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

FORM 10-K

(Mark One)
☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from __________to __________

Commission file number: 001-38068

ZYMEWORKS INC.
(Exact name of registrant as specified in its charter)

British Columbia, Canada	**47-2569713**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

Suite 540—1385 West 8 th Avenue
Vancouver, BC V6H 3V9
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (604) 678-1388

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, no par value per share	**ZYME**	**New York Stock Exchange**

Securities registered pursuant to Section 12(g) of the Act: None

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Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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	☒	Accelerated filer	☐
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 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes ☐ No ☒

The aggregate market value of the voting and non-voting common shares held by non-affiliates of the registrant, based on the closing sale price of the registrant's common shares on the last business day of its most recently completed second fiscal quarter, as reported on the NYSE was approximately $851.7 million.

The number of outstanding common shares of the registrant, no par value per share, as of February 2 7 , 2020 was 45,518,869 .

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement in connection with the registrant's 2020 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission (the "SEC") subsequent to the date hereof, are incorporated by reference into Part III of this Form 10-K. Such proxy statement will be filed with the SEC not later than 120 days following the end of the registrant's fiscal year ended December 31, 2019.

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ZYMEWORKS INC.

FORM 10-K

For the Fiscal Year Ended December 31, 2019

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of Canadian securities laws, or collectively, forward-looking statements. Forward-looking statements include statements that may relate to our plans, objectives, goals, strategies, future events, future revenue or performance, capital expenditures, financing needs and other information that is not historical information. Many of these statements appear, in particular, under the headings "Business," "Risk Factors," and "Management's Discussion and Analysis of Financial Condition and Results of Operations". Forward-looking statements can often be identified by the use of terminology such as "subject to", "believe," "anticipate," "plan," "expect," "intend," "estimate," "project," "may," "will," "should," "would," "could," "can," the negatives thereof, variations thereon and similar expressions, or by discussions of strategy. In addition, any statements or information that refer to expectations, beliefs, plans, projections, objectives, performance or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking. In particular, these forward-looking statements include, but are not limited to:

- the size of our addressable markets and our ability to commercialize product candidates;
- the achievement of advances in and expansion of our therapeutic platforms and antibody engineering expertise;
- the likelihood of product candidate development and clinical trial progression, initiation or success; and
- our ability to predict and manage government regulation.

All forward-looking statements, including, without limitation, those related to our examination of historical operating trends, are based upon our current expectations and various assumptions. Certain assumptions made in preparing the forward-looking statements include:

- our ability to manage our growth effectively;
- the absence of material adverse changes in our industry or the global economy;
- our ability to understand and predict trends in our industry and markets;
- our ability to maintain good business relationships with our strategic partners;
- our ability to comply with current and future regulatory standards;
- our ability to protect our intellectual property rights;
- our continued compliance with third-party license terms and the non-infringement of third-party intellectual property rights;
- our ability to manage and integrate acquisitions;
- our ability to retain key personnel; and
- our ability to raise sufficient debt or equity financing to support our continued growth.

We believe there is a reasonable basis for our expectations and beliefs, but they are inherently uncertain. We may not realize our expectations, and our beliefs may not prove correct. Actual results could differ materially from those described or implied by such forward-looking statements. The following uncertainties and factors, among others (including those set forth under "Risk Factors"), could affect future performance and cause actual results to differ materially from those matters expressed in or implied by forward-looking statements:

- our ability to obtain regulatory approval for our product candidates without significant delays;
- the predictive value of our current or planned clinical trials;

- delays with respect to the development and commercialization of our product candidates, which may cause increased costs or delay receipt of product revenue;
- our, or any of our partners', ability to enroll subjects in clinical trials and thereby complete trials on a timely basis;
- the design or our execution of clinical trials may not support regulatory approval, including where clinical trials are conducted outside the United States;
- the Fast Track designations for any of our product candidates may not expedite regulatory review or approval;
- The U.S. Food and Drug Administration ("FDA") may not accept data from trials we conduct outside the United States;
- our discretion to discontinue or reprioritize the development of any of our product candidates;
- the potential for our product candidates to have undesirable side effects;
- no regulatory agency has made a determination that any of our product candidates are safe or effective for use by the general public or for any indication;
- our ability to face significant competition;
- the competitive threat of biosimilar products;
- the likelihood of broad market acceptance of our product candidates;
- our ability to obtain Orphan Drug Designation or exclusivity for some or all of our product candidates;
- our ability to commercialize products outside of the United States;
- the outcome of reimbursement decisions by third-party payors relating to our products;
- our expectations with respect to the market opportunities for any product that we or our strategic partners develop;
- our ability to pursue product candidates that may be profitable or have a high likelihood of success;
- our ability to use and expand our therapeutic platforms to build a pipeline of product candidates;
- our ability to meet the requirements of ongoing regulatory review;
- the threat of product liability lawsuits against us or any of our strategic partners;
- changes in product candidate manufacturing or formulation that may result in additional costs or delay;
- the potential disruption of our business and dilution of our shareholdings associated with acquisitions and joint ventures;
- the potential for foreign governments to impose strict price controls;
- the risk of security breaches or data loss, which could compromise sensitive business or health information;
- current and future legislation that may increase the difficulty and cost of commercializing our product candidates;
- economic, political, regulatory and other risks associated with international operations;
- our exposure to legal and reputational penalties as a result of any of our current and future relationships with various third parties;
- our ability to comply with export control and import laws and regulations;
- our history of significant losses since inception;

- our ability to generate revenue from product sales and achieve profitability;
- our requirement for substantial additional funding;
- the potential dilution to our shareholders associated with future financings;
- restrictions on our ability to seek financing, which may be imposed by future debt;
- unstable market and economic conditions;
- currency fluctuations and changes in foreign currency exchange rates;
- our ability to maintain existing and future strategic partnerships;
- our ability to realize the anticipated benefits of our strategic partnerships;
- our ability to secure future strategic partners;
- our reliance on third-party manufacturers to produce our clinical product candidate supplies and on other third parties to store, monitor and transport bulk drug substance and drug product;
- risk related to the manufacture of product candidates and difficulties in production;
- our reliance on third parties to oversee clinical trials of our product candidates and, in some cases, maintain regulatory files for those product candidates;
- our reliance on the performance of independent clinical investigators and contract research organizations ("CROs");
- our reliance on third parties for various operational and administrative aspects of our business including our reliance on third parties' cloud-based software platforms;
- the risk that natural disasters, public health crises, political crises, and other catastrophic events may damage the facilities or disrupt the operations of third parties upon which we rely;
- our ability to operate without infringing the patents and other proprietary rights of third parties;
- our ability to obtain and enforce patent protection for our product candidates and related technology;
- our patents could be found invalid or unenforceable if challenged;
- our intellectual property rights may not necessarily provide us with competitive advantages;
- we may become involved in expensive and time-consuming patent lawsuits;
- the risk that the duration of our patents will not adequately protect our competitive position;
- our ability to obtain protection under the Drug Price Competition and Patent Term Restoration Act of 1984 (the "Hatch-Waxman Amendments") and similar foreign legislation;
- we may be unable to protect the confidentiality of our proprietary information;
- our ability to comply with procedural and administrative requirements relating to our patents;
- the risk of claims challenging the inventorship of our patents and other intellectual property;
- our intellectual property rights for some of our product candidates are dependent on the abilities of third parties to assert and defend such rights;
- patent reform legislation and court decisions can diminish the value of patents in general, thereby impairing our ability to protect our products;
- we may not be able to protect our intellectual property rights throughout the world;
- we will require FDA approval for any proposed product candidate names and any failure or delay associated with such approval may adversely affect our business;

- the risk of employee misconduct including noncompliance with regulatory standards and insider trading;
- our ability to market our products in a manner that does not violate the law and subject us to civil or criminal penalties;
- if we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected;
- our ability to retain key executives and attract and retain qualified personnel;
- our ability to manage organizational growth;
- additional costs and expenses related to no longer being considered an emerging growth company or a smaller reporting company;
- our exposure to potential securities class action litigation; and
- if securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our share price and trading volume could decline.

Consequently, forward-looking statements should be regarded solely as our current plans, estimates and beliefs. You should not place undue reliance on forward-looking statements. We cannot guarantee future results, events, levels of activity, performance or achievements. We do not undertake and specifically decline any obligation to update, republish or revise forward-looking statements to reflect future events or circumstances or to reflect the occurrences of unanticipated events, except as required by law.

We own or have rights to trademarks, service marks or trade names that we use in connection with the operation of our business. In addition, our names, logos and website names and addresses are our service marks or trademarks. Azymetric, Zymeworks, ZymeCAD, EFECT, ZymeLink and the phrase “Building Better Biologics” are our registered trademarks. The other trademarks, trade names and service marks appearing in this Annual Report on Form 10-K are the property of their respective owners. Solely for convenience, the trademarks, service marks, tradenames and copyrights referred to in this Annual Report on Form 10-K are listed without the ©, ® and TM symbols, but we will assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensors to these trademarks, service marks and tradenames.

We express all amounts in this Annual Report on Form 10-K in U.S. dollars, except where otherwise indicated. References to “$” and “US$” are to U.S. dollars and references to “C$” are to Canadian dollars.

Except as otherwise indicated, references in this Annual Report on Form 10-K to “Zymeworks,” “the Company,” “we,” “us” and “our” refer to Zymeworks Inc. and its consolidated subsidiaries.

PART I

Item 1. Business

Overview

Zymeworks is a clinical-stage biopharmaceutical company dedicated to the development of next-generation multifunctional biotherapeutics. Our suite of complementary therapeutic platforms and our fully integrated drug development engine provide the flexibility and compatibility to precisely engineer and develop highly differentiated product candidates. These capabilities have resulted in multiple product candidates with the potential to drive positive outcomes in large underserved and unaddressed patient populations.

Our lead product candidate, ZW25, is a novel bispecific (dual-targeting) antibody that targets two distinct domains of the human epidermal growth factor receptor 2 ("HER2"). The unique mechanism of action of ZW25 may enable it to address unmet need in patient populations with HER2-expressing cancers, including those with lower levels of expression, for which there are no approved HER2-targeted agents. In clinical trials, single agent ZW25 and ZW25 in combination with chemotherapy have been well tolerated with promising anti-tumor activity in patients with heavily pretreated HER2-expressing cancers that have progressed after standard of care, including multiple HER2-targeted regimens. In 2019, we initiated a global multicenter Phase 2 clinical trial evaluating ZW25 in combination with standard of care chemotherapy for the first-line treatment of HER2-positive metastatic gastroesophageal adenocarcinomas ("GEA"). Recently, we initiated a second Phase 2 clinical trial evaluating ZW25 in combination with Pfizer's Ibrance ® (palbociclib) and fulvestrant in patients with previously-treated locally advanced and/or metastatic HER2-positive, hormone receptor ("HR")-positive breast cancer. In addition, ZW25 continues to be evaluated in multiple expansion cohorts in the ongoing Phase 1 trial as a single agent in several indications including biliary tract ("BTC"), colorectal, gynecological and other HER2-expressing cancers.

Our second product candidate, ZW49, combines the unique design of ZW25 with our ZymeLink antibody-drug conjugate ("ADC") platform, comprised of our proprietary cytotoxin (cancer cell-killing compound) and cleavable linker. We designed ZW49 to be a best-in-class HER2-targeting ADC to further address unmet need across a range of HER2-expressing cancers. A Phase 1 clinical trial to establish safety and anti-tumor activity of ZW49 began in 2019.

We are also advancing a deep pipeline of preclinical product candidates and discovery-stage programs in oncology (including immuno-oncology ("I-O") agents) and other therapeutic areas.

Our proprietary capabilities and technologies include several modular, complementary therapeutic platforms that can be used in combination with each other and with existing approaches. This ability to layer technologies without compromising manufacturability enables us to engineer next-generation biotherapeutics with synergistic activity, which we believe will result in improved patient outcomes. Our core platforms include:

- ***Azymetric*** , our bispecific platform, which enables therapeutic antibodies to simultaneously bind multiple distinct locations on a target (known as an epitope) or to multiple targets. This is achieved by tailoring multiple configurations of the antibody's Fab regions (locations on the antibody to which epitopes bind);
- ***ZymeLink,*** our ADC platform, comprised of cytotoxins and the linker technology used to couple these cytotoxins to tumor-targeting antibodies or proteins. This platform can be used in conjunction with our other therapeutic platforms to increase safety and efficacy as compared to existing ADC technologies; and
- ***EFECT,*** which enables finely tuned modulation (both up and down) of immune cell recruitment and function.

Our protein engineering expertise and proprietary structure-guided molecular modeling capabilities enable these therapeutic platforms. Together with our internal antibody discovery and generation technologies, we have established a fully integrated drug development engine and toolkit capable of rapidly delivering a steady pipeline of next-generation product candidates in oncology and other therapeutic areas.

