Statement with respect to its securities or any Canadian Prospectus, whether for its own account or that of other security holders, from the date of the Demand Notice until the completion of the period of distribution of the registration and/or qualification contemplated by the Demand Notice (unless all of the Initiating Holders withdraw their request for registration or qualification of their Registrable Securities).

3.4 Number of Registrations

The Corporation is not required to register and/or qualify Registrable Securities pursuant to this Article 3 on more than two occasions, but:

(a) the Corporation's obligation to effect a registration or qualification is deemed satisfied only when (i) the required Registration Statement has become effective or, in the case of a Canadian Prospectus, receipts have been obtained or deemed to

have been obtained from all applicable Canadian jurisdictions, with respect to all Registrable Securities as specified in the Demand Notice and notices of other Holders requesting registration or qualification under Section 3.1 for sale in accordance with the method of disposition specified by the Initiating Holders or (ii) a majority of the Initiating Holders withdraw their request for registration or qualification of their Registrable Securities other than as a result of a material adverse change affecting the Corporation that was unknown at the time of the demand; and

(b) a concurrent registration in the U.S. and qualification in Canada is deemed to be one occasion of registration and qualification only.

3.5 Other Restrictions

(a) Notwithstanding anything herein to the contrary, no request for registration or qualification of Registrable Securities may be made under this Article 3 within ninety days after the effective date of a Registration Statement or the date of the final receipt for a Canadian Prospectus filed by the Corporation.

(b) In addition to the terms of Section 6.3 hereof, the Corporation may delay the registration or qualification of Registrable Securities for a period of up to 90 days after the date of a Demand Notice if:

(i) at the time of such request, the Corporation is engaged, or has fixed plans to engage, within 90 days of the date of such request, in an underwritten public offering of Common Shares; or

(ii) at the time of such request, the Corporation is engaged in a self-tender or exchange offer and the filing of a Prospectus would cause a violation of the *Exchange Act* or applicable *Canadian Securities Laws*.

(c) No request for registration or qualification of Registrable Securities may be made under this Article 3 if the anticipated gross proceeds from the sale of the Registrable Securities to be registered or qualified is less than $10,000,000 or if the Initiating Holders propose to dispose of Registrable Securities that may be immediately registered on Form S-3, F-3 or MJDS form pursuant to a request made under Article 4.

ARTICLE 4
SHORT FORM DEMAND REGISTRATIONS

4.1 Corporation Obligations

If the Corporation receives from Holder(s) holding at least 25% of the outstanding Registrable Securities a written request that the Corporation prepare and file a Registration Statement on Form S-3 or F-3 or any similar form under the *1933 Act* that may be applicable to foreign issuers (or any successor to such forms) ("**Form S-3**"), or a form under the MJDS, and/or a short form prospectus under the Canadian short form

qualification procedure under Regulation 44-101 respecting Short Form Prospectus Distributions (the "**Canadian Short Form Qualification Procedure**"), and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder(s), the Corporation will:

(a) promptly give written notice of the proposed registration or qualification, and any related compliance, to all other Holders of Registrable Securities, which Holders are entitled to join in such registration and/or qualification if each Holder wishing to do so notifies the Corporation in writing within 20 days after receipt of the written notice from the Corporation; and

(b) as soon as practicable (but in all instances in compliance with the timelines contained in Section 4.3), use its commercially reasonable efforts to effect such registration and/or qualification and all such compliances as may be so requested by the requesting Holder or Holders as would permit or facilitate the sale and distribution of all or such portion of the requesting Holders' Registrable Securities as are specified in the request.

4.2 Exceptions

The Corporation is not required to effect any registration, qualification or compliance pursuant to this Article 4:

(a) if, as applicable, Form S-3, MJDS or the Canadian Short Form Qualification Procedure is not available for such an offering by the Holder or Holders of Registrable Securities;

(b) if the Holders of Registrable Securities, together with the holders of any other securities of the Corporation participating in such registration and/or qualification, propose to sell Registrable Securities and such other securities (if any) at an aggregate price to the public of less than $10,000,000;

(c) in any particular state of the United States in which the Corporation would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance, or to register or qualify any securities for sale under state "blue sky" securities laws; or

(d) if the Corporation has effected two such qualifications or demands within the previous 12-month period.

4.3 Time of Filing

Subject to the foregoing provisions of this Article 4, the Corporation will use its best efforts to file a Registration Statement on Form S-3, or, if available, on MJDS form and/or a Canadian Prospectus under the Canadian Short Form Qualification Procedure covering the Registrable Securities and other securities so requested to be registered or qualified as soon as practicable after receipt of all written requests from the Holders of Registrable Securities pursuant to the provisions of this Article 4 but in any event within

45 days of the final date for receipt of all written requests from the Holders pursuant to the provisions of this Article 4. The Corporation may delay any registration or qualification of Registrable Securities required under this Article 4 in accordance with Section 3.5(b) of this Agreement.

4.4 Number of Short Form Demand Registrations

Subject to the limitations set out in Section 4.2, the Holders may make an unlimited number of short form demand requests but the Corporation is only required to effect two such registrations within any 12-month period.

ARTICLE 5
PIGGYBACK REGISTRATION

5.1 Piggyback Right

(a) If the Corporation at any time proposes to file a Registration Statement or a Canadian Prospectus, whether for its own account or for the account of other security holders or both on each such occasion it will promptly give written notice (the "**Piggyback Notice**") to all Holders of outstanding Registrable Securities of its intention to do so.

(b) Upon the written request of any Holder (a "**Requesting Holder**") of Registrable Securities received by the Corporation within 20 days after the giving of the Piggyback Notice or within two days if the Piggyback Notice is in relation to a "bought deal", the Corporation will cause the Registrable Securities requested to be registered and/or qualified by the Requesting Holder or Requesting Holders, as applicable, to be included in the Registration Statement or Canadian Prospectus (or both the Registration Statement and Canadian Prospectus, in the event of a concurrent offering under the *1933 Act* and *Canadian Securities Laws*) proposed to be filed by the Corporation, all to the extent necessary to permit the sale or other disposition by the Requesting Holder or Requesting Holders of such Registrable Securities, and all subject to the limitations set forth in this Article 5.

5.2 Underwritten Public Offerings

(a) If any registration and/or qualification pursuant to this Article 5 is, in whole or in part, an underwritten public offering of Common Shares, the Corporation will so advise the Holders of Registrable Securities as part of the Piggyback Notice given pursuant to Section 5.1. In such event, the right of any such Holder to include its Registrable Securities in the Registration Statement or Canadian Prospectus pursuant to this Article 5 is conditional upon such Holder's participation in such underwriting. All Holders of Registrable Securities proposing to distribute their Registrable Securities through such underwriting will (together with the Corporation and any officers, directors or other security holders distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the underwriter or underwriters selected by the Corporation.

(b) The number of shares of Registrable Securities to be included in such an underwriting may be reduced if and to the extent that the managing underwriter advises the Holders that such inclusion would adversely affect the number, marketing or price of the securities to be sold by the Corporation in such underwriting. However, Registrable Securities requested to be registered or qualified under this Article 5 may only be excluded from such underwriting, registration and/or qualification if all securities held by holders (for certainty, excluding securities to be offered for sale by the Corporation) other than the Holders of Registrable Securities are first excluded and in no event, other than in respect of the Corporation's Initial Public Offering, will the number of Registrable Securities to be included in such underwriting be reduced below 30% of the aggregate number of securities included in the Registration Statements or the Canadian Prospectus.

In any case where the number of Registrable Securities requested to be included in such underwriting is reduced in accordance with the foregoing, the number of Registrable Securities permitted to be included in the underwriting is to be allocated to the Requesting Holders on a pro rata basis based on the number of Registrable Securities requested by the Requesting Holders to be included in such underwriting.

(c) If a Holder decides not to include all of its Registrable Securities in any Registration Statement or Canadian Prospectus filed under this Article 5, such Holder continues to have the right to include its Registrable Securities in any subsequent registration or qualification, all on the terms and conditions set forth in this Agreement.

5.3 Withdrawal, etc.

The Corporation may terminate or withdraw any Registration Statement referred to in this Article 5 without incurring any liability to the Holders (provided however that the Corporation is not entitled to terminate or withdraw a Registration Statement filed following a request pursuant to Article 3 or Article 4). Any Holder may elect to withdraw from such underwriting by written notice to the Corporation and the underwriter, delivered at least 5 business days prior to the effective date of the Registration Statement or Canadian Prospectus, without incurring any liability to the Corporation or the other Holders. Any Registrable Securities excluded or withdrawn from such underwriting will be excluded and withdrawn from the registration and/or qualification.

ARTICLE 6
REGISTRATION PROCEDURES

6.1 Corporation Obligations and Other Agreements

If and whenever the Corporation is required by the provisions of Article 3, Article 4 or Article 5 to use its best efforts or commercially reasonable efforts (as the case may be) to effect the registration and/or qualification of any Registrable Securities, the Corporation

will, where not inconsistent with the terms of such articles, as expeditiously as possible:

(a) in the case of a registration in the United States, prepare and file with the SEC a Registration Statement with respect to such Registrable Securities and use its best efforts or commercially reasonable efforts (as the case may be) to cause such Registration Statement to become effective and remain effective for a period of 120 days or until the Holder or Holders have completed the distribution described in the Registration Statement relating thereto, whichever first occurs. However:

(i) such 120-day period is extended for a period of time equal to the period the Holder refrains from selling any securities included in such registration at the request of an underwriter of the Corporation; and

(ii) in the case of any registration of Registrable Securities on Form S-3 or F-3, or a registration form under MJDS (or any successor to such forms) that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such 120-day period is extended, if necessary, to keep the Registration Statement effective until all such Registrable Securities are sold, but only if:

(A) Rule 415, or the applicable form under MJDS, or any successor rule under the *1933 Act*, permits an offering on a continuous or delayed basis; and

(B) applicable rules under the *1933 Act* governing the obligation to file a post effective amendment permit, in lieu of filing a post effective amendment that includes any prospectus required by Section 10(a)(3) of the *1933 Act* or reflects facts or events representing a material or fundamental change in the information set forth in the Registration Statement, the incorporation by reference of such information contained in periodic reports filed pursuant to Section 13 or 15(d) of the *Exchange Act*;

(b) in the case of a registration in the United States, prepare and file with the SEC such amendments and supplements to such Registration Statement and/or the Prospectus as may be necessary to keep such Registration Statement effective for the period specified in Subsection (a) and comply with the provisions of the *1933 Act* with respect to the disposition of all Registrable Securities covered by such Registration Statement;

(c) in the case of a registration in the United States, use its commercially reasonable efforts to register the Registrable Securities covered by such Registration Statement filed with the SEC under the securities or “blue sky” laws of such jurisdictions as the sellers of Registrable Securities or, in the case of an underwritten public offering, the managing underwriter, reasonably requests, but the Corporation is not, for any such purpose, required to qualify generally to transact business as a foreign corporation in any state of the United States where it

is not so qualified or to consent to general service of process in any such jurisdiction;

(d) in the case of an offering in Canada, prepare and file with the Canadian Securities Commission in each province and territory in which selling Holders of Registrable Securities are then resident (or, in the case of a qualification pursuant to Section 2.2(a) of Article 2, in Québec only), a Canadian Prospectus with respect to the distribution of such Registrable Securities and use its best efforts or commercially reasonable efforts (as the case may be) to obtain a receipt or a Passport Receipt from such Canadian Securities Commissions in respect of such Canadian Prospectus;

(e) in the case of an offering in Canada, prepare and file with the Canadian Securities Commissions with whom a Canadian Prospectus has been filed pursuant to Subsection (d) such amendments and supplements to such Canadian Prospectus as may be necessary to comply with the applicable provisions of *Canadian Securities Laws* with respect to the distribution of all securities qualified by such Canadian Prospectus (provided that all Registrable Securities qualified by such Canadian Prospectus are distributed within 90 days of the date of such final Canadian Prospectus);

(f) furnish to each seller of Registrable Securities or, if the offering is to be underwritten, to each underwriter such number of copies of the Prospectus and/or the Canadian Prospectus (including each preliminary Prospectus), in conformity with the requirements of the *1933 Act* or *Canadian Securities Laws*, as applicable, and such other documents as such persons reasonably may request, in order to facilitate the public sale or other disposition of the Registrable Securities covered by such Registration Statement or Canadian Prospectus;

(g) use its commercially reasonable efforts to list the Registrable Securities covered by such Registration Statement or Canadian Prospectus with any securities exchange or quotation system on which the shares of the Corporation are then listed (or if similar securities issued by the Corporation are not yet listed or quoted, then on such exchange or quotation system as the Company shall determine) and pay all fees associated with such listing;

(h) promptly provide a transfer agent, registrar and CUSIP number for all such Registrable Securities covered by such Registration Statement not later than the effective date of such Registration Statement or the date of the final Canadian Prospectus;

(i) promptly notify each seller of Registrable Securities and each underwriter under such Registration Statement or Canadian Prospectus, at any time when a Prospectus relating thereto is required to be delivered, of the happening of any event of which the Corporation has knowledge as a result of which such Prospectus, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the

statements therein not misleading in light of the circumstances then existing and/or, in the case of a Canadian Prospectus, omits to provide full, true and plain disclosure of all material facts relating to the Registrable Securities;

(j) if the offering is underwritten and is an offering in the United States, at the request of any seller of Registrable Securities, use its commercially reasonable efforts to furnish on the date that Registrable Securities are delivered to the underwriters for sale pursuant to such registration:

(i) an opinion dated such date of counsel representing the Corporation for the purposes of such registration, addressed to the underwriters and to such seller, in form and substance as is customarily given by company counsel to the underwriters in an underwritten public offering; and

(ii) a letter dated such date from the independent public accountants retained by the Corporation, addressed to the underwriters and to such seller, in form and substance as is customarily given in an underwritten public offering, provided that such seller has made such representations and furnished such undertakings as the independent public accountants may reasonably require;

(k) make available for inspection by each seller of Registrable Securities or, if the offering is to be underwritten, any underwriter participating in any distribution pursuant to a Registration Statement or Canadian Prospectus, and, in either case, any attorney, accountant or other agent retained by such seller or underwriter, all financial and other records, pertinent corporate documents and properties of the Corporation, and use its best efforts to cause the Corporation's officers, directors and employees to supply all information reasonably requested by any such seller, underwriter, attorney, accountant or agent in connection with such Registration Statement or Canadian Prospectus;

(l) promptly notify each seller of Registrable Securities:

(i) that any supplement to any Prospectus forming a part of such Registration Statement has been filed; and

(ii) promptly after it receives notice thereof, in the case of an offering in the United States, of the time when such Registration Statement has become effective, or in the case of offering in Canada, of the time when a receipt from the Canadian Securities Commissions has been received;

(m) promptly notify each seller of Registrable Securities of any request by the SEC or any Canadian Securities Commission for the amending or supplementing of such Registration Statement or Prospectus; and

(n) upon the issuance of any stop order suspending the effectiveness of the Registration Statement, or of any order suspending or preventing the use of any Prospectus or suspending the qualification of any Registrable Securities included

in the Prospectus for sale in any jurisdiction, use its commercially reasonable efforts promptly to obtain the withdrawal of such order.

In addition, the Corporation shall ensure that, at all times after any Registration Statement filed with the SEC shall have become effective, its insider trading policy shall provide that the Corporation's directors may implement a trading program under Rule 10b5-1 of the *Exchange Act*.

6.2 Seller Obligations and Other Agreements

(a) Information. In connection with each registration or qualification under this Agreement, the selling Holders of Registrable Securities will furnish to the Corporation in writing such information with respect to themselves, the Registrable Securities held by them, and the intended method of disposition of such securities as is necessary to effect the registration or qualification of the Registrable Securities. The provision of such information by a selling Holder is a condition of the Corporation's obligation to include any Registrable Securities of such selling Holder in the registration or qualification.

(b) Escrow and Other Requirements. In connection with an Initial Public Offering in Canada, the Corporation and the Holders will use their best efforts to agree to provisions that are acceptable to Holders in their sole discretion to comply with any escrow requirement imposed under applicable *Canadian Securities Laws* and/or the Toronto Stock Exchange, and to execute all undertakings and agreements as are customary and reasonably required in connection with such escrow requirements.

(c) Market Stand-Off Agreement. If requested by the underwriters for the Initial Public Offering of the Corporation, each Holder of Registrable Securities will agree not to sell, offer, pledge, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of any Common Shares or any securities convertible into or exchangeable for Common Shares held immediately prior to the effective date of the Registration Statement or the date of the final Canadian Prospectus relating to such offering, either directly or indirectly (other than Registrable Securities being registered in such offering), without the prior written consent of such underwriters, for a period not to exceed 180 days following the effective date of the Registration Statement or the date of the final Canadian Prospectus relating to such offering or, if required by such underwriter, such longer period of time as is necessary to enable such underwriter to issue a research report or make a public appearance that relates to an earnings release or announcement by the Corporation within 18 days before or after the date that is 180 days after the effective date of the Registration Statement relating to such offering, but in any event not to exceed 210 days following such effective date. Any discretionary waiver or termination of the restrictions of such agreements by the Corporation or the underwriters shall apply to all Holders of Registrable Securities pro rata based on the number of Registrable Securities held

by such Holders. Each Holder of Registrable Securities will agree to sign the managing underwriter's lock-up agreement in a form reasonably acceptable to such Holder, reflecting the provisions of this Section 6.2(c) and any necessary changes to address regulatory restrictions under the *Canadian Securities Laws* or the *1933 Act*.

6.3 Permitted Delays

The Corporation's obligation to register or qualify Registrable Securities, or cause a Registration Statement or Canadian Prospectus to become and remain effective for the periods of time specified in Subsection 6.1(a), may be suspended for a period not to exceed 120 days by the delivery of a certificate signed by the Corporation's chief executive officer to the Holders of Registrable Securities stating that effecting the filing would (i) materially impede the ability of the Corporation to consummate a material transaction, (ii) there exists at the time material non-public information relating to pending material developments or other events at the Corporation as to which the Board of Directors of the Corporation reasonably believes public disclosure would be seriously detrimental to the Corporation, or (iii) render the Corporation unable to comply with the requirements of the *1933 Act* or the *Exchange Act*. Notwithstanding the 120-day period provided for above:

(a) such suspension will immediately terminate 10 days following the date upon which such material non-public information is disclosed to the public or ceases to be material; and

(b) such right may only be exercised once in any twelve-month period.

The Corporation will notify each Holder of the existence and nature of any suspension event, subject to such Holder's express written agreement to maintain the confidentiality of such information.

6.4 Termination of Registration Rights

The registration and qualification rights of a Holder under this Agreement with respect to any Registrable Securities expire upon the earliest to occur:

(a) if such Registrable Securities are publicly sold, or if they may be publicly sold:

(i) pursuant to Rule 144 under the *1933 Act* without limitation within any 90-day period or pursuant to Regulation S under the *1933 Act*; and

(ii) pursuant to Section 2.5 of Regulation 45-102;

(b) five years after the date of the closing of a Qualified Public Offering of the Corporation; or

(c) upon the occurrence of a merger or consolidation of the Corporation with or into another entity in which the shareholders of the Corporation immediately prior to

such merger or consolidation own less than 25% of the voting securities of the surviving entity, or (ii) any other transaction or series of transactions as a result of which the shareholders of the Corporation immediately prior to such transaction or series of transactions own less than 25% of the voting securities of the Corporation or other surviving entity following such transaction (other than the sale of equity securities by the Corporation in a capital raising transaction), or (iii) the sale of all or substantially all of the Corporation's assets.

ARTICLE 7
EXPENSES

7.1 Definitions

(a) All expenses incurred by the Corporation in connection with registrations, filings or qualifications pursuant to Article 2 (Cross Border Issues), Article 3 (Demand Registrations), Article 4 (Short Form Demand Registrations), or Article 5 (Piggyback Registrations), including all registration and filing fees, printing expenses, fees and disbursements of counsel and independent public accountants for the Corporation, fees and expenses (including counsel fees) incurred in connection with complying with state securities or "blue sky" laws, stock exchange or NASDAQ fees, FINRA fees, fees of transfer agents and registrars, costs of insurance and reasonable fees and disbursements of one special counsel for the selling Holders of Registrable Securities, but excluding any Selling Expenses are called "**Registration Expenses**".

(b) All underwriting discounts and selling commissions applicable to the sale of Registrable Securities and the securities transfer taxes are called "**Selling Expenses**".

7.2 Corporation Obligation

The Corporation will pay all Registration Expenses in connection with each Registration Statement and Canadian Prospectus under Article 2, Article 3, Article 4 or Article 5; provided, however, that the Corporation shall not be required to pay for any expenses of any registration proceeding begun pursuant to Article 3 or Article 4 if the registration request is subsequently withdrawn at the request of participating Holders of a majority of the Registrable Securities other than as a result of a material adverse change affecting the Corporation that was unknown to the participating Holders at the time of the demand (in which case all selling Holders shall bear such expense pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration) unless such holders agree to forfeit their right to one registration pursuant to Article 3. All Selling Expenses in connection with each Registration Statement and Canadian Prospectus under Article 2, Article 3, Article 4 or Article 5 will be borne by the Corporation and each of the participating Holders in proportion to the number of shares sold by each or, as between the participating Holders, as such participating Holders may otherwise agree.

ARTICLE 8
INDEMNIFICATION AND CONTRIBUTION

8.1 Indemnification by Corporation

In the event of a registration or qualification of any of the Registrable Securities under the *1933 Act* or *Canadian Securities Laws* pursuant to Article 2 (Cross Border Issues), Article 3 (Demand Registrations), Article 4 (Short Form Demand Registrations), or Article 5 (Piggyback Registrations), to the extent permitted by law, the Corporation will indemnify and hold harmless each seller of such Registrable Securities thereunder, each officer, director, employee, partner, member, shareholder or legal counsel of each seller, each signatory of the Prospectus on behalf of such seller, each underwriter (as defined in the *1933 Act*) of such Registrable Securities thereunder and each other person, if any, who controls such seller or underwriter within the meaning of the *1933 Act* or the *Exchange Act*, against any losses, claims, damages or liabilities, solidary (joint) or several, to which any such person may become subject under the *1933 Act*, the *Exchange Act*, state securities or "blue sky" laws, *Canadian Securities Laws* or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon:

(a) any untrue statement or alleged untrue statement of any material fact contained in any Registration Statement or Canadian Prospectus, or any omission or alleged omission of a Canadian Prospectus to provide full, true and plain disclosure of all material facts related to the Registrable Securities under which such Registrable Securities were registered or qualified pursuant to Article 2, Article 3, Article 4 or Article 5 and any preliminary Prospectus or final Prospectus contained therein, or any amendment or supplement thereof;

(b) the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, or any violation or alleged violation by the Corporation of the *1933 Act*, the *Exchange Act*, any applicable state securities or "blue sky" laws, or any *Canadian Securities Laws*; or

(c) any violation by the Corporation of any applicable securities law in connection with the qualification or sale of shares thereunder,

and will reimburse each such person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action as such expenses are incurred. However, the Corporation is not liable in any such case if and to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or omission made in conformity with or in reliance upon information furnished by any such party seeking indemnification hereunder in writing specifically for use in such Registration Statement (including the Prospectus comprised therein) or Canadian Prospectus (preliminary or final) or any amendment or supplement thereof.

8.2 Indemnification by Sellers

(a) In the event of a registration or qualification of any of the Registrable Securities under the *1933 Act* or *Canadian Securities Laws* pursuant to Article 2, Article 3, Article 4, or Article 5, to the extent permitted by law, each seller of such Registrable Securities thereunder, severally and not solidarily (jointly), will indemnify and hold harmless the Corporation, each person, if any, who controls the Corporation within the meaning of the *1933 Act* or the *Exchange Act*, each officer of the Corporation who signs the Registration Statement, each director of the Corporation, each underwriter (as defined in the *1933 Act*) and each person, if any, who controls any underwriter within the meaning of the *1933 Act* or the *Exchange Act* and each other seller of Registrable Securities thereunder and its officers and directors, against all losses, claims, damages or liabilities, solidary (joint) or several, to which the Corporation or such officer, director, underwriter or controlling person, or other seller or officer or director of such other seller, may become subject under the *1933 Act*, the *Exchange Act*, state securities or "blue sky" laws, *Canadian Securities Laws* or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon:

(i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement or Canadian Prospectus, or any omission or alleged omission of a Canadian Prospectus to provide full, true and plain disclosure of all material facts related to the Registrable Securities under which such Registrable Securities were registered or qualified under the *1933 Act* or *Canadian Securities Laws* pursuant to Article 2, Article 3, Article 4, or Article 5, any preliminary Prospectus or final Prospectus contained therein, or any amendment or supplement thereof; or

(ii) the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, or any violation or alleged violation by the seller of the *1933 Act*, the *Exchange Act*, any applicable state securities or "blue sky" laws, or any *Canadian Securities Laws*,

and will reimburse the Corporation and each such officer, director, underwriter and controlling person, and each other seller of Registrable Securities thereunder and its officers and directors, for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action as such expenses are incurred, but such seller is liable hereunder in any such case if and only to the extent that any such loss, claim, damage, liability or action arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with information pertaining to such seller, furnished in writing to the Corporation by or on behalf of such seller specifically for use in such Registration Statement (including the Prospectus comprised therein) or Canadian

Prospectus (preliminary or final), or any amendment or supplement thereof.

(b) The liability of each selling Holder hereunder is limited to the proportion of any such loss, claim, damage or liability that is equal to the proportion that the public offering price of the shares sold by such selling Holder under such Registration Statement and/or Canadian Prospectus bears to the total public offering price of all securities sold thereunder, and such liability does not in any event exceed the net proceeds received by such seller from the sale of Registrable Securities covered by such Registration Statement and/or Canadian Prospectus.

8.3 Indemnification Procedures

(a) Promptly after receipt by an indemnified party hereunder of notice of the commencement of any action for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against the indemnifying party hereunder, notify the indemnifying party in writing thereof, but the omission so to notify the indemnifying party does not relieve it from any liability that it may have to such indemnified party other than under this Article 8, and only relieves it from any liability that it may have to such indemnified party under this Article 8 if and to the extent the indemnifying party is prejudiced by such omission.

(b) In case any such action is brought against any indemnified party and it notifies the indemnifying party of the commencement thereof, the indemnifying party is entitled to participate in and, to the extent it wishes, to assume and undertake the defence thereof with counsel satisfactory to such indemnified party and, after notice from the indemnifying party to such indemnified party of its election so to assume and undertake the defence thereof, the indemnifying party is not liable to such indemnified party under this Article 8 for any legal expenses subsequently incurred by such indemnified party in connection with the defence thereof other than reasonable costs of investigation and of liaison with counsel so selected.

(c) If the defendants in any such action include both the indemnified party and the indemnifying party, and the indemnified party reasonably concludes that there may be reasonable defences available to it that are different from or additional to those available to the indemnifying party or if the interests of the indemnified party reasonably conflict with the interests of the indemnifying party, the indemnified party may select one separate counsel and assume such legal defences and otherwise participate in the defence of such action, with the expenses and fees of such separate counsel and other expenses related to such participation to be reimbursed by the indemnifying party as incurred.