Our Azymetric, EFECT and ZymeLink therapeutic platforms have been further leveraged through multiple revenue-generating strategic partnerships with the following global pharmaceutical companies: Merck Sharp & Dohme Research GmbH (“Merck”), Eli Lilly and Company (“Lilly”), Celgene Corporation and Celgene Alpine Investment Co. LLC (formerly “Celgene” and now a Bristol-Myers Squibb company, “BMS”), GlaxoSmithKline Intellectual Property Development Limited (“GSK”), Daiichi Sankyo Co., Ltd. (“Daiichi Sankyo”), Janssen Biotech, Inc. (“Janssen”), LEO Pharma A/S (“LEO”), BeiGene, Ltd. (“BeiGene”) and Iconic Therapeutics, Inc. (“Iconic”).

Our Strategy

Our goal is to leverage our next-generation therapeutic platforms and proprietary protein engineering capabilities to become a domain dominator in the discovery, development and commercialization of best-in-class multifunctional biotherapeutics for the treatment of cancer and other diseases with high unmet medical need.

Our key priorities to achieve this goal are to:

- initiate ZW25 registration-enabling studies in 2 nd line HER2-positive BTC and 1 st line HER2-positive GEA;
- report ZW49 Phase 1 dose-escalation data and initiate expansion cohorts;
- expand ZW25 clinical development into additional HER2-expressing cancers;
- report ZW25 Phase 2 chemotherapy combination data from 1 st line HER2-positive GEA; and
- continue building a strong preclinical pipeline through internal R&D and external partnerships.

Product Candidate Pipeline and Advanced Preclinical and Discovery Programs

We currently have two lead product candidates in clinical development and several product candidates in preclinical development that leverage our multiple therapeutic platforms to address areas of significant unmet medical need. Our lead product candidates, ZW25 and ZW49, utilize the Azymetric platform to address patient populations with all levels of HER2 expression, including those with lower HER2-expressing tumors. We are also actively advancing a diverse set of preclinical and discovery programs, which leverage one or more of our proprietary therapeutic platforms to create a deep pipeline of well-differentiated product candidates for oncology and other therapeutic areas.

The table below summarizes our current product candidate pipeline.

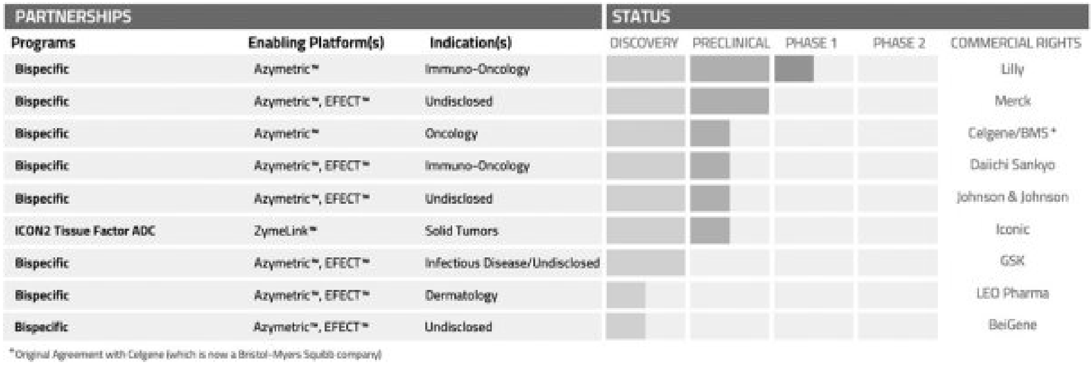
LEAD PRODUCT CANDIDATES			STATUS				
Programs	Enabling Platform(s)	Indication(s)	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	COMMERCIAL RIGHTS
ZW25 HER2 x HER2 Bispecific	Azymetric™	Biliary Tract, Gastric, Breast, Colorectal, & other HER2					Zymeworks/BeiGene*
ZW49 HER2 x HER2 Bispecific ADC	Azymetric™ ZymeLink™	HER2 Cancers					Zymeworks/BeiGene*

*BeiGene to develop and commercialize in Asia Pacific countries including China, South Korea, Australia, and New Zealand but excluding Japan

The table below summarizes the therapeutic class of our preclinical and advanced discovery programs.

PRECLINICAL AND ADVANCED DISCOVERY PROGRAMS			STATUS				
Programs	Enabling Platform(s)	Indication(s)	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	COMMERCIAL RIGHTS
Antibody-Drug Conjugates	Azymetric™, ZymeLink™	Solid Tumors					Zymeworks
T Cell Engaging Bispecifics	Azymetric™, EFECT™	Solid Tumors					Zymeworks
Microenvironment Modulators	Azymetric™, EFECT™	Solid Tumors					Zymeworks
Cytokine-Receptor Modulators	Azymetric™, EFECT™	Inflammation, Autoimmune					Zymeworks

The table below summarizes the stage of each of our partners' most advanced publicly disclosed program.



PARTNERSHIPS			STATUS				
Programs	Enabling Platform(s)	Indication(s)	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	COMMERCIAL RIGHTS
Bispecific	Azymetric™	Immuno-Oncology					Lilly
Bispecific	Azymetric™, EFECT™	Undisclosed					Merck
Bispecific	Azymetric™	Oncology					Celgene/BMS*
Bispecific	Azymetric™, EFECT™	Immuno-Oncology					Daiichi Sankyo
Bispecific	Azymetric™, EFECT™	Undisclosed					Johnson & Johnson
ICON2 Tissue Factor ADC	ZymeLink™	Solid Tumors					Iconic
Bispecific	Azymetric™, EFECT™	Infectious Disease/Undisclosed					GSK
Bispecific	Azymetric™, EFECT™	Dermatology					LEO Pharma
Bispecific	Azymetric™, EFECT™	Undisclosed					BeiGene

*Original Agreement with Celgene (which is now a Bristol-Myers Squibb company)

ZW25: HER2-Targeted Bispecific Antibody

Overview

ZW25, our lead product candidate currently being evaluated in Phase 1 and Phase 2 clinical trials in the United States, Canada, and South Korea, is based on our Azymetric platform. It is a bispecific antibody that can simultaneously bind two non-overlapping epitopes, known as biparatopic binding, of HER2 resulting in dual HER2 signal blockade, increased antibody binding, receptor clustering, removal of HER2 protein from the cell surface, and potent effector function. These combined mechanisms of action have led to activity in preclinical models of breast cancer, including trastuzumab-resistant (currently branded as Herceptin) high HER2-expressing tumors, as well as in tumors with lower levels of HER2 expression. Approximately 81% of patients with HER2-expressing breast cancer and 57% of patients with HER2-expressing gastric and gastroesophageal junction cancer have tumors that express low to intermediate levels of HER2, making them ineligible for treatment with currently approved HER2-targeted therapies, such as Herceptin and Perjeta. In addition, multiple other cancers, including BTC, colorectal, pancreatic, prostate, endometrial, ovarian, bladder, salivary gland, and non-small cell lung cancer, express HER2 at varying levels. Therefore, there is a significant unmet need for HER2-targeted agents that can effectively treat these patients.

We are developing ZW25 as a foundational HER2-targeted therapy for patients with solid tumors that overexpress HER2. We believe that ZW25 has the potential to expand the opportunity for HER2-targeted therapies to include additional tumor types and tumors with lower HER2 expression levels as well as displace currently approved HER2-targeted therapies in several indications.

Potential Advantages of ZW25

ZW25's biparatopic binding mode increases the number of antibodies bound to HER2 receptors at the cell surface relative to monospecific antibodies and promotes receptor clustering and internalization.

ZW25 mediates its therapeutic effect on HER2-expressing tumors through multiple mechanisms of action, including:

- cross-linked trans HER2 binding and HER2 receptor clustering;
- enhanced antibody internalization and HER2 downregulation;
- increased maximum binding density and potent effector function-mediated cytotoxicity; and
- enhanced blockade of ligand-dependent and ligand-independent tumor growth.

Clinical Development of ZW25

A first-in-human Phase 1 clinical trial for ZW25 commenced in September 2016, consisting of three segments. We have completed Part 1, the dose escalation segment, and identified the Phase 2 recommended dose and schedule of ZW25 as 20 mg/kg every other week. Part 2 and Part 3 of the Phase 1 clinical trial are underway and consist of five expansion cohorts that span HER2 High breast cancer, HER2 High gastric cancer, HER2 Intermediate breast cancer, HER2 Intermediate gastric cancer, and other HER2 gene amplified cancers to evaluate ZW25 as both a monotherapy (Part 2) and in combination with standard of care chemotherapy (Part 3).

ZW25 has been well tolerated with promising anti-tumor activity both as a single agent and in combination with several types of chemotherapy in patients with heavily pre-treated HER2-expressing cancer that progressed after standard of care, including multiple HER2-targeted regimens.

These data were highlighted at several medical conferences in 2019, including the European Society for Medical Oncology ("ESMO") Congress, the AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics, and the ESMO Asia Congress.

In October 2019, at the AACR-NCI-EORTC International Conference, we presented the safety and anti-tumor activity of ZW25 in combination with paclitaxel or capecitabine in 14 patients with heavily pretreated HER2-expressing GEA. Patients received a median of 2.5 prior systemic therapies, and 93% had progressed following trastuzumab treatment. Nine of 14 patients were response-evaluable. Overall, the majority of patients experienced a decrease in their target lesions with a disease control rate of 78%, comprising five (56%) partial responses and two (22%) stable disease. These responses were observed in both low and high HER2-expressing GEA. At the time of the data cut-off, four of the five partial responses had been confirmed, and five (56%) response-evaluable patients were still on study. The overall safety profile of ZW25 plus chemotherapy was similar to that seen with chemotherapy alone. The most common treatment-related adverse events ("TRAE") occurring in two or more patients were primarily Grade 1 or 2 and manageable with symptomatic treatment.

In November 2019, at ESMO Asia, we presented updated single agent ZW25 safety and anti-tumor activity in 69 patients diagnosed with HER2-expressing solid tumors other than breast cancer who received ZW25 at the recommended dose of either 10 mg/kg weekly or 20 mg/kg every other week. Fifty-seven of 69 patients were response evaluable at the time of data cut-off. Overall, the disease control rate ("DCR") was 70%, comprising 25 (44%) partial responses and 15 (26%) with stable disease, and 18 (32%) patients experienced disease control for greater than six months. In the nine evaluable BTC patients, the DCR was 78%, and the objective response rate ("ORR") was 67%. In the 13 colorectal cancer and 23 GEA patients, ORRs were 46% and 39%, respectively. The overall median progression-free survival was 5.5 months and was still evolving at time of data cut-off.

Overall in our Phase 1 study, ZW25 has been well tolerated with the majority of treatment-related adverse events Grade 1 or 2 in severity.

We are currently evaluating ZW25, in the following clinical trials:

- NCT02892123 – Phase 1 study to evaluate the maximal tolerated dose, optimal biological dose or other recommended dose, and overall safety and tolerability of ZW25 in patients with locally advanced (unresectable) and/or metastatic HER2-expressing cancers.
- NCT03929666 – A multicenter, global, Phase 2, open-label, two-part, 1st line study to investigate the safety, tolerability, and anti-tumor activity of ZW25 plus physician's choice of combination chemotherapy in HER2-expressing GEA. Eligible patients include those with unresectable, locally advanced, recurrent or metastatic HER2-expressing GEA.
- NCT04224272 – A multicenter, global, Phase 2, open-label, two-part study. Part one of the study will evaluate the safety and tolerability of ZW25 in combination with palbociclib and fulvestrant and identify the recommended doses ("RD") of ZW25 and palbociclib. Part two of the study will evaluate anti-tumor activity at the RD level.

In addition, we are planning to evaluate ZW25 plus chemotherapy vs Herceptin ® plus chemotherapy in a registration enabling trial in 1 st line GEA and as a single agent in a registration-enabling trial in 2 nd line BTC. We also plan to explore ZW25 in combination with chemotherapy in HER2 expressing neoadjuvant breast cancer, in refractory colorectal cancer, and in combination with other immune-oncology and targeted-therapy drugs.

ZW25 has been granted Fast Track Designation from the FDA for the treatment of HER2-overexpressing GEA and BTC and has Orphan Drug Designation for BTC, GEA and ovarian cancer.

ZW49: HER2-Targeted Bispecific ADC

Overview

ZW49, our second product candidate, is currently being evaluated in a Phase 1 clinical trial. It is a biparatopic anti-HER2 ADC developed based on Zymeworks' proprietary Azymetric and ZymeLink platforms and combines the unique design of ZW25 with a proprietary ZymeLink cytotoxin and cleavable linker. We are developing ZW49 as a best-in-class HER2-targeting ADC for several indications characterized by HER2 expression, especially for patients whose tumors have progressed or are refractory to HER2-targeted agents and those that express lower levels of HER2 and are ineligible for treatment with HER2-targeted therapies including T-DM1.