(d) No indemnifying party, in the defence of any such claim or litigation, may, except with the prior written consent of each indemnified party, consent to entry of any judgment or enter into any settlement that does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect of such claim or litigation, and no indemnified

party may consent to entry of any judgment or settle such claim or litigation without the prior written consent of the indemnifying party.

8.4 Contribution

(a) In order to provide for just and equitable contribution to solidary (joint) liability in circumstances in which the indemnification provided in this Article 8 is due in any case in which either:

(i) any party otherwise entitled to indemnification hereunder, makes a claim for indemnification pursuant to this Article 8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case notwithstanding the fact that this Article 8 provides for indemnification in such case; or

(ii) contribution under the *1933 Act* or *Canadian Securities Laws* may be required on the part of any party hereto for which indemnification is provided under this Article 8,

then, and in each such case, the parties will contribute to the aggregate losses, claims, damages or liabilities to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative economic benefit first and then only if it is unenforceable according to the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions or other actions that resulted in such loss, claim, damage or liability, as well as to reflect any other relevant equitable considerations.

(b) In any such case:

(i) no such Holder is required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by it pursuant to such Registration Statement or Canadian Prospectus, and in no event shall a Holder's liability pursuant to this Section 8.4, when combined with the amounts paid or payable by such Holder pursuant to Section 8.3, exceed the net proceeds from the offering received by such Holder, except in the case of willful misconduct or fraud by such Holder; and

(ii) no person or entity guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the *1933 Act)* is entitled to contribution from any person or entity who was not guilty of such fraudulent misrepresentation.

(c) Any party entitled to contribution will, promptly after receipt of notice of commencement of any action, suit or proceeding against such party in respect of which a claim for contribution may be made against another party or parties under

this Article 8, notify such party or parties from whom contribution may be sought, but the omission so to notify such party or parties from whom contribution may be sought does not relieve such party from any other obligation it or they may have otherwise under this Article 8.

(d) No party is liable for contribution with respect to any action, suit, proceeding or claim settled without its prior written consent, which consent may not be unreasonably withheld or delayed.

8.5 Survival

Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, this Article 8 will survive the completion of any and all distributions of securities under this Agreement.

ARTICLE 9
ADDITIONAL TERMS

9.1 Changes to Registrable Securities

For greater certainty, if, and as often as, there is any change in Registrable Securities by way of a stock split, stock dividend, combination or reclassification, or through a merger, amalgamation, arrangement, consolidation, reorganization or recapitalization, or by any other means, appropriate adjustment will be made in the provisions of this Agreement so that the rights and privileges granted by this Agreement continue with respect to the Registrable Securities as so changed.

9.2 Rule 144 Reporting

With a view to making available the benefits of certain rules and regulations of the SEC that may at any time permit the sale of the Registrable Securities to the public without registration, at all times after 90 days after the effective date of a Registration Statement for its Initial Public Offering, the Corporation will:

(a) make and keep public information available, as those terms are understood and defined in Rule 144 under the *1933 Act*;

(b) use its best efforts to file with the SEC in a timely manner all reports and other documents required of the Corporation under the *1933 Act* and the *Exchange Act*; and

(c) furnish to each Holder of Registrable Securities, so long as the Holder owns any Registrable Securities, forthwith upon request a written statement by the Corporation as to its compliance with the reporting requirements of Rule 144 and of the *1933 Act* and the *Exchange Act*, a copy of the most recent annual or quarterly report of the Corporation, and such other reports and documents so filed by the Corporation as such Holder may reasonably request in availing itself of any

rule or regulation of the SEC allowing such Holder to sell any Registrable Securities without registration.

9.3 Representation and Warranty of the Corporation

The Corporation represents and warrants to the Holders of Registrable Securities that, except as contemplated in this Agreement, the Corporation is not as of the date hereof under any obligation to register or qualify, nor has it agreed to grant registration or qualification rights with respect to, any presently outstanding securities, or securities which may be issued after the date of this Agreement, under the *1933 Act* or under *Canadian Securities Laws*.

9.4 Limitation on Subsequent Registration and Qualification Rights

Without the prior written consent of the Preferred Majority ("**Holder Consent**"), the Corporation will not grant or agree to grant to any third party or parties any registration or qualification or other similar rights, more favourable than, on parity with or inconsistent with any of the rights contained herein, or any other rights that would result in a reduction of the number of Registrable Securities includable in any Registration Statement or Canadian Prospectus filed under to Article 2, Article 3, Article 4, or Article 5, all so long as any of the registration or qualification rights under this Agreement remain in effect. If Holder Consent is obtained by the Corporation, to the extent that the registration or qualification or other similar rights granted to such third party or parties are more favourable than the entitlements of the Holders under this Agreement, the Holders will be given the benefit of such more favourable rights with respect to all of their Registrable Securities.

9.5 *Canadian Securities Laws* Requirements

With a view to making available the benefits of certain rules and regulations of the Canadian Securities Laws that may at any time permit the sale of the Registrable Securities to the public without the filing of a prospectus, if the Corporation becomes a reporting issuer under *Canadian Securities Laws* and once a public market exists for the Common Shares, the Corporation agrees to use all reasonable efforts to:

(a) comply with all applicable requirements under *Canadian Securities Laws*, at all times after the date the Corporation becomes a reporting issuer under *Canadian Securities Laws*; and

(b) file with the appropriate Canadian Securities Commissions in a timely manner all reports and other documents required of the Corporation under *Canadian Securities Laws* (at any time after the date that the Corporation becomes a reporting issuer under *Canadian Securities Laws*).

ARTICLE 10
MISCELLANEOUS

10.1 Amendment

This Agreement may be amended or modified, and any provision of this Agreement may be waived, with the prior written consent of the Corporation and a Preferred Majority.

10.2 Assignment of Rights

The Holders may assign their rights to cause the Corporation to register or qualify Registrable Securities pursuant to this Agreement:

(a) to an Affiliate, as such term is defined in the Shareholders' Agreement as if such Holders were "Major Investors" under the Shareholders' Agreement;

(b) to any other permitted transferees of Investors (as provided for in the Shareholders' Agreement) of Registrable Securities as if such Holders were "Major Investors" under the Shareholders' Agreement; or

(c) without further limitation to any entity who acquires at least 10% of the Registrable Securities (as adjusted for stock splits, stock dividends, recapitalizations, consolidations and the like) then held by the Holder,

provided, however, that in each case the Corporation is promptly furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such registration rights are being transferred, and such transferee agrees in writing to be bound by and subject to the terms and conditions of this Agreement. If those conditions are met, Schedule A will be updated by the Corporation to add the name of the transferee and remove the name of the transferor.

No rights under this Agreement may be transferred except in connection with a transfer of Registrable Securities and only in proportion to the number of Registrable Securities transferred.

10.3 Benefit of Agreement

This Agreement will enure to the benefit of and be binding upon the permitted transferees and assigns of Holders of Registrable Securities, but only if such permitted transferee or assign executes an acknowledgement to be bound by the terms of this Agreement (except for such covenants and agreements contained in Article 8 with respect to Registration Statements previously filed which are not susceptible to transfer or assignment by or on behalf of any of the parties hereto).

10.4 Notices

All notices, requests, consents and other communications hereunder shall be in writing and shall be delivered in accordance with the provisions of the Shareholders' Agreement

as follows:

(a) if to the Corporation or the Investors, at the address for notice of such party set forth in the Shareholders' Agreement;

(b) if to any subsequent Holder of Registrable Securities, to it at such address as may have been furnished to the Corporation in writing by such Holder; or

(c) in any case, at such other address or addresses furnished in writing to the Corporation (in the case of a Holder of Registrable Securities) or to the Holders of Registrable Securities (in the case of the Corporation) in accordance with the provisions of this Subsection.

10.5 Remedies

In addition to any and all other remedies that may be available at law in the event of any breach of this Agreement, each party is entitled to specific performance of the agreements and obligations of the other parties and to such other injunctive or other equitable relief as may be granted by a court of competent jurisdiction.

10.6 Language

The parties hereto confirm that they have agreed that this Agreement and all documents relating hereto be drafted in English. *Les parties aux présentes confirment qu'elles ont accepté que la présente convention de même que tous les documents s'y rattachant soient rédigés en anglais.* Without limiting the generality of the foregoing, the parties agree that any and all arbitration or litigation proceedings, together with all pleadings and exchanges of documents and all matters ancillary thereto, shall be conducted only in the English language unless otherwise required by law or judicial determination.

10.7 Counterparts

This Agreement may be executed by the parties in separate counterparts, each of which, when so executed and delivered, is deemed to constitute an original, but all of which together constitute one agreement.

10.8 Execution by Facsimile and by Electronic Transmission

This Agreement may be delivered by fax or by electronic transmission and the delivery by fax or electronic transmission of signed copies of this Agreement is deemed to be delivery of the original signatures of the parties. The parties agree to exchange manually executed originals in due course if requested by any party.

10.9 Tekla

A copy of the Declaration of Trust, as amended and restated, for each of Tekla Healthcare Investors and Tekla Life Sciences Investors (collectively, the "**Tekla Funds**") is on file with the Secretary of State of The Commonwealth of Massachusetts, and notice

is hereby given that this Agreement is executed on behalf of the Tekla Funds by an officer or trustee of the Tekla Funds in his or her capacity as an officer or trustee of the Tekla Funds, and not individually and that the obligations of or arising out of this Agreement are not binding upon any of the trustees, officers or shareholders individually but are binding only upon the assets and property of each of the respective Tekla Funds.

[Signature Pages Follows]

IN WITNESS OF WHICH the parties have duly executed this Agreement.

MILESTONE PHARMACEUTICALS INC.

By: /s/ Joseph G. Oliveto
Name: Joseph G. Oliveto
Title: President and CEO

Signature Page to Third Amended and Restated Registration Rights Agreement

RTW Master Fund, Ltd.

By: /s/ Roderick Wong
Name: Roderick Wong
Title: Director

RTW Innovation Master Fund, Ltd.

By: /s/ Roderick Wong
Name: Roderick Wong
Title: Director

BOXER CAPITAL, LLC

By: /s/ Christopher Fuglesang
Name: Christopher Fuglesang
Title: Managing Director

MVA INVESTORS, LLC

By: /s/ Christopher Fuglesang
Name: Christopher Fuglesang
Title: Authorized Signatory

VENROCK HEALTHCARE CAPITAL PARTNERS III, L.P.
By: VHCP Management III, LLC, its general partner

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

VHCP CO-INVESTMENT HOLDINGS III, LLC
By: VHCP Management III, LLC, its manager

By: /s/ David L. Stepp
Name: David L. Stepp
Title: Authorized Signatory

TEKLA HEALTHCARE INVESTORS

* * The name Tekla Healthcare Investors is the designation of the Trustees for the time being under an Amended & Restated Declaration of Trust dated April 21, 1987, as amended, and all persons dealing with Tekla Healthcare Investors must look solely to the trust property for the enforcement of any claim against Tekla Healthcare Investors, as neither the Trustees, officers nor shareholders assume any personal liability for the obligations entered into on behalf of Tekla Healthcare Investors.

By: /s/ Daniel R. Omstead

Name: Daniel R. Omstead

Title: President

NOVO HOLDINGS A/S

By: /s/ Thomas Dyrberg
Novo Holdings A/S
Thomas Dyrberg MD
Managing Partner
Novo Ventures
Tuborg Havnevej 19
DK-2900 Hellerup
Denmark

PV IV CEO FUND, L.P.
By: AMP&A Management IV, LLC
Its: General Partner

By: /s/ Ford S. Worthy
Name: Ford S. Worthy
Title: Partner & CFO

DOMAIN PARTNERS VIII, L.P.
By: One Palmer Square Associates VIII, L.L.C.
Its: General Partner

By: /s/ Lisa A. Kraeutler
Name: Lisa A. Kraeutler
Title: Attorney in Fact

FORBION CAPITAL FUND III COOPERATIEF U.A.
By: Forbion III Management B.V.
Its: Director

By: /s/ H.A Slootwag
Name: H.A Slootwag
Title: Partner

By: /s/ G. J. Mulder
Name: G. J. Mulder
Title: Partner

Signature Page to Third Amended and Restated Registration Rights Agreement

TEKLA LIFE SCIENCES INVESTORS

*** *** The name Tekla Life Sciences Investors is the designation of the Trustees for the time being under a Declaration of Trust dated February 20, 1992, as amended, and all persons dealing with Tekla Life Sciences Investors must look solely to the trust property for the enforcement of any claim against Tekla Life Sciences Investors, as neither the Trustees, officers nor shareholders assume any personal liability for the obligations entered into on behalf of Tekla Life Sciences Investors.

By: /s/ Daniel R. Omstead

Name: Daniel R. Omstead

Title: President

BDC CAPITAL INC.

By: /s/ Dion Madsen
Name: Dion Madsen
Title: Partner, Amplitude Venture Capital

By: /s/ Jean-Francois Pariseau
Name: Jean-Francois Pariseau
Title: Partner, Amplitude Ventures

Signature Page to Third Amended and Restated Registration Rights Agreement

A.M. PAPPAS LIFE SCIENCE VENTURES IV, L.P.
By: AMP&A Management IV, LLC
Its: General Partner

By: /s/ Ford S. Worthy
Name: Ford S. Worthy
Title: Partner & CFO

Signature Page to Third Amended and Restated Registration Rights Agreement

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GO CAPITAL L.P.
By: Business Development Bank of Canada
Its: General Partner

By: /s/ Dominique Bélanger
Name: Dominique Bélanger
Title: Managing Partner

Signature Page to Third Amended and Restated Registration Rights Agreement

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FONDS DE SOLIDARITÉ DES TRAVAILLEURS DU QUÉBEC (F.T.Q.)

By: /s/ Didier Leconte
Name: Didier Leconte
Title: Vice President, Investments Life Sciences

TOWNSHEND/LAMARRE FAMILY TRUST UDT DATED 7/25/2001, by its trustee

By: /s/ Brent Townshend
Name: Brent Townshend
Title: Trustee

MSBi INVESTMENT FUND, LIMITED PARTNERSHIP, herein represented hereby by its general partner, **MSBi Management, Limited Partnership**, itself represented by its general partner, **iNovia Capital Inc.**

By: /s/ Chris Arsenault
Name: Chris Arsenault
Title: President & CEO

By: /s/ François Gauvin
Name: François Gauvin
Title: Vice-President and Chief Financial Officer

SCHEDULE A

INVESTORS

RTW MASTER FUND, LTD.

RTW INNOVATION MASTER FUND LTD

BOXER CAPITAL, LLC

MVA INVESTORS, LLC

VENROCK HEALTHCARE CAPITAL PARTNERS III, L.P.

VHCP CO-INVESTMENT HOLDINGS III, LLC

NOVO HOLDINGS A/S

FORBION CAPITAL FUND III COOPERATIEF U.A.

TEKLA HEALTHCARE INVESTORS

TEKLA LIFE SCIENCES INVESTORS

DOMAIN PARTNERS VIII, L.P.

A.M. PAPPAS LIFE SCIENCE VENTURES IV, L.P.

PV IV CEO FUND, L.P.

BDC CAPITAL INC.

GO CAPITAL, L.P.

FONDS DE SOLIDARITÉ DES TRAVAILLEURS DU QUÉBEC (F.T.Q.)

MSBi INVESTMENT FUND, L.P.

MSBi VALORISATION INC.

TOWNSHEND/LAMARRE FAMILY TRUST UDT DATED 7/25/2001

MILESTONE PHARMACEUTICALS INC.

THIRD AMENDED AND RESTATED STOCK OPTION PLAN

ARTICLE 1
PURPOSE

1.1 Purpose of this Plan

The purpose of this Plan is to assist the Corporation in attracting, retaining and motivating key employees, officers, directors and consultants of the Corporation or of a Related Entity by granting to them options to purchase Common Shares in the capital of the Corporation.

ARTICLE 2
INTERPRETATION

2.1 Definitions

When used herein, unless the context otherwise requires, the following terms have the following meanings, respectively:

"**10% Stockholder**" has the meaning set forth in Section 4.12 of this Plan;

"**Board**" means the board of directors of the Corporation;

"**Cause**" means, in addition to such meaning as shall have been or shall hereafter be ascribed to such term or similar terms from time to time by the jurisprudence or law: a failure or refusal by the Participant to perform his or her customary duties or services for the Corporation or any Related Entity without lawful justification after being provided with 10 business days notice from the Corporation and an opportunity to cure such failure to perform, in a manner satisfactory to the Corporation or any Related Entity; the Participant's conviction for a criminal act or other indictable offence pursuant to the provisions of the *Criminal Code* or of any other criminal or penal statute of any jurisdiction which the Corporation or any Related Entity reasonably determines may have an adverse effect upon the reputation or good will of the Corporation or any Related Entity or on the performance of the Participant's duties, the commission by the Participant of any indictable or criminal offence or act which denotes moral turpitude, whether relating or not to the course of employment; a breach by the Participant of, or his or her failure or refusal to perform, in any material respect, any of his or her obligations under any employment agreement, employee invention and confidentiality agreement or such other material written agreement between Participant and the Corporation or any Related Entity; wanting in adequate capacity or qualification to fulfil the Participant's employment functions; habitual inability to carry out functions of employment due to alcohol or drug related causes; any breach of any non-compete or non-solicitation covenant of the Participant; or any dishonest or fraudulent act relating directly or indirectly to the course of employment;

"**Code**" has the meaning set forth in Section 4.12 of this Plan;

"**Committee**" has the meaning set forth in Section 3.2;

"**Common Share**" means a common share in the share capital of the Corporation;

"**Consultant Participant**" means an individual or a consultant company, other than an Employee Participant, a Director Participant or an Executive Participant, that:

(a) is engaged to provide services on a *bona fide* basis to the Corporation or a Related Entity, other than services provided in relation to a distribution of securities of the Corporation or a Related Entity;

(b) provides the services under a written contract with the Corporation or a Related Entity; or

(c) spends or will spend a significant amount of time and attention on the affairs and business of the Corporation or a Related Entity;

and includes a Consultant Participant's Permitted Assigns. For the purposes of this definition, "**consultant company**" means, with respect to an individual consultant, either (i) a company of which the individual consultant is an employee or shareholder; or (ii) a partnership of which the individual consultant is an employee or partner;

"**Convertible Securities**" means any right, unit, option, warrant or any other security, including, without limitation, any debenture, note or any other instrument or agreement evidencing indebtedness of the Corporation, which may be converted, exchanged into or exercised for shares of the Corporation or which carries a right to acquire shares in the share capital of the Corporation;

"**Corporation**" means Milestone Pharmaceuticals Inc.;

"**Date of Grant**" means, for any Option, the date specified by the Plan Administrator at the time it grants the Option (provided, however, that such date shall not be prior to the date the Plan Administrator acts to grant the Option) or, if no such date is specified, the date upon which the Option is granted;

"**Director**" means a member of the Board or the board of directors of a Related Entity;

"**Director Participant**" means a Director, who is not an officer or employee of the Corporation or of a Related Entity, and includes a Director Participant's Permitted Assigns;

"**Disability**" means the circumstance whereby the Optionee is permanently or substantially incapacitated so as to be prevented from properly and continuously performing in full his/her duties to the Corporation for a substantially continuous period of four months or more or for a cumulative six month period in any consecutive 12 month period;

"**Disqualifying Disposition**" has the meaning set forth in Section 4.12 of this Plan;

"**Employee Participant**" means a current employee (other than an Executive Participant or Consultant Participant) of the Corporation or of a Related Entity and includes an Employee Participant's Permitted Assigns;

"**Executive Participant**" means an officer of the Corporation or of a Related Entity and includes an Executive Participant's Permitted Assigns;

"**Exercise Notice**" means the subscription form and undertaking in writing, in the form set out in Schedule B, signed by an Optionee and stating the Optionee's intention to exercise a particular Option;

"**Exercise Period**" means the period of time (commencing at the Vesting Commencement Date) during which an Option granted under this Plan may be exercised in accordance with this Plan;

"**Exercise Price**" means the price at which an Option Share may be purchased pursuant to the exercise of an Option;

"**Fair Market Value**" means the fair market value of the security, as determined in good faith by the Plan Administrator;

"**Fully Diluted Basis**" means in reference to a number of shares, a number calculated taking into account all of the issued and outstanding voting and participating shares of the share capital of the Corporation and the conversion, exercise or exchange of all Convertible Securities into such shares based on the applicable conversion, exchange or exercise rate, including any warrants and any options granted by the Corporation (including those options available for issuance under the Stock Option Plan or any future stock option plan);

"**Good Reasons**" means the termination by the Executive Participant of his employment if there is: (a) a material reduction by the Corporation in his salary or remuneration (other than a proportional decrease applicable to all Executive Participants); (b) the failure of the Corporation to pay the Executive Participant any portion of his salary or remuneration at the time such payment is due, which breach is not cured within 30 days after such Executive Participant provides written notice to the Corporation thereof; or (c) a material unilateral reduction in the responsibilities or duties of such Executive Participant;

"**Individual Optionee**" means an Optionee who is an individual or a Person who is a Permitted Assign of an Optionee, as the case may be;

"**Initial Public Offering**" means any initial public offering of Common Shares under a receipted prospectus or other similar document filed under applicable securities laws in Canada, the United States or the United Kingdom, pursuant to which Common Shares are offered for sale and sold to the public and pursuant to which the Common Shares are listed on the Toronto Stock Exchange, the New York Stock Exchange, or the main market of the London Stock Exchange or are quoted on the NASDAQ national market system or any combination thereof;

"**ISOs**" has the meaning set forth in Section 4.12 of this Plan;

"**Liquidity Event**" means:

(a) an event, in one transaction or a series of transactions, including any amalgamation, arrangement, merger, consolidation, tender offer, exchange offer, share acquisition, binding share exchange, business combination, recapitalization or similar transaction, which results in one Person, together with any Related Entities of such Person, acquiring beneficial ownership, directly or indirectly, or exercising direction or control, over more than 50% of the combined voting power attached to all of the Corporation's outstanding Securities;

(b) a sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, of all or substantially all of the assets of the Corporation except where such sale, lease, transfer or other disposition is to a Related Entity of the Corporation;

(c) the adoption by the Corporation of a plan of liquidation providing for the distribution of all or substantially all of the Corporation's assets; or

(d) any event specified from time to time by the Board;

provided however, unless otherwise determined by the Board, that the following events shall not constitute a Liquidity Event: (i) an amalgamation, merger or consolidation of the Corporation with or into a Related Entity of the Corporation; (ii) a transaction undertaken solely for the purpose of changing the Corporation's place of domicile or jurisdiction of incorporation; (iii) an equity financing of the Corporation; or (iv) an Initial Public Offering;

"**NI 45-106**" means National Instrument 45-106 — *Prospectus and Registration Exemptions* of the Canadian Securities Administrators, as amended from time to time;

"**Notice of Grant**" means the form of notice of grant in writing, in the form set out in Schedule A, signed by Corporation stating the intention to grant Options to the Optionee;

"**Notice of Surrender of Vested Options**" means the form of surrender of the vested Options in writing, in the form set out in Schedule D, permitting the Optionee to exercise the vested Options without payment;

"**Option**" means a right to purchase Common Shares under this Plan that is non- assignable and non-transferable other than to a Permitted Assign or unless otherwise approved by the Plan Administrator;

"**Option Agreement**" means a signed, written agreement between an Optionee and the Corporation, in the form attached as Schedule C, subject to any amendments or additions thereto as may, in the discretion of the Plan Administrator, be necessary or advisable, evidencing the terms and conditions on which an Option has been granted under this Plan;

"**Optionee**" means a Participant who has been granted one or more Options;

"**Option Shares**" means Common Shares that will be issued by the Corporation upon the exercise of outstanding Options;

"**Participant**" means an Employee Participant, a Director Participant, an Executive Participant or a Consultant Participant;

"**Permitted Assign**" has the meaning assigned to the term "permitted assign" in Section 2.22 of NI 45-106 other than RRSPs and RRIFs;

"**Person**" includes an individual, sole proprietorship, partnership, unincorporated association, unincorporated syndicate, unincorporated organization, trust, body corporate, limited liability company, and a natural person in his or her capacity as trustee, executor, administrator or other legal representative;

"**Plan**" means this Third Amended and Restated Stock Option Plan as set out herein and as amended from time to time in accordance with the provisions hereof;

"**Plan Administrator**" means the Board or, if the administration of this Plan has been delegated by the Board to the Committee pursuant to Section 3.2, the Committee;

"**Related Corporations**" has the meaning set forth in Section 4.12 of this Plan;

"**Related Entity**" has the meaning assigned to the term "related entity" in Section 2.22 of NI 45-106;

"**Retirement**" means retirement from active employment with the Corporation or a Related Entity at or after age 65 or, with the consent for purposes of this Plan of such officer of the Corporation as may be designated by the Plan Administrator, at or after such earlier age and upon the completion of such years of service as the Plan Administrator may specify;

"**Security**" has the meaning assigned to the term "security" in the Securities Act (Québec), and "**Securities**" has a corresponding meaning;

"**Shareholders Agreement**" means the shareholders agreement with respect to the Corporation, as the same may be amended, restated or replaced from time to time;

"**Subscription Agreement**" means the subscription agreement between the Corporation and certain investors dated as of October 15, 2018 as amended and restated from time to time;

"**Termination Date**" means:

(a) in the case of an Employee Participant or Executive Participant whose employment or term of office, as the case may be, with the Corporation or a Related Entity terminates in the circumstances set out in Section 4.7(b) or Section 4.7(c), the later of: (i) the date that is the last day of any statutory notice period applicable to the Optionee pursuant to applicable employment standards legislation; and (ii) the date that is designated by the Corporation or a Related Entity, as the case may be, as the last day of the Optionee's employment or term

of office with the Corporation or the Related Entity, as the case may be, provided that in the case of termination of employment by voluntary resignation by the Optionee, such date shall not be earlier than the date upon which a notice of resignation was given, and "**Termination Date**" specifically does not mean the date on which any period of reasonable notice that the Corporation or the Related Entity (as the case may be) may be required at law or under the terms of an employment agreement to provide to the Optionee expires;

(b) in the case of a Director Participant who ceases to hold office in the circumstances set out in Section 4.7(d) or Section 4.7(e), the date upon which the Optionee ceases to hold office; or

(c) in the case of a Consultant Participant whose consulting agreement or arrangement with the Corporation or a Related Entity, as the case may be, terminates in the circumstances set out in Section 4.7(e) or Section 4.7(f), the date that is designated by the Corporation or the Related Entity, as the case may be, as the date on which the Optionee's consulting agreement or arrangement is terminated, provided that in the case of voluntary termination by the Optionee of the Optionee's consulting agreement or arrangement, such date shall not be earlier than the date notice of voluntary termination was given, and "**Termination Date**" specifically does not mean the date on which any period of notice of termination that the Corporation or the Related Entity (as the case may be) may be required to provide to the Optionee under the terms of the consulting agreement or arrangement expires; and

"**Vesting Commencement Date**" means, for any Option, the date for vesting of such Option to commence, as specified by the Plan Administrator at the time it grants such Option, or, if no such date is specified, the Date of Grant.