Potential Advantages of ZW49

ZW49 combines the Azymetric biparatopic anti-HER2 antibody ZW25 with our proprietary ZymeLink cytotoxin and cleavable linker. Our cytotoxin destabilizes tubulin, a protein necessary for cell division, and therefore kills rapidly dividing cancer cells. Compared to existing approved HER2-targeted therapies, ZW49 mediates a superior therapeutic effect on HER2expressing tumors through multiple potential mechanisms, including:

- Increased maximum HER2 binding density
- Unique biparatopic-induced HER2 receptor clustering
- Increased HER2-mediated ADC internalization
- Enhanced toxin-mediated cytotoxicity and tumor growth inhibition

Preclinical Development of ZW49

In preclinical studies, ZW49 demonstrated complete tumor regressions in a panel of high and low HER2-expressing patient-derived xenografts and promising efficacy in a model of breast cancer brain metastases. These results compared favorably when benchmarked against approved and leading HER2 ADCs in clinical development. In a repeat dose toxicology study in non-human primates, ZW49 was well tolerated at 18 mg/kg, suggesting a broad therapeutic window.

Clinical Development of ZW49

We are currently evaluating ZW49 as a monotherapy in a non-randomized, open-label Phase 1 clinical trial in patients with HER2 High breast, gastric and other HER2-expressing cancers, whose disease has progressed after all standard of care therapies. The primary objective of the Phase 1 clinical trial is to characterize the safety, tolerability, pharmacokinetics and maximum tolerated dose of ZW49. The secondary objectives for the trial include evaluation of preliminary anti-tumor activity of ZW49, as well as an exploration of potential biomarkers of response. Based upon the observed safety and activity, subsequent development may focus on patients with HER2 High breast cancer, HER2 High gastric cancer, other HER2 High cancers, as well as cancers with lower levels of HER2 expression, including breast cancer.

An interim update from the ongoing ZW49 Phase 1 dose-escalation study highlighted that there have been no dose-limiting toxicities observed and the maximum tolerated dose has not been reached. With over ten patients treated, the majority of treatment-related adverse events have been grade 1 or 2, and were reversible and manageable on an outpatient basis. Preliminary results from these initial dose cohorts include anti-tumor activity.

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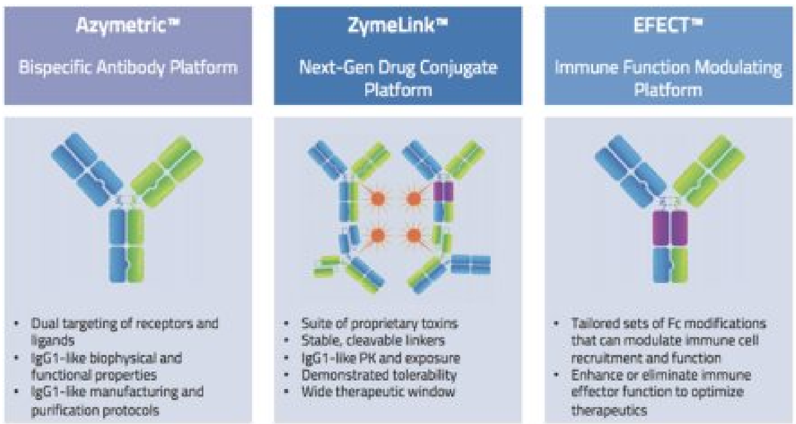
Other Product Candidates

We maintain ongoing discovery efforts to identify and test new target combinations, product candidates and platform technologies that have the potential to address unmet clinical needs. We have developed multiple undisclosed preclinical product candidates targeting a combination of known and novel tumor antigens based on our platform technologies. All of these candidates remain unpartnered. We will continue to focus on advancing multiple well-differentiated product candidates into clinical trials to build our pipeline portfolio as well as exploiting our protein engineering expertise to develop innovative therapeutic platforms.

Our Proprietary Therapeutic Platforms

Our expertise in protein engineering has enabled the development of our proprietary therapeutic platforms, a complementary suite of highly-tailored biologics solutions. Our therapeutic platforms can be used alone or in combination to develop multifunctional fit-for-purpose biotherapeutics with bispecific capabilities (Azymetric), targeted cytotoxin payload delivery (ZymeLink) and finely tuned immune function modulation (EFECT). The modular design and ease of use of our therapeutic platforms allow for the design and evaluation of multiple candidates with different formats to determine the optimal therapeutic combination early in development. We continue to leverage these therapeutic platforms to expand our pipeline of next-generation biotherapeutics that we believe could represent significant improvements to the standard of care in multiple cancer types.



Azymetric Bispecific Antibody Platform

The Azymetric platform consists of a library of proprietary amino acid substitutions that enable the transformation of monospecific antibodies into bispecific antibodies, which gives them the ability to simultaneously bind two non-overlapping epitopes. The Azymetric platform enables the development of biotherapeutics with dual-targeting of receptors/ligands and simultaneous blockade of multiple signaling pathways, increasing tumor-specific targeting and efficacy while reducing toxicities and the potential for drug resistance. In preclinical studies, the dual-targeting of Azymetric antibodies has demonstrated synergistic activity relative to the application of an equivalent dose of the corresponding monospecific antibodies. Azymetric bispecifics can also be engineered to enhance internalization of the antibody into the tumor cell and consequently increase the delivery of cytotoxins.

Azymetric bispecifics retain the desirable drug-like qualities of monoclonal antibodies, including long half-life, stability and low immunogenic potential, which increases their probability of success. Azymetric bispecifics are also compatible with standard manufacturing processes with high production yields and purity.

ZymeLink ADC Platform

The ZymeLink ADC platform is a suite of proprietary cytotoxins, stable linkers, and conjugation technologies that are compatible with our product candidates and enable delivery of cytotoxins directly to target cells. We believe that ZymeLink provides multiple competitive advantages over existing ADC approaches, including optimized activity and tolerability profiles through increased drug delivery to target cells with reduced off-target effects, as well as improved pharmacokinetics and stability.

EFECT Antibody Effector Function Modulation Platform

The EFECT platform consists of sets of modifications to the crystallizable fragment ("Fc") region of antibodies that enable the selective modulation of recruited cytotoxic immune cells for diverse therapeutic applications. This allows us to rationally tailor the selective enhancement or suppression of immune effector function to optimize product candidates.

Strategic Partnerships and Collaborations

Our novel therapeutic candidates, together with the unique combination of proprietary protein engineering capabilities and resulting therapeutic platform technologies, have enabled us to enter into a number of strategic partnerships, many of which were subsequently expanded in scope. Our strategic partnerships provide us with the ability to accelerate clinical development of our therapeutic candidates in certain geographical regions and provide our strategic partners with access to components of our proprietary Azymetric, EFECT, and/or ZymeLink therapeutic platforms for their own therapeutics development. In addition, these strategic partnerships have provided us with non-dilutive funding as well as access to proprietary therapeutic assets, which increases our ability to rapidly advance our product candidates while maintaining commercial rights to our own therapeutic pipeline. To date, we have received $186.8 million in the form of non-refundable upfront payments and milestone payments and are also eligible to receive up to $2.4 billion in preclinical and development milestone payments and $5.5 billion in commercial milestone payments under our existing collaboration agreements, as well as tiered royalties on potential future product sales. It is possible, however, that our strategic partners' programs will not advance as currently contemplated, which would negatively affect the amount of development and commercial milestone payments and royalties on potential future product sales we may receive. Importantly, these partnerships include predominantly non-target-exclusive licenses for any of our therapeutic platforms, so we maintain the ability to develop therapeutics directed to many high-value targets utilizing our platforms. Our strategic partnerships include the following:

Research and License Agreement with Merck

In August 2011, we entered into a research and license agreement with Merck, which was amended and restated in December 2014, to develop and commercialize three bispecific antibodies generated through the use of our Azymetric and EFECT platforms. Under the terms of the agreement, we granted Merck a worldwide, royalty-bearing antibody sequence pair exclusive license to research, develop and commercialize certain licensed products. We are eligible to receive up to $190.75 million for various license and milestone payments. To date, we have received an upfront payment of $1.25 million and research and development related payments totaling $5.5 million. We are eligible to receive additional payments for completion of investigational new drug ("IND") enabling studies of up to $4.0 million, development milestone payments of up to $66.0 million and commercial milestone payments of up to $114.0 million. In addition, we are eligible to receive tiered royalties in the low to mid-single digits on product sales. Merck is solely responsible for the further research, development, manufacturing and commercialization of the products.

Licensing and Collaboration Agreement with Lilly

In December 2013, we entered into a licensing and collaboration agreement with Lilly, under which Lilly has the right to research, develop and commercialize one bispecific antibody generated through the use of our Azymetric platform. Under the terms of the agreement, we granted Lilly a worldwide, royalty-bearing antibody target pair-specific exclusive license to research, develop and commercialize certain licensed products. We are eligible to receive up to $52.0 million for various license and milestone payments, To date, we have received an upfront payment of $1.0 million and research and development related payments of $3.0 million, We are eligible to receive additional development milestone payments of up to $8.0 million and commercial milestone payments of up to $40.0 million. In addition, we are eligible to receive tiered royalties in the low to mid-single digits on product sales. Lilly is solely responsible for the further research, development, manufacturing, and commercialization of the products.

Second Licensing and Collaboration Agreement with Lilly

In October 2014, we entered into a second licensing and collaboration agreement with Lilly to research, develop and commercialize one bispecific antibody generated through the use of our Azymetric platform. This agreement did not alter or amend the initial 2013 agreement. Under the terms of this 2014 agreement, we granted Lilly a worldwide, royalty-bearing antibody sequence pair-specific license to research, develop and commercialize certain licensed products. We are eligible to receive up to $125.0 million in various license and milestone payments. To date, we have received research and development related payments totaling $10.0 million. We are eligible to receive additional development milestone payments of up to $20.0 million and commercial milestone payments of up to $95.0 million. In addition, we are eligible to receive tiered royalties in the low to mid-single digits on product sales. Lilly is solely responsible for the research, development, manufacturing and commercialization of the products.

Collaboration Agreement with BMS

In December 2014, we entered into a collaboration agreement with Celgene (now BMS) to research, develop and commercialize bispecific antibodies generated through the use of our Azymetric platform. This agreement was expanded in 2018 to increase the number of programs from eight to ten and to extend BMS's research period. Under the terms of the agreement, we granted BMS a right to exercise options to worldwide, royalty-bearing, antibody sequence pair-specific exclusive licenses to research, develop and commercialize certain licensed products. We received an upfront payment of $8.0 million and an expansion fee of $4.0 million. BMS has the right to exercise options on up to ten programs and if BMS opts in on a program, we are eligible to receive up to $164.0 million per product candidate (up to $1.64 billion for all ten programs), comprised of a commercial license option payment of $7.5 million, development milestone payments of up to $101.5 million and commercial milestone payments of up to $55.0 million. To date, BMS has exercised one commercial license option and we have received a total of $7.5 million in product candidate-specific payments. After conclusion of BMS's research period, BMS will be solely responsible for the research, development, manufacturing and commercialization of the products.

Collaboration and License Agreement with GSK

In December 2015, we entered into a collaboration and license agreement with GSK to research, develop and commercialize up to ten Fc-engineered monoclonal and bispecific antibodies generated through the use of our EFECT and Azymetric platforms. Under the terms of the agreement, we granted GSK a worldwide, royalty-bearing antibody target-exclusive license to new intellectual property generated to the EFECT platform under this collaboration and a non-exclusive license to the Azymetric platform to research, develop and commercialize future licensed products. We are eligible to receive up to $1.1 billion, including research, development and commercial milestone payments of up to $110.0 million for each product. In addition, we are eligible to receive tiered royalties in the low single digits on net sales of products. No development or commercial milestone payments or royalties have been received to date. We retained the right to develop up to four products, free of royalties, using the new intellectual property generated in this collaboration, and after a period of time, to grant licenses to such intellectual property for development of additional products by third parties.

Under this agreement, we are sharing certain research and development responsibilities with GSK to generate new Fc-engineered antibodies. Each party will bear its own costs for the responsibilities assigned to it during the research period. After the conclusion of the research period, each party will be solely responsible for the further research, development, manufacturing and commercialization of its own respective products.

Platform Technology Transfer and License Agreement with GSK

In April 2016, we entered into a platform technology transfer and license agreement with GSK to research, develop and commercialize up to six bispecific antibodies generated through the use of our Azymetric platform. This may include bispecific antibodies incorporating new engineered Fc regions generated under the 2015 GSK agreement. Under the terms of this 2016 agreement, we granted GSK a worldwide, royalty-bearing antibody sequence pair-specific exclusive license to research, develop and commercialize licensed products. In May 2019, this agreement was expanded to provide GSK access to Zymeworks' unique heavy-light chain pairing technology under the Azymetric platform. Under the expanded agreement, we are eligible to receive up to $1.1 billion in milestone and other payments. To date, we have received an upfront technology access fee payment of $6.0 million. We are also eligible to receive research milestone payments of up to $37.5 million, development milestone payments of up to $183.5 million and commercial milestone payments of up to $867.0 million. In addition, we are eligible to receive tiered royalties in the low to mid-single digits on product sales. GSK bears all responsibility and costs associated with research, development and commercialization of products generated using the Azymetric platform.