2.2 Interpretation

(a) This Plan is created under and is to be governed, construed and administered in accordance with the laws of the Province of Québec and the laws of Canada applicable therein.

(b) Whenever the Plan Administrator is to exercise discretion in the administration of the terms and conditions of this Plan, the term "discretion" means the sole and absolute discretion of the Plan Administrator.

(c) As used herein, the terms "**Article**", "**Section**" and "**Schedule**" mean and refer to the specified Article, Section and Schedule of this Plan, respectively.

(d) Where the word "**including**" or "**includes**" is used in this Plan, it means "including (or includes) without limitation".

(e) Words importing the singular include the plural and vice versa and words importing any gender include any other gender.

(f) Unless otherwise specified, all references to money amounts are to Canadian currency.

ARTICLE 3
PLAN ADMINISTRATION

3.1 Plan Administration

This Plan will be administered by the Plan Administrator and the Plan Administrator has sole and complete authority, in its discretion, to:

(a) determine the individuals and entities (from among the Participants) to whom Options may be granted;

(b) grant Options in such amounts and, subject to the provisions of this Plan, on such terms and conditions as it determines including:

(i) the time or times at which Options may be granted;

(ii) the Exercise Price;

(iii) the time or times when each Option becomes exercisable and, subject to Section 4.3, the duration of the Exercise Period;

(iv) whether restrictions or limitations are to be imposed on the Option Shares and the nature of such restrictions or limitations, if any;

(v) any acceleration of exercisability or waiver of termination regarding any Option, based on such factors as the Plan Administrator may determine;

(vi) to cancel, amend, adjust or otherwise change any Option under such circumstances as the Plan Administrator may consider appropriate in accordance with the provisions of this Plan; and

(vii) the Vesting Commencement Date;

(c) interpret this Plan and adopt, amend, prescribe and rescind administrative guidelines and other rules and regulations relating to this Plan; and

(d) make all other determinations and take all other actions necessary or advisable for the implementation and administration of this Plan.

The Plan Administrator's determinations and actions within its authority under this Plan are conclusive and binding on the Corporation and all other persons.

3.2 Delegation of Plan Administration

(a) The initial Plan Administrator shall be the Board.

(b) To the extent permitted by applicable law, the Board may, from time to time, delegate to a committee of the Board (the "**Committee**") all or any of the powers conferred on the Plan Administrator pursuant to this Plan. In such event, the Committee will exercise the powers delegated to it by the Board in the manner and on the terms authorized by the Board. Any decision made or action taken by the Committee arising out of or in connection with the administration or interpretation of this Plan in this context shall be made as Plan Administrator and is final and conclusive.

(c) The day-to-day administration of this Plan may be delegated to such officers and employees of the Corporation or a Related Entity as the Plan Administrator determines.

3.3 Eligibility

All Employee Participants, Director Participants, Executive Participants and Consultant Participants are eligible to participate in this Plan, subject to Sections 4.6(b) and 4.7(g). Eligibility to participate does not confer upon any Participant any right to be granted Options pursuant to this Plan. The extent to which any Participant is entitled to be granted Options pursuant to this Plan will be determined in the discretion of the Plan Administrator.

3.4 Total Common Shares Subject to Options

(a) The aggregate number of Common Shares that may be issued pursuant to the exercise of Options, including Options intended to be ISOs pursuant to Section 4.12 will be equal to, upon completion of the Closing (as defined in the Subscription Agreement), 17,228,914 Common Shares. No Option may be granted if such grant would have the effect of causing the total number of Common Shares subject to Options to exceed the above-noted total number of Common Shares reserved for issuance pursuant to the exercise of Options.

(b) To the extent Options terminate for any reason prior to exercise in full or are cancelled, the Common Shares subject to such Options shall be added back to the number of Common Shares reserved for issuance under this Plan and such Common Shares will again become available for grant under this Plan. In addition, any Common Shares which are retained by the Corporation upon exercise of an Option in order to satisfy the exercise or purchase price for such Option or any withholding taxes due with respect to such exercise or purchase shall be treated as not issued and shall continue to be available under the Plan. Common Shares repurchased by the Corporation pursuant to any repurchase right which the Corporation may have shall be available for future grant under the Plan.

(c) Subject to applicable law and any shareholder or other approvals which may be required, the Board may in its discretion amend the Plan to increase the number of Common Shares reserved for issuance without any notice to Participants.

3.5 Notice of Grant

All grants of Options under this Plan will be evidenced by the Notice of Grant (as set forth in Schedule A). Such Notice of Grant will be subject to the applicable provisions of this Plan and will contain such provisions as are required by this Plan and any other provisions that the Plan Administrator may direct. The Board of Directors shall authorize and empower any director or officer of the Corporation to execute and deliver, for and on behalf of the Corporation, a Notice of Grant to each Optionee.

3.6 Non-Transferability

Subject to Section 4.6 and the rules and policies of any stock exchange on which the Common Shares are listed, if applicable, and applicable law, Options granted under this Plan may only be exercised by the Individual Optionee personally during the Optionee's lifetime. Except to the extent permitted by the Plan Administrator, no assignment or transfer of Options, whether voluntary, involuntary, by operation of law or otherwise, vests any interest or right in such Options whatsoever in any assignee or transferee and immediately upon any assignment or transfer, or any attempt to make the same, such Options will terminate and be of no further force or effect. If an Individual Optionee (the "**Original Optionee**") has transferred Options to a corporation pursuant to this Section 3.6 when such transfer is permitted by the Plan Administrator and such applicable rules, policies and law, such Options will terminate and be of no further force or effect if at any time the Original Optionee should cease to own all of the issued shares of such corporation.

ARTICLE 4
GRANT OF OPTIONS

4.1 Grant of Options

The Plan Administrator may, from time to time, subject to the provisions of this Plan and such other terms and conditions as the Plan Administrator may prescribe, grant Options to any Participant. Such Options granted to the Participant shall be described in the Notice of Grant.

4.2 Exercise Price

(a) Prior to an Initial Public Offering, the Exercise Price per Option Share purchasable under an Option will be equal to or will exceed the Fair Market Value as determined by the Board and in effect on the Date of Grant.

(b) After an Initial Public Offering, the Board shall establish the Exercise Price at the time each Option is granted, which Exercise Price must in all cases be not less than the price required by applicable regulatory authorities and will reflect the Fair Market Value of the Option Share.

4.3 Term of Options

Subject to any accelerated termination as set forth in this Plan, each Option, unless otherwise specified by the Plan Administrator, expires on the tenth anniversary of the Date of Grant, provided that in no event will the Exercise Period of an Option exceed ten years from the Date of Grant.

4.4 Exercise Period

(a) Unless otherwise specified by the Plan Administrator at the time of granting an Option and except as otherwise provided in this Plan, each Option will vest and be exercisable as follows:

Percentage of Total Number of Option Shares that may be Purchased	Vesting Date
25%	From the first anniversary of the Vesting Commencement Date.
2.0833%	At the end of each month after the first anniversary of the Vesting Commencement Date.

(b) Once an Option becomes vested, it shall remain vested and shall be exercisable until expiration or termination of the Option, subject to Section 4.9. Each Option may be exercised at any time or from time to time, in whole or in part, for up to the total number of Option Shares with respect to which it is then exercisable. The Plan Administrator has the right, including those as set forth in Sections 4.9 and 5.4, to accelerate the vesting of any Option.

(c) Subject to the provisions of this Plan and any Option Agreement, Options shall be exercised by means of a fully completed Exercise Notice delivered to the Corporation.

4.5 Payment of Exercise Price

(a) Unless otherwise specified by the Plan Administrator at the time of granting an Option, the Exercise Notice shall be accompanied by payment in full of the purchase price for the Option Shares to be purchased. The Exercise Price shall be fully paid in cash, or by certified cheque, bank draft or money order payable to the Corporation or by such other means as might be specified from time to time by the Plan Administrator. No Common Shares shall be issued or transferred until full payment therefor has been received by the Corporation. Until the occurrence of a Liquidity Event or Initial Public Offering, any certificate or certificates representing the acquired Common Shares shall be either held by the Corporation or in escrow by the Escrow Agent (as such term is defined in the Option Agreement) in accordance with the terms of the Option Agreement, on behalf of the Optionee, with the Corporation's corporate records.

(b) The Plan Administrator may, at any time, grant the Optionee the right to cause the Corporation to accept the surrender of the vested Options held by the Optionee in consideration for a cash payment. To surrender those Options, the Optionee shall send a notice (in the form set out in Schedule D) requesting that the Corporation terminate the vested Options held by the Optionee in exchange for a cash payment to the Optionee for an amount equal to the excess of the Fair Market Value of the

Common Shares underlying those vested Options, as determined by the Board as of the date of the surrender of the vested Options, over the Exercise Price of the vested Options. The Corporation shall in its sole and entire discretion decide whether it renounces its right to claim the cash payment as a deductible expense for tax purposes and its decision will be final and conclusive. Nothing requires that the Corporation reaches a similar decision for each Optionee and nothing requires the Corporation to elect that it will not deduct any amount in respect of such cash payment.

4.6 Retirement, Death or Disability of Optionee

Subject to Section 4.8 or unless otherwise specified by the Plan Administrator at the time of granting an Option, if an Individual Optionee dies or becomes Disabled while an employee, director or officer of the Corporation or a Related Entity or if the employment or term of office of the Individual Optionee with the Corporation or a Related Entity terminates due to Retirement:

(a) the executor or administrator of the Individual Optionee's estate or the Individual Optionee, as the case may be, may exercise any Options of the Individual Optionee that have vested as at the Termination Date to the extent that the Options have vested as at the date of such death, Disability or Retirement and the right to exercise such Options terminates on the earlier of: (i) the date on which the Exercise Period of the particular Option expires; or (ii) the date that is 180 days after the Individual Optionee's death, Disability or Retirement;

(b) the Individual Optionee's eligibility to receive further grants of Options under this Plan ceases as of the date of the Individual Optionee's death, Disability or Retirement, as the case may be; and

(c) Section 4.6 will apply to a Permitted Assign as if it applied to a Participant.

4.7 Termination of Employment or Services

Subject to Section 4.8 or unless otherwise specified by the Plan Administrator at the time of granting an Option:

(a) where, in the case of an Employee Participant or Executive Participant, an Individual Optionee or term of office with the Corporation or a Related Entity ceases by reason of the Individual Optionee's death, Disability or Retirement, then the provisions of Section 4.6 will apply;

(b) where, in the case of an Employee Participant or Executive Participant, an Individual Optionee's employment or term of office is terminated i) by the Corporation or a Related Entity without Cause (whether such termination occurs with or without any or adequate reasonable notice, or with or without any or adequate compensation in lieu of such reasonable notice), ii) by voluntary resignation of the individual Optionee in compliance with the termination provision contained in the Optionee's employment agreement or iii) for Good Reasons, then any Options held by the Individual Optionee that have vested as at the Termination

Date continue to be exercisable by the Individual Optionee until the earlier of: (A) the date on which the Exercise Period of the particular Option expires; or (B) the date that is 90 days after the Termination Date. Any Options held by the Individual Optionee that have not vested as at the Termination Date immediately expire and are cancelled on the Termination Date;

(c) where, in the case of an Employee Participant or Executive Participant, an Individual Optionee's employment or term of office terminates by reason of: (i) termination by the Corporation or a Related Entity for Cause; or (ii) voluntary resignation by the Individual Optionee not in compliance with the termination provisions contained in the Optionee's employment agreement, then any Options held by the Individual Optionee, whether or not they have vested as at the Termination Date, immediately expire and are cancelled on the Termination Date;

(d) where, in the case of a Director Participant, an Individual Optionee ceases to hold office, then any Options held by the Individual Optionee that have vested as at the Termination Date continue to be exercisable by the Individual Optionee until the earlier of: (i) the date on which the Exercise Period of the particular Option expires; or (ii) the date that is 180 days after the Termination Date. Any Options held by the Individual Optionee that have not vested as at the Termination Date, immediately expire and are cancelled on the Termination Date;

(e) where, in the case of a Consultant Participant, an Optionee's consulting agreement or arrangement terminates by reason of: (i) termination by the Corporation or a Related Entity for any reason whatsoever other than for breach of the consulting agreement or arrangement (whether or not such termination is effected in compliance with any termination provisions contained in the Optionee's consulting agreement or arrangement); or (ii) the death or Disability of the Individual Optionee, or (iii) voluntary termination by the Optionee in compliance with the termination provisions contained in the Optionee's consulting agreement, then any Options held by the Optionee that have vested as at the Termination Date, or at the date of the death or Disability of the Individual Optionee, as the case may be, continue to be exercisable by the Optionee until the earlier of: (A) the date on which the Exercise Period of the particular Option expires; or (B) the date that is 120 days after the Termination Date. Any Options held by the Optionee that have not vested as at the Termination Date, or at the date of the death or Disability of the Individual Optionee, as the case may be, immediately expire and are cancelled on the Termination Date;

(f) where, in the case of a Consultant Participant, an Optionee's consulting agreement or arrangement terminates by reason of: (i) termination by the Corporation or a Related Entity for breach of the consulting agreement or arrangement (whether or not such termination is effected in compliance with any termination provisions contained in Optionee's consulting agreement or arrangement); or (ii) voluntary termination by the Optionee (whether or not such termination is effected in compliance with any termination provisions contained in the Optionee's consulting agreement or arrangement), then any Options held by the Optionee, whether or not

such Options have vested as at the Termination Date, immediately expire and are cancelled on the Termination Date;

(g) an Optionee's eligibility to receive further grants of Options under this Plan ceases as of the date that the Corporation or a Related Entity, as the case may be, provides the Optionee with written notification that the Optionee's employment, term of office, consulting agreement or arrangement, as the case may be, is terminated, notwithstanding that such date may be prior to the Termination Date.