Collaboration and Cross-License Agreement with Daiichi Sankyo

In September 2016, we entered into a collaboration and cross-license agreement with Daiichi Sankyo to research, develop and commercialize one bispecific antibody generated through the use of our Azymetric and EFECT platforms. Under the terms of the agreement, we granted Daiichi Sankyo a worldwide, royalty-bearing antibody sequence pair-specific exclusive license to research, develop and commercialize certain licensed products. We are eligible to receive up to $149.9 million in milestone and other payments. To date, we have received an upfront technology access fee payment of $2.0 million and research and commercial option related payments totaling $4.5 million. We are also eligible to receive additional development milestone payments of up to $63.4 million, and commercial milestone payments of up to $80.0 million. In addition, we are eligible to receive tiered royalties ranging from the low single digits up to 10% on product sales. We also gained non-exclusive rights to develop and commercialize up to three products using Daiichi Sankyo's proprietary immune-oncology antibodies, with royalties in the low single digits to be paid to Daiichi Sankyo on sales of such products. Daiichi Sankyo is solely responsible for the research, development, manufacturing and commercialization of the products. Under the non-exclusive immuno-oncology antibody license to Zymeworks, we are solely responsible for all research, development and commercialization of the resulting products.

License Agreement with Daiichi Sankyo

In May 2018, we entered into a new license agreement with Daiichi Sankyo to research, develop and commercialize two bispecific antibodies generated through the use of our Azymetric and EFECT platforms. This agreement did not alter or amend the initial 2016 agreement. Under the terms of this 2018 agreement, we granted Daiichi Sankyo a worldwide, royalty-bearing, antibody sequence pair-specific, exclusive license to research, develop and commercialize certain products. We are eligible to receive up to $484.7 million in various milestone and other payments. To date, we have received an upfront technology access fee payment of $18.0 million. We are also eligible to receive development milestone payments totaling up to $126.7 million and commercial milestone payments of up to $340.0 million. In addition, we are eligible to receive tiered royalties ranging from the low single digits up to 10% on product sales. Daiichi Sankyo is solely responsible for the research, development, manufacturing and commercialization of the products.

Collaboration and License Agreement with Janssen

In November 2017, we entered into a collaboration and license agreement with Janssen to research, develop and commercialize up to six bispecific antibodies generated through the use of our Azymetric and EFECT platforms. Under the terms of the agreement, we granted Janssen a worldwide, royalty-bearing, antibody sequence pair-specific exclusive license to research, develop and commercialize certain products. We are eligible to receive up to $1.45 billion in various license and milestone payments. To date, we have received an upfront payment of $50.0 million. We are also eligible to receive development milestone payments of up to $282.0 million and commercial milestone payments of up to $1.12 billion. In addition, we are eligible to receive tiered royalties in the mid-single digits on product sales. Janssen has the option to develop two additional bispecific antibodies under this agreement subject to a future option payment. Janssen is solely responsible for the research, development, manufacturing and commercialization of the products.

Research and License Agreement with LEO

In October 2018, we entered into a research and license agreement with LEO whereby we granted LEO a worldwide, royalty-bearing, antibody sequence pair-specific exclusive license to research, develop and commercialize two bispecific antibodies, generated through the use of our Azymetric and EFECT platforms, for dermatologic indications. Zymeworks retains rights to develop antibodies resulting from this collaboration in all other therapeutic areas. Pursuant to this agreement, we received an upfront payment of $5.0 million in 2018. In addition, (i) for the first therapeutic candidate, we are eligible to receive preclinical and development milestone payments of up to $74.0 million and commercial milestone payments of up to $157.0 million together with tiered royalties on future sales of up to 20% in the United States and up to high single digits elsewhere, and (ii) for the second therapeutic candidate, we are eligible to receive preclinical and development milestone payments of up to $86.5 million and commercial milestone payments of up to $157.0 million together with tiered royalties on future sales of up to low double digits globally. For products developed by Zymeworks outside of dermatology, LEO is eligible to receive commercial milestone payments and up to single-digit royalties on future sales. No development or commercial milestone payments or royalties have been received to date. Zymeworks and LEO are jointly responsible for certain research activities, with Zymeworks’ cost to be fully reimbursed by LEO. Each party is solely responsible for the development, manufacturing, and commercialization of its own products.

Licensing and Collaboration Agreements with BeiGene

In November 2018, we entered into agreements with BeiGene whereby we granted BeiGene royalty-bearing exclusive licenses for the research, development and commercialization of ZW25 and ZW49 in Asia (excluding Japan but including the People’s Republic of China, South Korea and other countries), Australia and New Zealand. In addition, we also granted BeiGene a worldwide, royalty-bearing, antibody sequence pair-specific license to research, develop and commercialize globally three bispecific antibodies generated through the use of our Azymetric and EFECT platforms.

ZW25 & ZW49

For the research, development and commercialization licenses to ZW25 and ZW49, we received an upfront payment of $40.0 million in 2018. In aggregate for both ZW25 and ZW49, we are also eligible to receive development and commercial milestone payments of $390.0 million, together with tiered royalties from high single digits and up to 20% on future sales of the products. No development or commercial milestone payments or royalties have been received to date.

Under the agreement, Zymeworks and BeiGene are collaborating on certain global clinical studies and both Zymeworks and BeiGene will independently conduct other clinical studies in their own respective territories. Each of Zymeworks and BeiGene are responsible for all of the development and commercialization costs in their own territories.

Azymetric & EFECT Platforms

For the development and commercialization licenses of up to three bispecific antibody therapeutics using our Azymetric and EFECT platforms, we received an upfront payment of $20.0 million in 2018. We are also eligible to receive development and commercial milestone payments of up to an aggregate of $702.0 million. In addition, we are eligible to receive tiered royalties in the mid-single digits on product sales. No development or commercial milestone payments or royalties have been received to date. BeiGene is solely responsible for the research, development, manufacturing, and commercialization of the products.

License Agreement with Iconic

In May 2019, we entered into a license agreement with Iconic to develop and commercialize its antibody-drug conjugate (ICON-2) targeting Tissue Factor, generated through the use of our ZymeLink platform. Under the terms of this agreement, we granted Iconic a worldwide, royalty-bearing, antibody sequence-specific, exclusive license to develop and commercialize certain products. We are eligible to receive development and commercial milestone payments and tiered royalties on worldwide net sales. To date, we have received a payment of $1.0 million. This agreement also provides us with co-promotion rights with increased royalties for products generated from this collaboration. If Iconic outlicenses the program, in lieu of co-promotion rights, we will receive a share of the revenue Iconic receives from any partners as well as tiered royalties on worldwide net sales. Iconic is responsible for the development, manufacturing, and commercialization of the products.

Intellectual Property

Our business success will depend significantly on our ability to:

- secure, maintain and enforce patent and other proprietary protection for our core technologies, inventions and know-how;
- obtain and maintain licenses to key third-party intellectual property owned by such third parties;
- preserve the confidentiality of our trade secrets; and
- operate without infringing upon valid, enforceable third-party patents and other rights.

We seek to secure and maintain patent protection for the composition of matter, manufacturing processes and methods of use for our drug candidates and for our underlying protein engineering capabilities and therapeutic platforms including Azymetric, EFECT, ZymeLink and ZymeCAD. We also utilize trade secrets, careful monitoring and limited disclosure of our proprietary information where patent protection is not appropriate. We also protect our proprietary information by ensuring that our employees, consultants, contractors and other advisors execute agreements requiring non-disclosure and assignment of inventions prior to their engagement. We will continue to expand our intellectual property holdings by seeking patent protection for new compositions of matter, new features and applications of our core therapeutic platforms, and innovative new therapeutic platforms, in the United States and other jurisdictions. We will also supplement internal innovation through in-licensing of new technologies and compositions of matter as appropriate. We intend to take advantage of any available data exclusivity, market exclusivity, patent term adjustment and patent term extensions.

We routinely monitor the status of existing and emerging intellectual property disclosed by third parties that may impact our business, and to the extent we identify any such disclosures, by evaluating them and taking appropriate courses of action.

As of December 31, 2019, our patent portfolio consists of 55 active patent families. Of these, 16 families relate to our key product candidates and programs including ZW25, ZW49 and our therapeutic platform technology. The remaining 39 patent families relate to other earlier stage potential product candidates or platforms that we do not consider material to our business at this time. Two of our patent families are co-owned with VAR2

Pharmaceuticals ApS, one patent family is co-owned with the National Research Council Canada, and one patent family is co-owned with the Provincial Health Services Authority and University of Victoria Industry Partnerships. None of these co-owned patent families relate to our therapeutic platforms or our lead product candidates, ZW25 and ZW49, and they are not material to our business. We have 103 issued patents, 33 of which are U.S. patents.

Therapeutic Antibody Portfolio

Our therapeutic antibody patent portfolio is directed to specific compositions of matter and methods of treatment for our product candidates, including target-specific interactions and immunomodulatory mechanisms.

- We own the ZW25 and ZW49 patent portfolio, including an international patent application filed under the Patent Cooperation Treaty ("PCT") that is now in the national phase with applications pending in Australia, Brazil, Canada, China, Europe, India, Japan, Korea, Mexico, Russia and the United States. This application relates to the composition of matter, methods of making and uses of biparatopic anti-HER2 bispecific antibodies and ADCs, and if issued, is expected to expire in 2034, absent any adjustments or extensions. One U.S. patent has issued. An additional PCT application in the national phase in Australia, Canada, Europe, Japan and the U.S. is directed to treatment methods using ZW25.
- We have filed a PCT application covering ZW49 composition of matter and methods of making and using ZW49. Any patents that issue from national phase filings are expected to expire in 2039, absent any adjustments or extensions.
- Both ZW25 and ZW49 are also protected by our two patent families relating to the Azymetric Fc, as described below. ZW 49 is also protected by one of the ZymeLink patent families, as described below.

Therapeutic Platform Technology Portfolio

The therapeutic platform technology portfolio includes biological formats and variants thereof, including the Azymetric platform, the ZymeLink platform, the EFECT platform, and specific applications, manufacturing methods and assays related to the platform constructs and underlying computational chemistry.

- ***Azymetric:*** We own a portfolio of six patent families relating to the Azymetric platform for engineering Fc and Fab constructs for the development of bispecific antibodies.

  Azymetric Fc : Two of the patent families relate to engineered antibody Fc region polypeptides having amino acid substitutions that preferentially form heterodimers, with PCT national phase applications pending or issued in Australia, Brazil, Canada, China, Europe, India, Japan, Korea, Mexico, Russia and the United States. One U.S. patent has issued with 1,102 days of patent term adjustment and is expected to expire on November 10, 2034. A second U.S. patent has issued with 372 days of patent term adjustment and is expected to expire on November 9, 2033. If issued, the remaining patents in these families are expected to expire between 2031 and 2032, absent any adjustments or extensions. An additional issued U.S. patent covers method of expressing antibodies containing heterodimeric Fc regions in cells.

  Azymetric Fab : Four patent families in the PCT national phase are pending or issued in Australia, Brazil, Canada, China, Europe, India, Japan, Korea, Mexico, Russia and the United States and relate to antibodies having amino acid substitutions in Fab-region heavy and light chains for making correctly paired bispecific antibodies. Two U.S. patents have issued. These patent families are directed to compositions, methods of producing and uses of heterodimeric antibodies. If issued, patents in these families are expected to expire between 2031 and 2038, absent any adjustments or extensions.
- ***ZymeLink:*** We own the ZymeLink patent portfolio relating to novel toxin molecules and novel linkers by means of which these toxins can be conjugated to antibodies and other protein scaffolds. Two PCT applications are in the national phase in key jurisdictions, including Australia, Brazil, Canada, China,

Europe, India, Israel, Japan, Korea, Mexico, South Africa and the United States, and are directed to novel hemiasterlin toxin derivatives, novel linker compositions, hemiasterlin-linker compositions, and antibody-hemiasterlin conjugate compositions, one of which has issued in the United States. An additional PCT application is directed to novel auristatin derivatives, auristatin-linker compositions and antibody-auristatin conjugates and is in the national phase in Australia, Brazil, Canada, China, Europe, India, Israel, Japan, Korea, Mexico, Russia, Singapore and the United States. Two U.S. patents have issued. Any patents that may issue from these families are expected to expire between 2034 and 2037, absent any adjustments or extensions.

- ***EFECT:*** The EFECT platform for engineering Fc constructs with modulated Fc g R-binding and Fc effector function is protected by two PCT patent applications that we own, both of which are in the national stage with one application pending or issued in Australia, Canada, Mexico and the U.S. and the other pending or issued in Australia, Brazil, Canada, China, Europe, India, Japan, Russia and the United States. One patent has issued in the United States. These patent families are directed to compositions of matter and methods of making Fc constructs with altered Fc g R-binding and Fc effector function; if issued, they are expected to expire between 2031 and 2034, absent any adjustments or extensions.
- ***Computational Chemistry:*** We own a portfolio of 13 families of computational chemistry patents and patent applications that relate to the computational and algorithmic advances incorporated into the ZymeCAD suite of applications, including advances in general molecular modeling, conformational dynamics, docking, distal mutations, and molecular packing, as well as parallelization and graphical data analysis. Six of these patents have issued in the United States. Any patents that issue from these families are expected to expire between 2027 and 2035, absent any adjustments or extensions.

Technology Licensing and In-Licensed Intellectual Property

We identify and selectively enter into technology licensing agreements and intellectual property in-licensing agreements to support pipeline advancement. For example, we entered into an assignment agreement with CDRD Ventures Inc. (“CVI”), as part of our 2016 acquisition of Kairos Therapeutics Inc. (“Kairos”) to have all of CVI’s interests in the Kairos patents and intellectual property assigned to Zymeworks. We may be required to make future payments to CVI for ZW49 or other product candidates upon the direct achievement of certain clinical development milestones for products incorporating certain Kairos intellectual property, as well as low single-digit royalty payments on the net sales of such products. For out-licensed products and technologies incorporating certain Kairos intellectual property, we may be required to pay CVI a mid-single-digit percentage of the future revenue as a result of a revenue sharing agreement.

Manufacturing

We rely on third-party contract manufacturing organizations to provide manufacturing, linker-toxin conjugation, and fill-finish services in order to generate all of the therapeutic antibody supply required for our clinical studies and other research and development activities. To retain focus on our expertise in developing new product candidates, we do not currently plan to develop or operate in-house manufacturing capacity. Our bispecific therapeutic antibody candidates require standard chemistry, manufacturing and control (“CMC”) processes typical of those required for monoclonal antibody manufacturing. We therefore expect to continue to be able to develop product candidates that can be manufactured in a cost-effective fashion by our network of well-validated third-party contract manufacturing organizations.

Through our contract manufacturing organizations, we currently have sufficient supply of our product candidates to carry out ongoing and planned preclinical studies. For ZW25, we also have sufficient current good manufacturing practices (“cGMP”)-grade supply, together with planned additional manufacturing runs, to complete our Phase 1 clinical trial and to initiate planned Phase 2 clinical trials. For ZW49, we have sufficient cGMP-grade supply, together with planned additional manufacturing runs, to complete our Phase 1 clinical trial.

Competition

The biopharmaceutical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. While we believe that our technology, knowledge, experience and scientific resources provide us with competitive advantages, we face potential competition from many different sources, including major pharmaceutical, specialty pharmaceutical and biotechnology companies, academic institutions and governmental agencies and public and private research institutions. Any product candidates that we successfully develop and commercialize will compete with existing therapies and new therapies that may become available in the future.

With respect to target discovery activities, competitors and other third parties, including academic and clinical researchers, may be able to access rare families and identify targets before we do.

Many of the companies against which we compete or against which we may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. 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 or early-stage companies may also prove to be significant competitors, particularly through collaboration arrangements with large and established companies. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites, recruiting patients for clinical trials, and by acquiring technologies complementary to, or necessary for, our programs.

The key competitive factors affecting the success of all of our product candidates, if approved, are likely to be their efficacy, safety, convenience and price, the effectiveness of alternative products, the level of competition and the availability of coverage and adequate reimbursement from government and other third-party payors.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products or therapies that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA, European Medicines Agency (“EMA”) or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic products.

Our product candidates will compete with the therapies and currently marketed drugs discussed below.

- ***HER2 targeted therapies:*** ZW25 and ZW49 are intended to treat patients with solid tumors that express HER2, including patients with tumors expressing low levels of HER2. Approved HER2-targeted therapies include F. Hoffmann-La Roche Ltd.’s (“Roche”) Herceptin, Perjeta, and Kadcyla as well as Novartis Pharmaceuticals Corporation’s Tykerb, Puma Biotechnology, Inc.’s Nerlynx, and AstraZeneca PLC (“AstraZeneca”) / Daiichi Sankyo’s Enhertu, although none of these drugs have been approved to treat tumors expressing low levels of HER2. Currently, patients whose tumor have low levels of HER2 expression may receive hormone therapy, CDK4/6 inhibitors, or cytotoxic chemotherapy.
- ***Non-HER2 targeted therapies.*** There are other non-HER2 targeting monoclonal antibodies on the market that may have activity on tumors expressing low levels of HER2, including Merck’s Keytruda, BMS’s Opdivo, Roche’s Tecentriq, Merck KGaA’s Bavencio and AstraZeneca’s Imfinzi. Since ZW25 has been relatively well-tolerated and has a different and potentially complimentary mechanism of action to these non-HER2 targeted therapies, we believe they could potentially be used in combination with ZW25 to achieve even higher response rates and durability.

The FDA and corresponding regulatory authorities will ultimately review our clinical results and determine whether our product candidates are effective. No regulatory agency has made any such determination that any of our product candidates are effective for use by the general public for any indication.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, manufacturing, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of products such as those we are developing. Our ADC product candidates are comprised of both a drug product and a biologic product, and will therefore be subject to regulation in the United States as combination products. If marketed individually, each component would be subject to different regulatory pathways and would require approval of independent marketing applications by the FDA. A combination product, however, is assigned to an FDA center that will have primary jurisdiction over its regulation based on a determination of the combination product's primary mode of action, which is the single mode of action that provides the most important therapeutic action. In the case of our ADCs, we believe that the primary mode of action is attributable to the biologic component of the product. Thus, we believe our product candidates will be regulated as therapeutic biologics, with the FDA's Center for Drug Evaluation and Research ("CDER") having primary jurisdiction over premarket development.

Biological products are subject to regulation under the Federal Food, Drug, and Cosmetic Act ("FD&C Act"), the Public Health Service Act ("PHS Act"), and other federal, state, local and foreign statutes and regulations. Our product candidates must be approved by the FDA before they may be legally marketed in the United States and by the appropriate foreign regulatory agency before they may be legally marketed in foreign countries.

U.S. Biological Products Development Process

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

- completion of extensive nonclinical, sometimes referred to as preclinical, laboratory tests and preclinical animal trials and applicable requirements for the humane use of laboratory animals and formulation studies in accordance with applicable regulations, including good laboratory practices ("GLP");
- submission to the FDA of an IND application, which must become effective before human clinical trials may begin;
- performance of adequate and well-controlled human clinical trials according to the FDA's regulations commonly referred to as current good clinical practice ("cGCP") regulations and any additional requirements for the protection of human research subjects and their health information, to establish the safety and efficacy of the proposed biological product for its intended use. The FDA may also impose clinical holds on a biological product candidate at any time before or during clinical trials due to safety concerns or noncompliance. If the FDA imposes a clinical hold, trials may not recommence without FDA authorization and then only under terms authorized by the FDA.
- submission to the FDA of a Biologics License Application ("BLA") for marketing approval that includes substantive evidence of safety, purity, and potency from results of nonclinical testing and clinical trials;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities where the biological product is produced to assess compliance with cGMP requirements to assure that the facilities, methods and controls are adequate to preserve the biological product's identity, strength, quality and purity;

- potential FDA audit of the nonclinical and clinical study sites that generated the data in support of the BLA; and
- FDA review and approval, or licensure, of the BLA.

Human clinical trials are typically conducted in sequential phases that may overlap or be combined:

- ***Phase 1.*** The biological product candidate is initially introduced into healthy human volunteers and tested for safety. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.
- ***Phase 2.*** The biological product candidate is evaluated in 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, optimal dosage and dosing schedule.
- ***Phase 3.*** Clinical trials are undertaken to further evaluate dosage, clinical efficacy, potency, and safety in an expanded patient population at geographically dispersed clinical study sites. These clinical trials are intended to establish the overall risk/benefit ratio of the product and provide an adequate basis for product labelling.

During all phases of clinical development, regulatory agencies require extensive reporting, monitoring and auditing of all clinical activities, clinical data, and clinical study investigators.

A sponsor, an institutional review board ("IRB") or independent ethics committee, the FDA or other regulatory or monitoring authorities may suspend a clinical study at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk, failure to conduct the clinical trial in accordance with regulatory requirements or clinical protocols, failure to demonstrate a benefit from using the investigational drug, changes in government regulations or administrative actions.

Sponsors of clinical trials of FDA-regulated products, including biologics, are required to register and disclose certain clinical trial information, which is publicly available at www.clinicaltrials.gov. Information related to the product, patient population, phase of investigation, study sites and investigators, and other aspects of the clinical trial is then made public as part of the registration. Sponsors are also obligated to discuss the results of their clinical trials after completion. Disclosure of the results of these trials can be delayed until the new product or new indication being studied has been approved.

U.S. Review and Approval Processes

After the completion of clinical trials of a biological product candidate, FDA approval of a BLA must be obtained before commercial marketing of the biological product. When a BLA is submitted, the FDA conducts a preliminary review to determine whether the application is sufficiently complete to be accepted for filing. If it is not, the FDA may refuse to file the application and request additional information, in which case the application must be resubmitted with the supplemental information, and review of the application is delayed. Upon accepting the BLA for filing, the FDA will conduct an in-depth review the BLA and may hold a public hearing where an independent advisory committee of expert advisors considers key questions regarding the product candidate. This advisory committee makes a recommendation to the FDA, which is not binding on the FDA, but is generally followed.

The FDA is authorized to designate certain products for expedited review if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. In particular, the FDA may designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other drugs, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track designated products, sponsors may have a higher number of interactions with the FDA and the FDA may initiate review of sections of a fast track product's NDA before the application is complete. The FDA has granted two Fast Track designations to ZW25 for the first-line treatment of patients with HER2-overexpressing GEA in combination with standard of care chemotherapy and for refactory BTC.

Under the Pediatric Research Equity Act, certain applications for approval must include an assessment, generally based on clinical study data, of the safety and effectiveness of the subject drug in relevant pediatric populations. The FDA may waive or defer the requirement for a pediatric assessment, either at the company's request or by the FDA's initiative. The FDA may determine that a Risk Evaluation and Mitigation Strategy ("REMS") is necessary to ensure that the benefits of a new product outweigh its risks. A REMS may include various elements, ranging from a medication guide or patient package insert to limitations on who may prescribe or dispense the drug or other elements to assure safe use, depending on what the FDA considers necessary for the safe use of the drug.

Before approving a BLA, the FDA will inspect the facilities at which the product is manufactured. The FDA will not approve the product 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 a BLA, the FDA will typically inspect one or more clinical sites to assure that the clinical trials were conducted in compliance with IND study requirements and cGCP requirements.

Notwithstanding the submission of relevant data and information, the FDA may ultimately decide that the BLA does not satisfy its regulatory criteria for approval and deny approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than the applicant interprets the same data. If the FDA decides not to approve the BLA in its present form, the FDA will issue a complete response letter that usually describes all of the specific deficiencies in the BLA identified by the FDA. The deficiencies identified may be minor (for example, requiring labeling changes) or major (for example, requiring additional clinical trials). Additionally, the complete response letter may include recommended actions that the applicant might take to place the application in a condition for approval. If a complete response letter is issued, the applicant may either resubmit the BLA, addressing all of the deficiencies identified in the letter, or withdraw the application.

If a product receives regulatory approval, the approval may be significantly limited to specific diseases and dosages or the indications for use may otherwise be limited, which could restrict the commercial value of the product. Further, the FDA may require that certain contraindications, warnings or precautions be included in the product labeling. The FDA may impose restrictions and conditions on product distribution, prescribing, or dispensing in the form of a REMS, or otherwise limit the scope of any approval. In addition, the FDA may require post-marketing clinical trials, sometimes referred to as Phase 4 clinical trials, designed to further assess a biological product's safety and effectiveness, and testing and surveillance programs to monitor the safety of approved products that have been commercialized.

Orphan Drug Designation

The Orphan Drug Act established incentives for the development of drugs intended to treat rare diseases or conditions, which generally are diseases or conditions affecting less than 200,000 individuals in the United States at the time of the request for orphan designation. If a sponsor demonstrates that a drug is intended to treat a rare disease or condition and meets other applicable requirements, the FDA grants Orphan Drug Designation to the product for that use. ZW25 has been granted Orphan Drug Designation for the treatment of BTC, GEA and ovarian cancer by the FDA.

The benefits of Orphan Drug Designation include tax credits for clinical testing expenses and exemption from user fees. A drug candidate that is approved for the orphan drug designated use typically is granted seven years of orphan drug exclusivity. During that period, the FDA generally may not approve any other application for the same product for the same indication, although there are exceptions, most notably when the later product is shown to be clinically superior to the product with exclusivity. However, the FDA Reauthorization Act, which was enacted in August 2017, requires, among other things, that certain orphan drugs for cancer be tested for children. The government has also increased focus on the potential misuse of the orphan drug approval process to increase the price of orphan drugs.