(h) Notwithstanding Sections 4.7(b), 4.7(d) and 4.7(e), unless the Plan Administrator, in its discretion, otherwise determines, at any time and from time to time, Options are not affected by a change of employment or consulting arrangement within or among the Corporation or a Related Entity for so long as the Employee Participant continues to be an employee of the Corporation or a Related Entity, or for so long as the Executive Participant continues to be a director or officer of the Corporation or a Related Entity, or for so long as the Consultant Participant continues to be engaged as a consultant to the Corporation or a Related Entity, as the case may be.

(i) Section 4.7 shall apply to a Permitted Assign as if it was applied to a Participant.

4.8 Discretion to Permit Exercise

Notwithstanding the provisions of Sections 4.6 and 4.7, the Plan Administrator may, in its discretion, at any time prior to or following the events contemplated in such sections, permit the exercise of any or all Options held by the Optionee in the manner and on the terms authorized by the Plan Administrator, provided that the Plan Administrator will not, in any case, authorize the exercise of an Option pursuant to this Section 4.8 beyond the expiration of the Exercise Period of the particular Option.

4.9 Liquidity Event

Notwithstanding anything else in this Plan or any Option Agreement, the Plan Administrator may, in connection with a Liquidity Event, in its discretion, and without the consent of any Optionee:

(a) take such steps as are necessary or desirable to cause the conversion or exchange of any outstanding Options into or for options, rights or other securities of substantially equivalent value (or greater value), as determined by the Plan Administrator, in its discretion, in any entity participating in or resulting from such Liquidity Event; and/or

(b) accelerate the vesting of any or all outstanding Options to provide that such outstanding Options will be fully vested and exercisable contemporaneously with the completion of the transaction resulting in the Liquidity Event, provided that the Plan Administrator shall not, in any case, authorize the exercise of Options pursuant to this section beyond the expiry date of the Options. If any of such Options are not exercised contemporaneously with completion of the transaction resulting in the Liquidity Event, such unexercised Options will terminate and expire upon the completion of the transaction resulting in the Liquidity Event. If, for any reason,

the transaction that would result in the Liquidity Event is not completed, the acceleration of the vesting of the Options shall be retracted and vesting will instead revert to the manner provided in Section 4.4 or in the applicable Option Agreement, as the case may be.

4.10 Option Agreement

Each Optionee must, at the time of exercise of an Option, sign and deliver a Option Agreement. Each Optionee acknowledges that the Option Agreement restricts transfers of the Option Shares. The Shares and share certificates representing the Option Shares acquired upon the exercise of Options shall be held in escrow by the Escrow Agent, as such term is defined in, and in accordance with, the Option Agreement.

4.11 Conditions of Exercise

Each Optionee shall, when requested by the Corporation, sign and deliver all such documents relating to the granting or exercise of Options which the Corporation deems necessary or desirable and which shall include, without limitation, (i) the Notice of Grant, (ii) the Exercise Notice, and (iii) the Option Agreement.

4.12 Incentive Stock Options

The following provisions will apply, in addition to the other provisions of this Plan which are not inconsistent therewith, to Options that are specifically intended (as evidenced in the relevant Option Agreement) to qualify as incentive stock options (for the purposes of this Section 4.12, "**ISOs**") under Section 422 of the United States Internal Revenue Code, I.R.C. (for the purposes of this Section 4.12, the "**Code**"). For greater clarity, Options may only be granted as ISOs if the shareholders of the Corporation have approved the Plan:

(a) Options may be granted as ISOs only to individuals who are employees of the Corporation or any present or future "subsidiary corporation" or "parent corporation" as those terms are defined in Section 424 of the Code (for the purposes of this Section 4.12, collectively, "**Related Corporations**") and Options shall not be granted to non-employee Directors or independent contractors;

(b) for purposes of Section 4.6, "**Disability**" means "permanent and total disability" as defined in Section 22(e)(3) of the Code;

(c) if an Optionee ceases to be employed by the Corporation and/or all Related Corporations other than by reason of death or Disability, Options will be eligible for treatment as ISOs only if exercised no later than 90 days following such termination of employment;

(d) the Exercise Price in respect of Options granted as ISOs to employees who own more than 10% of the combined voting power of all classes of shares in the capital of the Corporation or a Related Corporation (for the purposes of this Section 4.12, a "**10% Stockholder**") will be not less than 110% of the Fair Market Value per

Common Share on the Date of Grant and the term of any ISO granted to a 10% Stockholder will not exceed five years measured from the Date of Grant;

(e) Options held by an Optionee will be eligible for treatment as ISOs only if the Fair Market Value (determined at the Date of Grant) of the Common Shares with respect to which such Options and all other options intended to qualify as "incentive stock options" under Section 422 of the Code held by such individual and granted under the Plan or any other plan of a Related Corporation and which are exercisable for the first time by such individual during any one calendar year does not exceed US$100,000;

(f) by accepting an Option granted as an ISO under the Plan, each Optionee agrees to notify the Corporation in writing immediately after such Optionee makes a "**Disqualifying Disposition**" of any share acquired pursuant to the exercise of such ISO; for this purpose, a Disqualifying Disposition is any disposition occurring on or before the later of (a) the date two years following the date the ISO was granted or (b) the date one year following the date the ISO was exercised;

(g) notwithstanding that the Plan will be effective when adopted by the Board, no ISO granted under the Plan may be exercised until the Plan is approved by the Corporation's shareholders and, if such approval is not obtained within 12 months after the date of the Board's adoption of the Plan, then all ISOs previously granted will terminate and cease to be outstanding and the provisions of this Section 4.12 will cease to have effect; furthermore, the Board shall obtain shareholder approval within 12 months before or after any increase in the total number of Common Shares that may be issued under the Plan or any change in the class of employees eligible to receive ISOs under the Plan;

(h) no modification of an outstanding Option that would provide an additional benefit to an Optionee, including to a reduction of the Exercise Price or extension of the exercise period, shall be made without consideration and disclosure of the likely United States federal income tax consequences to the Participants affected thereby;

(i) Options intended to be ISOs under this Plan shall be granted prior to October 12, 2028; and

(j) ISOs will be neither transferable nor assignable by the Optionee other than by will or the laws of descent and distribution and may be exercised, during the Optionee's lifetime, only by such Optionee.

ARTICLE 5
SHARE CAPITAL ADJUSTMENTS

5.1 General

The existence of any Options does not affect in any way the right or power of the Corporation or its shareholders to make, authorize or determine any adjustment, recapitalization, reorganization or any other change in the Corporation's capital structure or its business, or any amalgamation, combination, merger or consolidation involving the Corporation, to create or issue any bonds, debentures, shares or other securities of the Corporation or to determine the rights and conditions attaching thereto, to effect the dissolution or liquidation of the Corporation or any sale or transfer of all or any part of its assets or business, or to effect any other corporate act or proceeding, whether of a similar character or otherwise, whether or not any such action referred to in this section would have an adverse effect on this Plan or any Option granted hereunder.

5.2 Reorganization of Corporation's Capital

Should the Corporation effect a subdivision or consolidation of Common Shares or any similar capital reorganization including a distribution of capital or assets or a payment of a stock dividend (other than a stock dividend that is in lieu of a cash dividend), or should any other change be made in the capitalization of the Corporation that, in the opinion of the Plan Administrator, would warrant the replacement or amendment of any existing Options in order to adjust: (a) the number of Common Shares that may be acquired on the exercise of any outstanding Options; and/or (b) the Exercise Price of any outstanding Options in order to preserve proportionately the rights and obligations of the Optionees, the Plan Administrator, will authorize such steps to be taken as may be equitable and appropriate to that end. For clarity purposes, dilution will not be deemed a capital reorganization for the purposes of this Section 5.2.

5.3 Other Events Affecting the Corporation

In the event of an amalgamation, combination, merger or other reorganization involving the Corporation by exchange of Common Shares or Common Shares, by sale or lease of assets or otherwise, that, in the opinion of the Plan Administrator, in its discretion, warrants the replacement or amendment of any existing Options in order to adjust: (a) the number of Common Shares that may be acquired on the exercise of any outstanding Options; and/or (b) the Exercise Price of any outstanding Options in order to preserve proportionately the rights and obligations of the Optionees, the Plan Administrator will authorize such steps to be taken as may be equitable and appropriate to that end. For clarity purposes, dilution will not be deemed an event which will require a replacement or amendment of any existing Options for purposes of this Section 5.2.

5.4 Immediate Exercise of Options

Where the Plan Administrator determines, in its discretion, that the steps provided in Sections 5.2 and 5.3 would not preserve proportionately the rights and obligations of the Optionees in the circumstances or otherwise determines, in its discretion, that it is appropriate, the Plan Administrator, in its discretion, may accelerate the vesting of any outstanding Options.

5.5 Issue by Corporation of Additional Shares

Except as expressly provided in this Article 5, neither the issue by the Corporation of shares of any class or securities convertible into or exchangeable for shares of any class, nor the conversion or exchange of such shares or securities, affects, and no adjustment by reason thereof is to be made with respect to: (a) the number of Common Shares that may be acquired on the exercise of any outstanding Options; or (b) the Exercise Price of any outstanding Options.

5.6 Fractions

No fractional Common Shares will be issued on the exercise of an Option. Accordingly, if, as a result of any adjustment under Sections 5.2 to 5.4 inclusive, an Optionee would become entitled to a fractional Common Share, the Optionee has the right to acquire only the adjusted number of full Common Shares and no payment or other adjustment will be made with respect to the fractional Common Shares so disregarded.

5.7 Conditions of Exercise

The Plan and each Option are subject to the requirement that if at any time the Plan Administrator determines, in its discretion, that the listing, registration or qualification of the Common Shares subject to such Option upon any securities exchange or under any provincial, state or federal law, or the consent or approval of any governmental body, securities exchange or of the holders of the Common Shares generally, is necessary or desirable, as a condition of, or in connection with, the granting of such Option or the issue or purchase of Common Shares thereunder, no such Option may be granted or exercised in whole or in part unless such listing, registration, qualification, consent or approval has been effected or obtained free of any conditions not acceptable to the Plan Administrator, in its discretion. The Optionees shall, to the extent applicable, cooperate with the Corporation in relation to such listing, registration, qualification, consent or other approval and shall have no claim or cause of action against the Corporation or any of its officers or directors as a result of any failure by the Corporation to obtain or to take any steps to obtain any such listing, registration, qualification, consent or approval.

ARTICLE 6
MISCELLANEOUS PROVISIONS

6.1 Legal Requirement

The Corporation is not obligated to grant any Options, issue any Common Shares or other securities, make any payments or take any other action if, in the opinion of the Plan Administrator, in its discretion, such action would constitute a violation by an Optionee or the Corporation of any provision of any applicable statutory or regulatory enactment of any government or government agency.

6.2 Optionee’s Entitlement

Except as otherwise provided in this Plan, Options previously granted under this Plan, whether or not then exercisable, are not affected by any change in the relationship between, or ownership of, the Corporation and a Related Entity. For greater certainty, all Options remain valid and

exercisable in accordance with the terms and conditions of this Plan and are not affected by reason only that, at any time, a Related Entity ceases to be a Related Entity.

6.3 Withholding Taxes

Notwithstanding any other provision of this Plan, all distributions or payments to a Participant under the Plan shall be made net of applicable source deductions. If the event giving rise to the withholding obligation involves a distribution or issuance of Common Shares, then, the withholding obligation may be satisfied by (a) having the Participant elect to have the appropriate number of such Common Shares sold by the Corporation, the Corporation's transfer agent and registrar or any person appointed by the Corporation pursuant to Section 6.3 hereof, each on behalf of and as agent for the Participant, as soon as permissible and practicable, with the proceeds of such sale being remitted to the appropriate governmental authorities, or (b) any other mechanism as may be required or appropriate to conform with local tax and other rules.

Notwithstanding the first paragraph of this Section 6.3, the applicable tax withholdings may be waived where the Participant directs in writing that a payment be made directly to the Participant's registered retirement savings plan in circumstances to which subsection 100(3) of the regulations made under the *Income Tax Act* (Canada) apply.

6.4 Rights of Participant/Optionee

No Participant has any claim or right to be granted an Option (including an Option granted in substitution for any Option that has expired pursuant to the terms of this Plan), and the granting of any Option is not to be construed as giving an Optionee a right to remain in the employ of the Corporation or a Related Entity. No Optionee has any rights as a shareholder of the Corporation in respect of Common Shares issuable on the exercise of rights to acquire Common Shares under any Option until the allotment and issuance to the Optionee of certificates representing such Common Shares.

6.5 Termination

Subject to any shareholders agreement of the Corporation, the Board may terminate this Plan at any time without shareholder approval. Notwithstanding the foregoing, subject to the discretion of the Plan Administrator, the termination of this Plan shall have no effect on outstanding Options, which shall continue in effect in accordance with their terms and conditions and the terms and conditions of this Plan.

6.6 Indemnification

Every Director will at all times be indemnified and saved harmless by the Corporation from and against all costs, charges and expenses whatsoever, including any income tax liability arising from any such indemnification, that such Director may sustain or incur by reason of any action, suit or proceeding, taken or threatened against the Director, otherwise than by the Corporation, for or in respect of any act done or omitted by the Director in respect of this Plan, such costs, charges and expenses to include any amount paid to settle such action, suit or proceeding or in satisfaction of any judgement rendered therein.