Post-Approval Requirements

Even if regulatory approval is granted, a marketed product is subject to continuing comprehensive requirements under federal, state and foreign laws and regulations, including requirements and restrictions regarding adverse event reporting, recordkeeping, marketing, and compliance with cGMP. Adverse events reported after approval of a drug can result in additional restrictions on the use of a marketed product or requirements for additional post-marketing studies or clinical trials.

Maintaining substantial compliance with applicable federal, state and local statutes and regulations requires the expenditure of substantial time and financial resources. Rigorous and extensive FDA regulation of biological products continues after approval, particularly with respect to cGMP requirements. Biological product manufacturers and other entities involved in the manufacture and distribution of approved biological products are required to register their establishments with the FDA and certain state agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies for compliance with cGMP requirements and other laws. We will rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of any products that we may commercialize. Manufacturers of our products are required to comply with applicable requirements in the cGMP regulations, including quality control and quality assurance and maintenance of records and documentation. Other post-approval requirements applicable to biological products include record-keeping requirements, reporting of adverse effects and reporting updated safety and efficacy information. Discovery of previously unknown problems or the failure to comply with the applicable regulatory requirements relating to the manufacturer or promotion of an approved product may result in restrictions on the marketing of a product or withdrawal of the product from the market as well as significant administrative, civil or criminal sanctions.

Biosimilars and Exclusivity

The Patient Protection and Affordable Care Act (“PPACA”), signed into law on March 23, 2010, includes a subtitle called the Biologics Price Competition and Innovation Act of 2009 (“BPCIA”), which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product.

Under the BPCIA, the approval of a biosimilar product may not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor’s own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. The BPCIA also created certain exclusivity periods for biosimilars approved as interchangeable products. At this juncture, it is unclear whether products deemed “interchangeable” by the FDA will, in fact, be readily substituted by pharmacies, which are governed by state pharmacy law.

Canadian Review and Approval Process

In Canada, our biologic product candidates and our research and development activities are primarily regulated by the *Food and Drugs Act* and the rules and regulations thereunder, which are enforced by Health Canada (including its Biologics and Genetic Therapies Directorate). Health Canada regulates, among other things, the research, development, testing, manufacture, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, post-approval monitoring, marketing and import and export of pharmaceutical products. Drug approval laws require licensing of manufacturing facilities, carefully controlled research and testing of products, and government review and approval of experimental results prior to giving approval to sell drug products, including biologic drug products. Regulators also typically require that rigorous and specific standards such as cGMP, GLP and cGCP are followed in the manufacture, testing and clinical development, respectively, of any drug product. The processes for obtaining regulatory approvals in Canada, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

The principal steps required for drug approval in Canada is as follows:

Preclinical Toxicology Studies

Non-clinical studies are conducted *in vitro* and in animals to evaluate pharmacokinetics, metabolism and possible toxic effects to provide evidence of the safety of the drug candidate prior to its administration to humans in clinical studies and throughout development. Such studies are conducted in accordance with applicable laws and GLP.

Clinical Trials

In Canada, the process of conducting clinical trials with a new drug cannot begin until we have submitted a Clinical Trial Application ("CTA") and the required number of days has lapsed without objection from Health Canada. Biological drugs carry additional risks, as compared to traditional small-molecule drugs, associated with complexity and variability in manufacturing that can contribute to increased lot-to-lot variation of the final product, and with the potential for adventitious agents. Therefore, the content requirements for the quality information for biological drugs to be used in clinical trials are different from those for standard small-molecule pharmaceutical drugs (for example, the inclusion of information on manufacturing facilities is required for biological drugs). In addition, it is necessary to have more stringent controls on the release of biologic drug lots used in authorized clinical trials.

Similar regulations apply in Canada regarding clinical trials as in the United States. In Canada, Research Ethics Boards ("REBs"), instead of IRBs, are used to review and approve clinical trial plans. Human clinical trials are typically conducted in three sequential phases, as discussed above in the context of government regulation in the United States.

The manufacture of investigational drugs for the conduct of human clinical trials is subject to cGMP requirements. Investigational drugs and active pharmaceutical ingredients imported into Canada are also subject to regulation by Health Canada relating to their labeling and distribution. Progress reports detailing the results of the clinical trials must generally be submitted at least annually to Health Canada and/or the applicable REBs, 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.

New Drug Application

Upon successful completion of Phase 3 clinical trials, in Canada the company sponsoring a new drug then assembles all the preclinical and clinical data and other testing relating to the product's pharmacology, chemistry, manufacture, and controls, and submits it to Health Canada as part of a New Drug Submission ("NDS"). The NDS is then reviewed by Health Canada for approval to market the drug.

As part of the approval process, Health Canada will generally inspect the facility or the facilities at which the drug is manufactured. Health Canada will not approve the product unless compliance with cGMP is satisfactory and the NDS contains data that provide substantial evidence that the drug is safe and effective in the indication studied. In addition, before approving an NDS, Health Canada will typically inspect one or more clinical sites to assure compliance with cGCP.

The testing and approval process for an NDS requires substantial time, effort and financial resources, and may take several years to complete. Biologic drugs, such as our candidates, differ from standard small-molecule drugs in that applicants must include more detailed chemistry and manufacturing information. This is necessary to help ensure the purity and quality of the product, for example to help ensure that it is not contaminated by an undesired microorganism. 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. Health Canada may not grant approval of an NDS on a timely basis, or at all.

Even if Health Canada approves a product candidate, the relevant authority may limit the approved indications for use of the product candidate, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies 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.

Biologic products in particular are monitored post-approval by being placed on a lot-release schedule tailored to their potential risk, manufacturing, testing and inspection history to date. With higher risk biologics, each lot is tested before being released for sale in Canada. Moderate risk biologics are periodically tested at the discretion of Health Canada while manufacturers of low-risk biologics usually only need to contact Health Canada regarding lots being sold or for providing certification of complete and satisfactory testing. Products are carefully scrutinized before they are placed in any level of the lot-release process, and at any time the testing regime for a biologic may be altered.

Health Canada 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, notification, and regulatory authority review and approval. Further, should new safety information arise, additional testing, product labeling or regulatory notification may be required.

Canadian Biosimilars and Exclusivity

The term biosimilar is used by Health Canada to describe a biologic drug that enters the market subsequent to a version previously authorized in Canada and with demonstrated similarity to a reference biologic drug. Accordingly, a biosimilar (previously known in Canada as a subsequent entry biologic or SEB) will in all instances be a subsequent entrant onto the Canadian market.

Based on Health Canada guidance documents, a biosimilar can rely in part on prior information regarding safety and efficacy that is deemed relevant due to the demonstration of similarity to the reference biologic drug and which influences the amount and type of original data required. Generic drugs are chemically derived products that are pharmaceutically equivalent to innovative drugs, whereas biosimilars are products of a biologic nature that are similar to innovative biologics. According to Health Canada, it is not currently possible to demonstrate that two biologic drugs are pharmaceutically equivalent, and therefore the regulatory approval process for generics and biosimilars is different: biosimilars are approved using the standard NDS pathway with some allowances made for reduced safety and efficacy information set out in guidance documents, while generic drugs are approved using an abbreviated new drug submission pathway set out in guidance and law. In part because it continues to be set out only in guidance and not law, the pathway for receiving biosimilar approval is somewhat in flux and subject to some uncertainty.

As discussed above, all biosimilars enter the market subsequent to a biologic drug product previously approved in Canada and to which the biosimilar is considered similar. As such, biosimilars are subject to existing laws and regulations outlined in the *Patented Medicines (Notice of Compliance) Regulations* and the *Food and Drug Regulations* , and related guidance documents.

Similar to the Hatch-Waxman Amendments in the United States, Canada has the *Patented Medicines (Notice of Compliance) Regulations,* which require a company that files a drug submission that references a patented product to address any relevant patents listed on the Patent Register prior to being able to receive approval from Health Canada. The Canadian regime is similar to the U.S. regime, but a number of distinctions do exist.

Like the United States, Canada also has data protection in addition to patent protection, but again differences exist between the two jurisdictions. For example, Canada's data protection applies to "innovative drugs" (i.e., a drug that contains a medicinal ingredient not previously approved in a drug by the Minister of Health and that is not a variation of a previously approved medicinal ingredient such as a salt, ester, enantiomer, solvate or polymorph) and, where it exists, lasts for eight years in most (but not all) circumstances. In general biologics can be considered innovative drugs but biosimilars are not.

Additional Regulation

In addition to the foregoing, provincial, state and federal U.S. and Canadian laws regarding environmental protection and hazardous substances affect our business. These and other laws govern our use, handling and disposal of various biological, chemical and radioactive substances used in, and wastes generated by, our operations. If our operations result in contamination of the environment or expose individuals to hazardous substances, we could be liable for damages and governmental fines. We believe that we are in material compliance with applicable environmental laws and that continued compliance therewith will not have a material adverse effect on our business. We cannot predict, however, how changes in these laws may affect our future operations.

Government Regulation Outside of the United States

In addition to regulations in the United States, we will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical studies and any commercial sales and distribution of our products.

Whether or not we obtain FDA approval for a product, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical studies or marketing of the product in those countries. Certain countries outside of the United States have a similar process that requires the submission of a clinical study application much like the IND prior to the commencement of human clinical studies. In the European Union ("EU"), for example, a CTA must be submitted to each country's national health authority and an independent ethics committee, much like the FDA and the IRB, respectively. Once the CTA is approved in accordance with a country's requirements, clinical study development may proceed.

The requirements and process governing the conduct of clinical studies, product licensing, coverage, pricing and reimbursement vary from country to country. In all cases, the clinical studies are conducted in accordance with cGCP and the applicable regulatory requirements and the ethical principles that have their origin in the Declaration of Helsinki.

Pharmaceutical Coverage, Pricing and Reimbursement

Significant uncertainty exists as to the coverage and reimbursement status of any product candidates for which we may obtain regulatory approval. In the United States and markets in other countries, sales of any products for which we receive regulatory approval for commercial sale will depend, in part, on the availability of coverage and adequate reimbursement from third-party payors. These third-party payors may deny coverage or reimbursement for a product or therapy in whole or in part if they determine that the product or therapy was not medically appropriate or necessary. Third-party payors may attempt to control costs by limiting coverage to specific drug products on an approved list, or formulary, which might not include all of the FDA-approved drug products for a particular indication, requiring pre-approval of coverage for new or innovative drug therapies before they will reimburse healthcare providers who use such therapies, and by limiting the amount of reimbursement for particular procedures or drug treatments. Additionally, coverage and reimbursement for drug products can differ significantly from payor to payor. The Medicare and Medicaid programs are often used as models by private payors and other governmental payors to develop their coverage and reimbursement policies for drugs and biologics. However, one third-party payor's decision to cover a particular drug product does not ensure that other payors will also provide coverage for the product, or will provide coverage at an adequate reimbursement rate.

The cost of pharmaceuticals continues to generate substantial governmental and third-party payor interest. We expect that the pharmaceutical industry will experience pricing pressures due to the trend toward managed healthcare, the increasing influence of managed care organizations and additional legislative proposals. Third-party payors are increasingly challenging the price and examining the medical necessity and cost-effectiveness of medical products and services, 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 products to obtain third-party payor coverage, 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 drug product does not imply that an adequate reimbursement rate will be approved. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

While we cannot predict whether any proposed cost-containment measures will be adopted or otherwise implemented in the future, these requirements or any announcement or adoption of such proposals could have a material adverse effect on our ability to obtain adequate prices for our product candidates and to operate profitably.

In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. There can be no assurance that our products will be considered medically reasonable and necessary for a specific indication, that our products will be considered cost effective by third-party payors, that coverage or an adequate level of reimbursement will be available or that third-party payors' reimbursement policies will not adversely affect our ability to sell our products profitably.

Healthcare Reform

The United States and some foreign jurisdictions are considering or have enacted a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our future products profitably. 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 or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

We expect that the PPACA, as well as reform measures that may be adopted in the future, may result in more rigorous coverage criteria and lower reimbursement, and in additional downward pressure on the price that we receive for any approved product. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our drugs, once regulatory approval is obtained.

Other Healthcare Laws and Compliance Requirements

In the United States, the research, manufacturing, distribution, sale and promotion of drug products are subject to regulation by various federal, state and local authorities in addition to the FDA, including the Centers for

Medicare & Medicaid Services, other divisions of the U.S. Department of Health and Human Services (e.g., the Office of Inspector General), the U.S. Department of Justice, state attorneys general, and other state and local government agencies.

If our operations are found to be in violation of any of the U.S. federal and state laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including criminal and significant civil monetary penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government healthcare programs, injunctions, recall or seizure of products, total or partial suspension of production, denial or withdrawal of pre-marketing product approvals, private *qui tam* actions brought by individual whistleblowers in the name of the government or refusal to allow us to enter into supply contracts, including government contracts, 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. We may also be subject to additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement with a governmental entity to resolve allegations that we have violated these laws. To the extent that any of our product candidates, once approved, are sold in a foreign country, we may be subject to similar foreign laws and regulations, which may include, for instance, applicable post-approval requirements, including safety surveillance, anti-fraud and abuse laws, and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Sales and Marketing

As an early-stage biopharmaceutical company, we do not currently possess the commercial infrastructure required to launch and market our product candidates. For ZW25 and ZW49, we have entered into development and commercialization agreements with BeiGene whereby BeiGene is responsible for certain clinical development activities and all commercial activities in Asia (excluding Japan but including the People's Republic of China, South Korea and other countries), Australia and New Zealand. To date, we have not entered into any other agreements granting commercialization rights to ZW25, ZW49 or any of our other product candidates. To access the sales, marketing and distribution capacity required to market our drug candidates, we plan to selectively establish additional partnerships with biotechnology and pharmaceutical companies having established commercial capabilities in relevant indications. The timing and nature of such agreements will be determined by market size and complexity, access to pre-commercial and commercial infrastructure and our resource availability for developing a commercial organization. For product candidates targeting patient populations that can be serviced by a small, specialized commercial effort, we may seek out co-development and co-promotion agreements granting commercialization rights to an established commercial partner in some jurisdictions while allowing us to build these capabilities in other jurisdictions.

Employees

As of December 31, 2019, we had 256 employees, including 251 full-time employees, 157 of whom were primarily engaged in research and development activities and 80 of whom hold an M.D. or Ph.D. degree. 172 of our full-time employees are based in Vancouver, British Columbia and 79 in Seattle, Washington. None of our employees are represented by a labor organization or covered by a collective bargaining arrangement. We consider our relationship with our employees to be excellent.

Corporate Structure

We were incorporated on September 8, 2003 under the Canada Business Corporations Act ("CBCA") under the name "Zymeworks Inc." On October 22, 2003, we were registered as an extra-provincial company under the Company Act (British Columbia), the predecessor to the Business Corporations Act (British Columbia) ("BCBCA"). On May 2, 2017, we continued the Company to British Columbia under the BCBCA. We have one wholly owned subsidiary located in Seattle, Washington named Zymeworks Biopharmaceuticals Inc. Our principal and registered office is located at 1385 West 8th Avenue, Suite 540, Vancouver, British Columbia, Canada V6H 3V9, and our telephone number is (604) 678-1388.

Available Information

This Annual Report on Form 10-K, our quarterly reports on Form 10-Q, our current reports on Form 8-K, and any amendments to these reports are filed, or will be filed, as appropriate, with the SEC and the Canadian Securities Administrators ("CSA"). These reports are available free of charge on our website, www.zymeworks.com, as soon as reasonably practicable after we electronically file such reports with or furnish such reports to the SEC and the Canadian regulatory authorities. Information contained on, or accessible through, our website is not a part of this Annual Report on Form 10-K, and the inclusion of our website address in this document is an inactive textual reference.

Additionally, our filings with the SEC may be accessed through the SEC's website at www.sec.gov and our filings with the CSA may be accessed through the CSA's System for Electronic Document Analysis and Retrieval ("SEDAR") at www.sedar.com.

Item 1A. Risk Factors

You should consider carefully the following risk factors, as well as the other information in this Annual Report on Form 10-K, including our consolidated financial statements and notes thereto. If any of the events described in the following risks actually occur, our business, financial conditions, results of operations and prospects could be materially adversely affected. This Annual Report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See "Cautionary Note Regarding Forward-Looking Statements." The risks below are not the only risks facing our company. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition, results of operations, and/or prospects.

Risks Related to Our Business and the Development and Commercialization of Our Product Candidates

We have a limited number of product candidates, all which are still in preclinical or early clinical development. If we do not obtain regulatory approval of one or more of our product candidates, or experience significant delays in doing so, our business will be materially adversely affected.

We currently have no products approved for sale or marketing in any country, and may never be able to obtain regulatory approval for any of our product candidates. As a result, we are not currently permitted to market any of our product candidates in the United States or in any other country until we obtain regulatory approval from the FDA or regulatory authorities outside the United States. Our product candidates are in early stages of development and we have not submitted an application, or received marketing approval, for any of our product candidates. Furthermore, the fact that our core competencies have been recognized through strategic partnerships does not improve our product candidates' outlook for regulatory approval. We have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approvals, including approval by the FDA. Obtaining regulatory approval of our product candidates will depend on many factors, including, but not limited to, the following:

- successfully completing preclinical studies, including product chemistry, toxicity and formulation studies;
- completing clinical trials that demonstrate the efficacy and safety of our product candidates;
- preparation and submission to the appropriate regulatory authorities of an application for marketing approval that includes substantial evidence of safety, purity and potency from results of nonclinical testing and clinical trials;
- establishing commercial manufacturing capabilities;
- a potential pre-approval audit of the nonclinical and clinical trial sites that generated the data in support of the marketing application; and
- launching commercial sales, marketing and distribution operations.

Many of these factors are wholly or partially beyond our control, including clinical advancement, the regulatory submission process and changes in the competitive landscape. If we do not achieve one or more of these factors in a timely manner, we could experience significant delays or an inability to develop our product candidates at all.

Clinical trials are very expensive, time consuming and difficult to design and implement and involve uncertain outcomes. Furthermore, the results of previous preclinical studies and clinical trials may not be predictive of future results, and the results of our current and planned clinical trials may not satisfy the requirements of the FDA or non-U.S. regulatory authorities.

Positive or timely results from preclinical or early-stage trials do not ensure positive or timely results in late-stage clinical trials or product approval by the FDA or comparable foreign regulatory authorities. We will be required to demonstrate with substantial evidence through well-controlled clinical trials that our product candidates are safe and effective for use in a diverse population before we can seek regulatory approvals for their commercial sale. Our planned clinical trials may produce negative or inconclusive results, and we or any of our current and future strategic partners may decide, or regulators may require us, to conduct additional clinical or preclinical testing. Success in preclinical studies or early-stage clinical trials does not mean that future clinical trials or registration clinical trials will be successful because product candidates in later-stage clinical trials may fail to demonstrate sufficient safety and efficacy to the satisfaction of the FDA and non-U.S. regulatory authorities, despite having progressed through preclinical studies and initial clinical trials. Product candidates that have shown promising results in early clinical trials may still suffer significant setbacks in subsequent clinical trials or registration clinical trials. For example, a number of companies in the pharmaceutical industry, including those with greater resources and experience than us, have suffered significant setbacks in advanced clinical trials, even after obtaining promising results in earlier clinical trials. Similarly, preclinical interim results of a clinical trial do not necessarily predict final results.

If clinical trials for our product candidates are prolonged, delayed or stopped, we may be unable to obtain regulatory approval and commercialize our product candidates on a timely basis, or at all, which would require us to incur additional costs and delay our receipt of any product revenue.

We are currently evaluating ZW25 in Phase 1 and 2 clinical trials and ZW49 in a Phase 1 clinical trial in patients with recurrent or metastatic HER2-expressing solid tumors. We may experience delays in our ongoing or future preclinical studies or clinical trials, and we do not know whether future preclinical studies or clinical trials will begin on time, need to be redesigned, enroll an adequate number of patients on time or be completed on schedule, if at all. The commencement or completion of these planned clinical trials could be substantially delayed or prevented by many factors, including:

- further discussions with the FDA or other regulatory agencies regarding the scope or design of our clinical trials;
- the limited number of, and competition for, suitable sites to conduct our clinical trials, many of which may already be engaged in other clinical trial programs, including some that may be for the same indication as our product candidates;
- any delay or failure to obtain approval or agreement to commence a clinical trial in any of the countries where enrollment is planned;
- inability to obtain sufficient funds required for a clinical trial;
- clinical holds on, or other regulatory objections to, a new or ongoing clinical trial;
- delay or failure to manufacture sufficient supplies of the product candidate for our clinical trials;
- delay or failure to reach agreement on acceptable clinical trial agreement terms or clinical trial protocols with prospective sites or CROs, the terms of which can be subject to extensive negotiation and may vary significantly among different sites or CROs;

- delay or failure to obtain IRB approval to conduct a clinical trial at a prospective site;
- slower than expected rates of patient recruitment and enrollment;
- failure of patients to complete the clinical trial;
- the inability to enroll a sufficient number of patients in studies to ensure adequate statistical power to detect statistically significant treatment effects;
- unforeseen safety issues, including severe or unexpected drug-related adverse effects experienced by patients, including possible deaths;
- lack of efficacy during clinical trials;
- termination of our clinical trials by one or more clinical trial sites;
- inability or unwillingness of patients or clinical investigators to follow our clinical trial protocols;
- inability to monitor patients adequately during or after treatment by us or our CROs;
- our CROs or clinical study sites failing to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all, deviating from the protocol or dropping out of a study;
- the inability to address any noncompliance with regulatory requirements or safety concerns that arise during the course of a clinical trial;
- the need to repeat or terminate clinical trials as a result of inconclusive or negative results or unforeseen complications in testing; and
- our clinical trials may be suspended or terminated upon a breach or pursuant to the terms of any agreement with, or for any other reason by, current or future strategic partners that have responsibility for the clinical development of any of our product candidates.

Changes in regulatory requirements, policies and guidelines may also occur and we may need to significantly amend clinical trial protocols to reflect these changes with appropriate regulatory authorities. These changes may require us to renegotiate terms with CROs or resubmit clinical trial protocols to IRBs for re-examination, which may impact the costs, timing or successful completion of a clinical trial. Our clinical trials may be suspended or terminated at any time by the FDA, other regulatory authorities, the IRB overseeing the clinical trial at issue, any of our clinical trial sites with respect to that site, or us.

Any failure or significant delay in commencing or completing clinical trials for our product candidates would adversely affect our ability to obtain regulatory approval and our commercial prospects and ability to generate product revenue will be diminished.

If we, or any of our partners, are unable to enroll patients in clinical trials, we will be unable to complete these trials on a timely basis.

Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors including the size and nature of the patient population, the proximity of subjects to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, ability to obtain and maintain patient consents, risk that enrolled subjects will drop out before completion, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. In particular, we are developing certain of our products for the treatment of rare diseases, which have limited pools of patients from which to draw for clinical testing. If we, or any of our strategic partners that clinical tests for our product candidates pursuant to the relevant partnership agreement, are unable to enroll a sufficient number of patients to complete clinical testing, we will be unable to gain marketing approval for such product candidates and our business will be harmed.

In addition, on May 30, 2018, the federal Right to Try Act was signed into law. The law, among other things, provides a federal framework for patients to access certain investigational new drug products that have completed a Phase 1 clinical trial. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA approval under the FDA expanded access program. While there is no obligation to make product candidates available to eligible patients as a result of the Right to Try Act, new and emerging legislation regarding expanded access to unapproved drugs could negatively impact enrollment in our clinical trials and our business in the future.

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

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

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

The Fast Track designations we have received for ZW25 may not result in faster development, regulatory review or approval process.

If a product candidate is intended for the treatment of a serious or life-threatening condition and demonstrates the potential to address unmet needs for this condition, the sponsor may apply for FDA Fast Track designation. If Fast Track designation is obtained, the FDA may prioritize interactions with the sponsor concerning the designated development program and conduct a rolling review of sections of an NDA before the application is complete. The FDA has granted two Fast Track designations to ZW25 for the first-line treatment of patients with HER2-overexpressing GEA in combination with standard of care chemotherapy and for refactory BTC. These Fast Track designations do not ensure that we will experience a faster development, regulatory review or approval process compared to conventional FDA procedures or that we will ultimately obtain regulatory approval. Additionally, the FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program.

We have conducted, and may in the future conduct, clinical trials for existing or future product candidates in sites outside the United States and the FDA may not accept data from trials conducted in such locations.

We have conducted, and may in the future choose to conduct, clinical trials outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with ethical principles. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. Generally, the patient population for any clinical trials conducted outside of the United States must be representative of the population for whom we intend to label the product in the United States. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable U.S. laws and regulations. There can be no assurance the FDA will accept data from trials conducted outside the United States. If the FDA does not accept the data from any clinical trials we may conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and delay or permanently halt our development of any future product candidates.

Successful development of our current and future product candidates is uncertain and we may discontinue or reprioritize the development of any of our product candidates at any time, at our discretion.