6.7 Participation in this Plan

The participation of any Participant in this Plan is entirely voluntary and not obligatory and shall not be interpreted as conferring upon such Participant any rights or privileges other than those rights and privileges expressly provided in this Plan. In particular, participation in this Plan does not constitute a condition of employment or service nor a commitment on the part of the Corporation to ensure the continued employment or service of such Participant. The Plan does not provide any guarantee against any loss which may result from fluctuations in the market value of the Common Shares. The Corporation does not assume responsibility for the personal income or other tax consequences for the Participants and they are advised to consult with their own tax advisors.

6.8 Amendments

Subject to any shareholders agreement of the Corporation, the Board may,

(a) without notice, at any time or from time to time, amend this Plan or any provisions hereof in such respects as it, in its sole discretion, determines appropriate; provided that no such amendment shall have any adverse effect with respect to any Options outstanding as at the date of such amendment without the prior consent of the applicable Optionee(s); and

(b) subject to any required regulatory approval, at its discretion from time to time retrospectively amend the Plan and, in the event of an amendment that is adverse to the interests of the affected Optionee, with the consent of the affected Optionee, retrospectively amend the terms and conditions of any Options which have been theretofore granted.

6.9 Governing Law

This Plan will be governed and interpreted in accordance with the laws of the province of Québec and the laws of Canada applicable therein.

6.10 Corporate Action

Nothing contained in this Plan or in an Option shall be construed so as to prevent the Corporation from taking corporate action which is deemed by the Corporation to be appropriate or in its best interest, whether or not such action would have an adverse effect on this Plan or any Option, including, with respect to an Option previously granted, any adjustments to the Exercise Price, Exercise Period or number of Option Shares, provided that any such adjustment is required by any securities exchange or applicable securities laws.

6.11 Notices

All written notices to be given by the Optionee to the Corporation shall be delivered personally or by registered mail, postage prepaid, email with receipt, addressed as follows:

Milestone Pharmaceuticals Inc.

420-1111 boul. Dr.-Frederik-Philips
Montréal (Québec) H4M 2X6
Attention: President

Any notice given by the Optionee pursuant to the terms of an Option shall not be effective until actually received by the Corporation at the above address.

THIS THIRD AMENDED AND RESTATED STOCK OPTION PLAN was adopted by the board of directors of Milestone Pharmaceuticals Inc. on October 15, 2018.

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MILESTONE PHARMACEUTICALS INC.

By: /s/ Joseph G. Oliveto
Name: Joseph G. Oliveto
Title: President and CEO

Signature Page to Third Amended and Restated Stock Option Plan

SCHEDULE A
AMENDED AND RESTATED FORM OF NOTICE OF GRANT
PERSONAL & CONFIDENTIAL

.

Re: Grant of Options

Dear ·:

This letter is to inform you that Milestone Pharmaceuticals Inc. (the "**Corporation**") is granting you an option to purchase **[number]** common shares in the share capital of the Corporation at a price of $**[price]** per share ("**Common Shares**").

Your option will vest as follows:

Percentage of Total Number of Option Shares that may be Purchased	Vesting Date
25%	From the first anniversary of the Vesting Commencement Date.
2.0833%	At the end of each month after the first anniversary of the Vesting Commencement Date.

Your option expires on **[date]**.

Your option, when vested as set out above, may be exercised by you in whole or in part at any time prior to its expiry by delivery of an (i) an executed Subscription Form and Undertaking (see the form attached as Schedule 1 to this letter) to the Corporation's head office to the Chief Executive Officer specifying the number of shares to be purchased and (ii) an executed Option Agreement (see the form attached as Schedule 2 to this letter), accompanied by a cash payment, money order, bank draft or certified cheque representing payment in full of the exercise price for the purchase of the Common Shares.

The Corporation has the right to amend, in the future, the stock option plan (the "**Stock Option Plan**") attached hereto. You understand and acknowledge that, when the Corporation amends the Stock Option Plan, your option will become subject to the terms and conditions of the Stock Option Plan, as amended and restated from time to time, provided that the number of underlying shares, exercise price, vesting schedule and expiry date of your option will not be affected.

In order to make this grant of option effective you must sign and deliver a copy of this letter to the Corporation and in doing so, you acknowledge and agree to the following:

1. All capitalized terms in the following paragraphs 2 to 11 **[12]** have the meanings set forth in the Stock Option Plan.

2. You have received and agree to the terms of the Stock Option Plan.

3. Subject to Sections 4.9 and 5.4 of the Stock Option Plan and unless otherwise determined by the Plan Administrator, in its discretion, at the time of granting an Option, each Option is exercisable in the instalments set forth in Section 4.4 of the Stock Option Plan.

4. In no event is the Option granted hereunder exercisable after the expiration of the relevant Exercise Period.

5. No fractional Common Shares will be issued on the exercise of the Option granted hereunder. If, as a result of any adjustment to the number of Common Shares issuable on the exercise of the Option granted hereunder pursuant to the Stock Option Plan, you would be entitled to receive a fractional Common Share, you have the right to acquire only the adjusted number of full Common Shares and no payment or other adjustment will be made with respect to the fractional Common Shares so disregarded.

6. Nothing in the Stock Option Plan or in this letter will affect the Corporation's right, or that of a Related Entity, to terminate the employment of, term of office of, or consulting agreement or arrangement with you at any time for any reason whatsoever. Upon such termination, your rights to exercise Options will be subject to restrictions and time limits for the exercise of Options. Complete details of such restrictions are set out in the Stock Option Plan, and in particular in Sections 4.6 and 4.7 of the Stock Option Plan.

7. Each notice relating to the Option, including the exercise thereof, shall be in writing. All notices to the Corporation shall be delivered personally or by prepaid registered mail and shall be addressed to the Chief Executive Officer of the Corporation. All notices to you shall be addressed to your principal address or email address on file with the Corporation. Either the Corporation or you may designate a different address by written notice to the other. Such notices are deemed to be received, if delivered personally, on the date of delivery, and if sent by prepaid, registered mail, on the fifth business day following the date of mailing and if sent by email upon receipt of a receipt of delivery. Any notice given by either you or the Corporation is not binding on the recipient thereof until received.

8. When the issuance of Common Shares on the exercise of the Option may, in the opinion of the Corporation, conflict or be inconsistent with any applicable law or regulation of any governmental agency having jurisdiction, the Corporation reserves the right to refuse to issue such Common Shares for so long as such conflict or inconsistency remains outstanding. The Corporation may postpone the issuance of Common Shares until it receives satisfactory proof that the issuance of such Shares will not violate any of the provisions of the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, any rules or regulations of the Securities and Exchange Commission ("**SEC**") promulgated thereunder, or the requirements of applicable state law or provincial law relating to authorization, issuance or sale of securities, or until there has been compliance with the provisions of such acts or rules. You understand that the

Corporation is under no obligation to register or qualify the Common Shares with the SEC, any state securities commission or any stock exchange to effect such compliance.

9. Subject to Section 4.6 of the Stock Option Plan, the Option granted pursuant to this notice may only be exercised by you personally and, subject to Section 3.6 of the Stock Option Plan, no assignment or transfer of the Option, whether voluntary, involuntary, by operation of law or otherwise, vests any interest or right in such Option whatsoever in any assignee or transferee, and immediately upon any assignment or transfer or any attempt to make such assignment or transfer, the Option granted hereunder terminates and is of no further force or effect. Complete details of this restriction are set out in the Stock Option Plan.

10. In the event of a Liquidity Event, all non-vested Options will become fully vested and become exercisable contemporaneously with the later of the completion of the transaction resulting in a Liquidity Event or your termination, if you are terminated in connection with the Liquidity Event or within twelve months thereafter. The Corporation will provide reasonable advance notice of an anticipated Liquidity Event such that you can exercise the Option in connection with such event as described in this paragraph.

11. You further agree that:

    a. any rule, regulation or determination, including the interpretation by the Plan Administrator, in its discretion, the Option granted hereunder and the exercise thereof, is final and conclusive for all purposes and binding on all persons including the Corporation and yourself; and

    b. the grant of the Option does not affect in any way the right of the Corporation or any Related Entity to terminate your employment, term of office or consulting service.

    c. the Shares to be acquired upon exercising this Option will be acquired for investment, and not with a view to the sale or distribution thereof.

    d. this Amended and Restated Notice of Option Grant constitutes the sole and entire agreement between the Parties with respect to the stock options to purchase the Common Stock described herein, and supersedes all prior and contemporaneous understandings, agreements, representations, and warranties, both written and oral, with respect to such subject matter.

12. **[NOTE: *For U.S. taxpayers, include the following sentence UNLESS the options are intended to be ISOs*: The Options granted pursuant to this letter are non-qualified share options and are not intended to be incentive stock options under Section 422 of the Internal Revenue Code.][NTD: Corporation will lose the U.S. tax deduction associated with exercise of non-ISOs and takes on other year-end reporting burdens.]**

13. **[NOTE: *For U.S. taxpayers, include the following sentence IF the options are intended to be ISOs*: The Options granted hereby is intended to be an ISO and the Optionee acknowledges and agrees that Section 4.12 of the Stock Option Plan is applicable to the Option and the Optionee.]**

Please return the signed copy of this letter to the Corporation, to the attention of the Chief Executive Officer. By signing and delivering a copy of this letter, you are agreeing to be bound by the terms of this letter and the Stock Option Plan.

Yours truly,

MILESTONE PHARMACEUTICALS INC.

By: _____
Name:
Title:

Accepted and agreed:

_____
.

Date: _____

SCHEDULE B

MILESTONE PHARMACEUTICALS INC. (THE "CORPORATION")

SUBSCRIPTION FORM AND UNDERTAKING

Date _____

Attention of the Secretary, Mr., Mrs., Ms. _____

I, the undersigned, _____, hereby subscribe for _____ (_____) common shares in the share capital of the Corporation (the "**Common Shares**") out of the _____ (_____) Common Shares available for purchase by the undersigned, and I enclose herewith my cash, money order, bank draft or certified cheque made payable to the order of the Corporation in the amount of _____ dollars (____) in payment of the said subscription. The undersigned declares himself/herself bound by each of the provisions of the Corporation's current Option Agreement, which he/she undertakes to respect effective from the registration of the undersigned in the share register of the Corporation. The undersigned further recognizes having received copy of said Option Agreement, having examined same thoroughly, having obtained, if needed, the services of legal counsel to provide interpretation of same, having clearly understood all of its provisions and conditions and undertakes to execute such Option Agreement.

Signature _____

Name _____

Address _____

_____

Telephone _____

SCHEDULE C

OPTION AGREEMENT

(SEE ATTACHED)

THE OPTION AGREEMENT between Milestone Pharmaceuticals Inc. (the "**Corporation**") and _____ (the "**Holder**"), dated _____ (the "**Effective Date**").

WHEREAS

(a) Holder owns common shares ("**Shares**") in the share capital of the Corporation that he/she acquired as a result of the exercise of options to purchase such shares granted by the Corporation pursuant to the Stock Option Plan; and

(b) It is a condition of Holder owning the Shares that Holder execute and deliver this Option Agreement.

(c) The terms and conditions of the Stock Option Plan are hereby incorporated by reference as terms and conditions of this Option Agreement and all capitalized terms used herein, unless expressly defined in a different manner, have the meanings ascribed thereto in the Stock Option Plan.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH:

1. **Definitions**

1.1 The following terms when used herein shall have the meaning hereinafter ascribed:

1.1.1 "**Articles**" means the articles of incorporation of the Corporation as amended or continued from time to time;

1.1.2 "**Change of Control**" has the meaning set forth in the Articles;

1.1.3 "**Class A1 Preferred Shares**" means the Class A1 Preferred Shares in the share capital of the Corporation;

1.1.4 "**Class A2 Preferred Shares**" means the Class A2 Preferred Shares in the share capital of the Corporation;

1.1.5 "**Class B Preferred Shares**" means the Class B Preferred Shares in the share capital of the Corporation;

1.1.6 "**Class C Preferred Shares**" means the Class C Preferred Shares in the share capital of the Corporation;

1.1.7 "**Class D1 Preferred Shares**" means the Class D1 Preferred Shares in the share capital of the Corporation;

1.1.8 "**Class D2 Preferred Shares**" means the Class D2 Preferred Shares in the share capital of the Corporation;

1.1.9 "**Escrow Agent**" means the Chief Executive Officer as that position is filled from time to time or such other person (including any officer of the Corporation) as may be designated from time to time by resolution of the Board and who agrees to act as Escrow Agent hereunder;

1.1.10 "**Market Stand-Off**" has the meaning set forth in Section 9.1.2;

1.1.11 "**Preferred Majority**" has the meaning set forth in the Articles.

1.1.12 "**SEC**" means the United States Securities and Exchange Commission;

1.1.13 "**Section 409A**" means Section 409A of the United States Internal Revenue Code of 1986, as amended;

1.1.14 "**Securities Act**" means the United States Securities Act of 1933, as amended;

1.1.15 "**Separation from Service**" has the meaning set forth in Section 9.2;

1.1.16 "**Specified Employee**" has the meaning set forth in Section 9.2;

1.1.17 "**Stock Option Plan**" means the Third Amended and Restated Stock Option Plan adopted on October **15**, 2018, by the Corporation, as amended, from time to time in accordance with its terms.

2. **Transfer of shares restricted**

2.1 Until such time as the Corporation shall have completed an Initial Public Offering, Holder shall not sell, transfer, pledge, hypothecate, charge or otherwise alienate any or all of Shares or any interest therein without the prior permission of the Board. To ensure that that undertaking (and the ones contained at Sections 3 and 6 below) is met, the share certificates representing the Shares shall be held in escrow by the Escrow Agent and the Escrow Agent is hereby irrevocably authorized and directed by Holder to comply, on Holder's behalf and in Holder's name and stead, with all of the Holder's obligations (including compliance with Section 3 hereof) under this Option Agreement.

2.2 Should the Corporation complete a Liquidity Event or Initial Public Offering, Holder will be free to sell, transfer, pledge, hypothecate, charge or otherwise alienate the Shares held at such time in accordance with the Liquidity Event or subsequent to the Initial Public Offering, subject to applicable securities regulatory requirements and any escrow or hold requirements of underwriters or selling agents of the Corporation's Initial Public Offering.

3. **Offer to purchase a majority of the Corporation's Shares**. In the event that an offer (an "**Offer**") for a an event that would result in a Liquidity Event is made by any party (the "**Offeror**") to and accepted by a Preferred Majority (the "**Accepting Shareholders**"); the Holder undertakes to and shall, upon written request of the Corporation or the Accepting

Shareholders, sell to the proposed Offeror all of the Shares and/or otherwise comply with the terms of the agreements or arrangements of the Change of Control at the price per Share payable under the Offer, for such Share which price shall be paid in accordance with (including in the manner, form and time of closing) the terms of the Offer. This provision will apply mutatis mutandis to any future compulsory purchase or compulsory sale provisions contained in the Corporation's then-current shareholders agreement.

4. **Bankruptcy**. In the event the Holder is declared bankrupt or becomes insolvent or is deprived of the legal ownership or possession of Holder's assets, the Holder's Shares shall not be transferred to a third party without the written consent of the Board. Prior to any such potential transfer, the Holder will be deemed to have sold, immediately before such event, all of the Shares to the Corporation or a person or persons designated by it, for the total sum of one dollar payable on demand.

5. **Legend on share certificates**. Subject to Section 9.1.4, Share certificates issued to Holder (and held hereunder by the Escrow Agent) shall bear the following legend (or the French version of such legend):

> "*There are restrictions on the right to transfer the shares represented by this certificate. In addition, such shares are subject to an Option Agreement dated _____, as the same may be amended from time to time, and may not be hypothecated, pledged, sold or otherwise transferred except in accordance with the provisions thereof.*"

6. **Financing**. In the event that any lender or investor of the Corporation requires that the Holder become a party to any shareholders agreement or other contract affecting the Corporation or the Shares, the Holder shall enter into such agreement upon such terms and conditions as may be agreed to by the Board. Holder hereby grants Escrow Agent an unconditional and irrevocable power of attorney and mandate (i) to sign on behalf and in the name and stead of the Holder any such shareholders agreement or other contract and all documents, instruments, articles and resolutions necessary to give effect to such shareholders agreement or other contract or the transactions therein contemplated, and (ii) to do or cause to occur all actions in furtherance of the foregoing.

7. **Application**. For greater certainty, the present Option Agreement applies to any and all Shares currently held by Holder and any and all Shares hereafter acquired by Holder, unless the parties to this Option Agreement agree otherwise in writing.

8. **Escrow Agent**

8.1 The Holder represents and warrants that Holder is the beneficial owner of the Shares issued in Holder's name.

8.2 The Holder does hereby deliver to the Escrow Agent certificates in respect of the Shares, which Shares shall be held by the Escrow Agent under and pursuant to the terms and conditions hereof.

8.3 The Escrow Agent acknowledges that in his quality as Escrow Agent, he has no real or beneficial ownership in any of the Shares, such real and beneficial ownership residing solely with the Holder and all dividends or other distributions in respect of the Shares shall enure in favour of the Holder.

8.4 In the event that the Escrow Agent shall receive any shares of the Corporation issued by way of a share dividend or share split upon the Shares, he shall hold such shares pursuant to the terms of this Option Agreement.

8.5 It shall be the duty of the Escrow Agent and he shall have the full power and authority and he is hereby fully and irrevocably empowered and authorized to (i) receive on behalf of the Holder all notices of shareholders meetings and all communications generally sent by the Corporation to its shareholders, (ii) represent the Holder and the Holder's Shares transferred to the Escrow Agent as aforesaid, and to vote upon the said Shares, as in the judgement and discretion of the Escrow Agent may be in the best interests of the Corporation, at all meetings of shareholders of the Corporation for the election of directors and for all other matters in question which may be brought before such meetings, as fully as the Holder might do if personally present, and (iii) sign, with respect to Holder's Shares and Holder's status as a shareholder of the Corporation, all resolutions, instruments, consents, waivers, approvals and other documents on behalf of the Holder and in the Holder's name as the Escrow Agent deems appropriate in his discretion.

8.6 The Escrow Agent shall possess and be entitled to exercise in his sole and absolute discretion all shareholders' rights of every kind in respect of all Shares or other shares or securities deposited hereunder (save the right to receive cash dividends and other cash distributions) including the right to vote and to take part in or consent to any corporate or shareholders' action as a holder of such shares or other securities. The Holder shall have no right to vote or take part in or consent to any corporate or shareholders' action in respect of all or any such Shares or other securities, or in any way to bind or govern the decisions, actions or discretions of the Escrow Agent in respect of all of such shares or other securities.

8.7 The rights, privileges, proxy, mandate and power of attorney herein given by the Holder to the Escrow Agent are irrevocable.

8.8 The Escrow Agent may delegate his authority hereunder and may appoint a proxy or mandatary to attend meetings, sign documents or otherwise act for him and in the name of the Holder. The Escrow Agent may act as a director or officer of the Corporation and shall be entitled to receive remuneration therefrom. The Escrow Agent shall not be entitled to remuneration for acting in such capacity.

8.9 By way of supplement to the provisions of law or regulation for the time being in effect relating to mandataries, it is agreed:

8.9.1 That the Escrow Agent shall not incur any liability or responsibility by reason of any error of law or mistake or any matter or thing done or

permitted to be done under or in relation to this Option Agreement except for his own individual gross negligence or intentional fault;

8.9.2 That the Escrow Agent may, in relation to this Option Agreement, act on the opinion or advice of a lawyer, accountant, broker or other expert, and shall not be responsible for any loss occasioned by so acting, and shall incur no liability or responsibility for deciding in good faith not to act upon any such opinion or advice; and

8.9.3 Any person appointed Escrow Agent under the provisions hereof shall be vested with all the responsibilities, duties and powers as though originally named herein. Any Escrow Agent may resign at any time by delivering a 3-day notice in writing to the Holder. Upon receipt of the resignation of the Escrow Agent, a new Escrow Agent shall be appointed by the Board.

8.10 In the event of the dissolution or total or partial liquidation of the Corporation, whether voluntary or involuntary, the Escrow Agent shall receive the monies, securities, rights and property to which the Holder is entitled, and shall distribute the same to the Holder.

8.11 In the event that the Corporation is amalgamated, merged or consolidated with any other closely held Corporation, or all or substantially all the assets of the Corporation are transferred to another closely held Corporation, then in connection with such transfer the term "Corporation" for all purposes of this Option Agreement shall be taken to include such successor closely held Corporation and the Escrow Agent shall receive and hold under this Option Agreement any shares which such successor Corporation issues on account of the ownership by the Holder of the Shares. The term "shares" as used in this Section shall be taken to include any shares of capital stock which may be received by the Escrow Agent resulting from such amalgamation, merger, consolidation or transfer. For the purposes hereof, "closely held" means a Corporation that has not made a public offering.

9. Purchase for Purpose of Investment.

9.1 For Holders who are resident of the United States:

9.1.1 Securities Law Restrictions. Regardless of whether the offering and sale of Shares under the Stock Option Plan have been registered under the Securities Act, or have been registered or qualified under the securities laws of any state, the Corporation at its discretion may impose restrictions upon the sale, pledge or other transfer of such Shares (including the placement of appropriate legends on certificates or the imposition of stop- transfer instructions) if, in the judgment of the Corporation, such restrictions are necessary or desirable in order to achieve compliance with the Securities Act, the securities laws of any state or any other law.

9.1.2 Market Stand-Off. In connection with any underwritten public offering by the Corporation of its equity securities pursuant to an effective registration statement filed under the Securities Act, including the Corporation's initial public offering, Holder shall not directly or indirectly sell, make any short sale of, loan, hypothecate, pledge, offer, grant or sell any option or other contract for the purchase of, purchase any option or other contract for the sale of, or otherwise dispose of or transfer, or agree to engage in any of the foregoing transactions with respect to, any Shares acquired under this Option Agreement without the prior written consent of the Corporation. Such restriction (the "**Market Stand-Off**") shall be in effect for such period of time following the date of the final prospectus for the offering as may be required by the Corporation; provided, however, that with respect to any particular underwritten public offering, such period shall not exceed 180 days.

In the event of any adjustment of, changes in or additions to the Shares, any new, substituted or additional interests or securities which are by reason of such adjustment, change or addition distributed with respect to any Shares subject to the Market Stand-Off, or into which such Shares thereby become convertible, shall immediately be subject to the Market Stand-Off. In order to enforce the Market Stand-Off, the Corporation may impose stop-transfer instructions with respect to the Shares acquired under this Option Agreement until the end of the applicable stand-off period. The Corporation's underwriters shall be beneficiaries of the agreement set forth in this Section 9.1.2. This Section 9.1.2 shall not apply to Shares that are registered in a public offering under the Securities Act.

9.1.3 Investment Intent at Exercise. In the event that the sale of Shares under the Stock Option Plan is not registered under the Securities Act but an exemption is available which requires an investment representation or other representation, the Holder shall represent and agree at the time of exercise that the Shares being acquired upon exercising this Option are being acquired for investment, and not with a view to the sale or distribution thereof, and shall make such other representations as are deemed necessary or appropriate by the Corporation and its counsel.

9.1.4 Legends. If the Corporation chooses to deliver certificates to evidence the Shares purchased under this Option Agreement by a Holder who is a United States resident in an unregistered transaction, all such certificates shall also bear the legend set forth in Section 5 as well as the following legend (and such other restrictive legends as are required or deemed advisable under the provisions of any applicable law):

"THE SHARES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT") OR THE SECURITIES LAWS OF ANY OTHER JURISDICTION,

AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL (A) REGISTERED UNDER THE SECURITIES ACT OR THE SECURITIES LAWS OF ANY OTHER JURISDICTION, OR (B) IN THE OPINION OF COUNSEL, IN FORM AND SUBSTANCE SATISFACTORY TO BILLPOINT, SUCH OFFER, SALE, TRANSFER, PLEDGE OR HYPOTHECATION IS IN COMPLIANCE THEREWITH."

9.1.5 Removal of Legends. If, in the opinion of the Corporation and its counsel, any legend placed on a share certificate representing Shares sold under this Option Agreement is no longer required, the holder of such certificate shall be entitled to exchange such certificate for a certificate representing the same number of Shares but without such legend.

9.1.6 Administration. Any determination by the Corporation and its counsel in connection with any of the matters set forth in this Section 9 shall be conclusive and binding on the Holder and all other persons.

9.2 The Holder acknowledges and agrees that the Corporation makes no representation about the applicability of "**Section 409A**" to this Option Agreement and the Holder covenants and agrees that the Corporation shall have no liability to the Holder in the event that Section 409A applies to this Option Agreement. The Holder acknowledges and agrees that he is solely responsible for all U.S. tax obligations arising in relation to this Option Agreement.

In the event that any non-qualified deferred compensation (as determined under Section 409A) is payable upon the Holder's Separation from Service under this Option Agreement, or any other plan in which the Holder participates, then notwithstanding anything else in the applicable agreement or plan, if the Holder is a Specified Employee, no amount shall be payable prior to the six months from the date that the Holder experiences a Separation from Service.

For the purposes of this Section 9.2, "**Separation from Service**" shall have the meaning given thereto under Section 409A and the regulations and authority thereunder; and "**Specified Employee**" shall have the meaning set forth in Section 409A and the regulations and authority thereunder and shall be determined in accordance with the Corporation's regular process for the identification of "**Specified Employees**".

10. **Governing Law**. This Option Agreement will be governed and interpreted in accordance with the laws of the province of Québec and the laws of Canada applicable therein.

11. **Severability**. Each provision of this Option Agreement constitutes a distinct covenant, such that any decision of a court or tribunal to the effect that any of the provisions of this Option Agreement is null or unenforceable shall in no way affect the validity or enforceability of the other provisions hereof.

12. **Language**. This Option Agreement and the schedules thereto as well as the notices and other communications to be given or made pursuant hereto have been or will be in the English language at the express request of Holder. *La présente convention, les annexes aux présentes et tous avis, et autres communications donnés ou faits en vertu de cette convention, ont été rédigés en anglais à la demande expresse du détenteur d'actions*.

[The remainder of this page has been intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have executed this Option Agreement and dated same as of the Effective Date.

MILESTONE PHARMACEUTICALS INC.

By: _____
(Officer)

_____
Holder Name:

_____
Escrow Agent Name:

SCHEDULE D

NOTICE OF SURRENDER OF VESTED OPTIONS

TO: MILESTONE PHARMACEUTICALS INC. (the "**Corporation**")

and the Board of Directors

WHEREAS the undersigned holds _____ vested options (the "**Vested Options**") pursuant to the Stock Option Plan of the Corporation, as amended from time to time, entitling the undersigned to purchase common shares in the capital of the Corporation; and

WHEREAS the Corporation has agreed to allow the undersigned to surrender the Vested Options.

NOW, THEREFORE, the undersigned hereby elects to surrender the Vested Options and requests that the Corporation terminate the Vested Options in exchange for a cash payment to the undersigned equal to the excess of the fair market value of the common shares underlying those Vested Options, as determined by the board of directors of the Corporation as of the date of surrender of the Vested Options, over the exercise price of the Vested Options.

DATED _____, 20___