Before obtaining regulatory approval for the commercial distribution of our product candidates, we must conduct, at our own expense, extensive preclinical tests and clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Preclinical and clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. Additionally, the results from nonclinical testing or early clinical trials of a product candidate may not predict the results that will be obtained in subsequent subjects or in subsequent human clinical trials of that product candidate or any other product candidate. There is a high failure rate for drugs proceeding through clinical studies. A number of companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in clinical development even after achieving promising results in earlier studies, and any such setbacks in any future clinical development could have a material adverse effect on our business and operating results. Alternatively, management may elect to discontinue development of certain product candidates to accommodate a shift in corporate strategy, despite positive clinical results. Based on our operating results and business strategy, among other factors, we may discontinue the development of any of our product candidates under development or reprioritize our focus on other product candidates at any time and at our discretion.

Our product candidates may have undesirable side effects that may delay or prevent marketing approval or, if approval is received, require them to be taken off the market, require them to include safety warnings or otherwise limit their sales; no regulatory agency has made any such determination that any of our product candidates are safe or effective for use by the general public for any indication.

All of our product candidates are still in preclinical or early clinical development. Additionally, all of our product candidates are required to undergo ongoing safety testing in humans as part of clinical trials. Consequently, not all adverse effects of drugs can be predicted or anticipated. Unforeseen side effects from any of our product candidates could arise either during clinical development or, if approved by regulatory authorities, after the approved product has been marketed. We believe ZW25 has been well tolerated in human clinical trials and ZW25 and ZW49 have demonstrated favorable safety profiles in animals; however, ZW25 and ZW49 continue to be evaluated in clinical trials. The results of these and future clinical trials may show that ZW25, ZW49 or our other product candidates cause undesirable or unacceptable side effects, which could interrupt, delay or halt clinical trials, and result in delay of, or failure to obtain, marketing approval from the FDA and other regulatory authorities, or result in marketing approval from the FDA and other regulatory authorities with restrictive label warnings, limited patient populations or potential product liability claims. Even if we believe that our clinical trials and preclinical studies demonstrate the safety and efficacy of our product candidates, only the FDA and other comparable regulatory agencies may ultimately make such determination. No regulatory agency has made any such determination that any of our product candidates are safe or effective for use by the general public for any indication.

If any of our product candidates receive marketing approval and we or others later identify undesirable or unacceptable side effects caused by such products:

- regulatory authorities may require us to take our approved product off the market;
- regulatory authorities may require the addition of labeling statements, specific warnings, a contraindication or field alerts to physicians and pharmacies, or impose a risk evaluation and mitigation strategy that includes restrictions and conditions on product distribution, prescribing and/or dispensing;
- we may be required to change the way the product is administered, conduct additional clinical trials or change the labeling of the product;
- we may be subject to limitations on how we may promote the product;
- sales of the product may decrease significantly;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us or our current or future strategic partners from achieving or maintaining market acceptance of the affected product or could substantially increase commercialization costs and expenses, which in turn could delay or prevent us from generating revenue from the sale of any future products.

We face significant competition and if our competitors develop and market products that are more effective, safer or less expensive than our product candidates, our commercial opportunities will be negatively impacted.

The life sciences industry is highly competitive and subject to rapid and significant technological change. We are currently developing biotherapeutics that will compete with other drugs and therapies that currently exist or are being developed. Products we may develop in the future are also likely to face competition from other drugs and therapies, some of which we may not currently be aware. We have competitors both in the United States and internationally, including major multinational pharmaceutical companies, established biotechnology companies, specialty pharmaceutical companies, universities and other research institutions. Many of our competitors have significantly greater financial, manufacturing, marketing, drug development, technical and human resources than we do. Large pharmaceutical companies, in particular, have extensive experience in clinical testing, obtaining regulatory approvals, recruiting patients and in manufacturing pharmaceutical products. These companies also have significantly greater research and marketing capabilities than we do and may also have products that have been approved or are in late stages of development and collaborative arrangements in our target markets with leading companies and research institutions. Established pharmaceutical companies may also invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make the product candidates that we develop obsolete. As a result of all of these factors, our competitors may succeed in obtaining patent protection or FDA approval or discovering, developing and commercializing products in our field before we do.

Specifically, there are a large number of companies developing or marketing treatments for cancer and autoimmune disorders, including many major pharmaceutical and biotechnology companies. These treatments consist both of small-molecule drug products, as well as biologics that work by using next-generation antibody therapeutic platforms to address specific cancer targets. These companies include Macrogenics, Inc., AstraZeneca / Daiichi Sankyo, Roche, Seattle Genetics, Inc. and others.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, and are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for our product candidates, which could result in our competitors establishing a strong market position before we are able to enter the market.

Smaller and other 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 and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. In addition, the biopharmaceutical industry is characterized by rapid technological change. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Technological advances or products developed by our competitors may render our technologies or product candidates obsolete, less competitive or not economical.

Our product candidates, for which we intend to seek approval, may face competition sooner than anticipated.

Our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of biosimilar products. Biosimilar products are expected to become available over the coming years. Even if our product candidates achieve marketing approval, they may be priced at a significant premium over competitive biosimilar products, if any have been approved by then. The BPCIA, which is included in the PPACA, authorized the FDA to approve similar versions of innovative biologics, commonly known as biosimilars. Under the PPACA, a manufacturer may submit an application for licensure of a biologic product that is “biosimilar to” or “interchangeable with” a previously approved biological product or “reference product.” Manufacturers may not submit an application for a biosimilar to the FDA until four years following approval of the reference product, and the FDA may not approve a biosimilar product until 12 years from the date on which the reference product was approved. Even if our product candidates, if approved, are deemed to be reference products eligible for exclusivity, another company could market a competing version of that product if the FDA approves a full BLA for such product containing the sponsor’s own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. Additionally, from time to time, there are proposals to repeal or modify the PPACA, including proposals that could significantly shorten the exclusivity period for biologics.

If any of our product candidates receive regulatory approval, the approved products may not achieve broad market acceptance among physicians, patients, the medical community and third-party payors, in which case revenue generated from their sales would be limited.

The commercial success of our product candidates will depend upon their acceptance among physicians, patients and the medical community. The degree of market acceptance of our product candidates will depend on a number of factors, including:

- limitations or warnings contained in the approved labeling for a product candidate;
- changes in the standard of care for the targeted indications for any of our product candidates;
- limitations in the approved clinical indications for our product candidates;
- demonstrated clinical safety and efficacy compared to other products;
- sales, marketing and distribution support;
- availability of coverage and extent of reimbursement from managed care plans and other third-party payors;
- timing of market introduction and perceived effectiveness of competitive products;
- the degree of cost-effectiveness of our product candidates;
- availability of alternative therapies at similar or lower cost, including generic and over-the-counter products;
- the extent to which the product candidate is approved for inclusion on formularies of hospitals and managed care organizations;

- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy for particular diseases;
- whether the product can be used effectively with other therapies to achieve higher response rates;
- adverse publicity about our product candidates or favorable publicity about competitive products;
- convenience and ease of administration of our products; and
- potential product liability claims.

If any of our product candidates are approved, but do not achieve an adequate level of acceptance by physicians, patients and the medical community, we may not generate sufficient revenue from these products, and we may not become or remain profitable. In addition, efforts to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources and may never be successful.

We may be unable to obtain orphan drug exclusivity in specific indications for ZW25 or in future product candidates that we may develop. If our competitors are able to obtain orphan product exclusivity for their products in specific indications, we may not be able to have competing products approved in those indications by the applicable regulatory authority for a significant period of time.

Regulatory authorities in some jurisdictions, including the United States and Europe, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product candidate as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals annually in the United States. The FDA has granted Orphan Drug Designation to ZW25 for the treatment of BTC, GEA and ovarian cancer and we may seek Orphan Drug Designation for additional indications in the future. Orphan Drug Designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process.

Generally, if a product candidate with an Orphan Drug Designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or EMA from approving another marketing application for the same drug for the same indication for that time period. The applicable period is seven years in the United States and ten years in Europe. The European exclusivity period can be reduced to six years if a product no longer meets the criteria for Orphan Drug Designation or if the product is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the product to meet the needs of patients with the rare disease or condition. The loss of Orphan Drug Designation could have a negative effect on our ability to successfully commercialize our product candidates, earn revenues and achieve profitability.

Even if we obtain orphan drug exclusivity for ZW25, or for any other product candidates that receive an Orphan Drug Designation in the future, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Further, in the United States, even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition submitted by a competitor if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

Even if we obtain FDA approval of any of our product candidates, we may never obtain approval or commercialize such products outside of the United States, which would limit our ability to realize their full market potential.

In order to market any products outside of the United States, we must establish and comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval procedures vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approvals could result in significant delays, difficulties and costs for us and may require additional preclinical studies or clinical trials, which would be costly and time consuming. Regulatory requirements can vary widely from country to country and region to region and could delay or prevent the introduction of our products in those countries. Satisfying these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. In addition, our failure to obtain regulatory approval in any country may delay or have negative effects on the process for regulatory approval in other countries. We do not have any product candidates approved for sale in any jurisdiction, including international markets, and we do not have experience in obtaining regulatory approval in international markets. If we fail to comply with regulatory requirements in international markets or to obtain and maintain required approvals, our target market will be reduced and our ability to realize the full market potential of our products will be harmed.

Reimbursement decisions by third-party payors may have an adverse effect on pricing and market acceptance. If there is not sufficient reimbursement for our products, it is less likely that our products will be widely used.

Even if our product candidates are approved for sale by the appropriate regulatory authorities, market acceptance and sales of these products will depend on reimbursement policies and may be affected by future healthcare reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs they will reimburse and establish payment levels. We cannot be certain that reimbursement will be available for any products that we develop. If reimbursement is not available or is available on a limited basis, we may not be able to successfully commercialize any of our approved products.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, also called the Medicare Modernization Act (“MMA”), changed the way Medicare covers and pays for pharmaceutical products. The legislation established Medicare Part D, which expanded Medicare coverage for outpatient prescription drug purchases by the elderly but provided authority for limiting the number of drugs that will be covered in any therapeutic class. The MMA also introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. We expect to experience pricing pressures in connection with the sale of any products that we develop, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative proposals.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA, EMA or other regulatory authorities. Moreover, eligibility for coverage and reimbursement does not imply that a drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution expenses. Interim reimbursement levels for new drugs, if applicable, may also be insufficient to cover our and any collaborator’s costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Our or any collaborator’s inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved products that we or our strategic partners develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize product candidates and our overall financial condition.

If the market opportunities for any product that we or our strategic partners develop are smaller than we believe they are, our revenue may be adversely affected and our business may suffer.

We intend to initially focus our independent product candidate development on treatments for oncology. Our projections of addressable patient populations that have the potential to benefit from treatment with our product candidates are based on estimates. If our projections are inaccurate, the market opportunities for any of our product candidates could be significantly diminished and have an adverse material impact on our business.

We may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we focus on research programs, therapeutic platforms and product candidates that we identify for specific indications. As a result, we may forego or delay pursuit of opportunities with other therapeutic platforms or product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. Our spending on current and future research and development programs, therapeutic platforms and product candidates for specific indications may not yield any commercially viable products. 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 cases in which it would have been more advantageous for us to retain sole development and commercialization rights.

We may not be successful in our efforts to use and expand our therapeutic platforms to build a pipeline of product candidates.

A key element of our strategy is to use and expand our therapeutic platforms to build a pipeline of product candidates and progress these product candidates through clinical development for the treatment of a variety of diseases. Although our research and development efforts to date have resulted in a pipeline of product candidates directed at various cancers, we may not be able to develop product candidates that are safe and effective. In addition, although we expect that our therapeutic platforms will allow us to develop a steady stream of product candidates, they may not prove to be successful at doing so. Even if we are successful in continuing to build our pipeline, the potential product candidates that we identify may not be suitable for clinical development, including as a result of being shown to have harmful side effects or other characteristics that indicate that they are unlikely to be products that will receive marketing approval and achieve market acceptance. If we do not continue to successfully develop and begin to commercialize product candidates, we will face difficulty in obtaining product revenue in future periods, which could result in significant harm to our financial position and adversely affect our share price.

Even if we receive regulatory approval to commercialize any of the product candidates that we develop, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product may be marketed or subject to certain conditions of approval, and may contain requirements for potentially costly post-approval trials, including Phase 4 clinical trials, and surveillance to monitor the safety and efficacy of the marketed product.

For any approved product, we will be subject to ongoing regulatory obligations and extensive oversight by regulatory authorities, including with respect to manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product. These requirements include submissions of safety and other post-approval information and reports, as well as continued compliance with cGMP and cGCP, for any clinical trials that we or our strategic partners conduct after approval. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- restrictions on the marketing or manufacturing of the product;
- withdrawal of the product from the market or voluntary or mandatory product recalls;
- fines, warning letters or holds on clinical trials;
- refusal by the FDA, EMA or another applicable regulatory authority to approve pending applications or supplements to approved applications filed by us or our strategic partners, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; and
- injunctions or the imposition of civil or criminal penalties.

Occurrence of any of the foregoing could have a material and adverse effect on our business and results of operations. Further, the FDA's or other ex-U.S. regulators' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. 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, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

If any product liability lawsuits are successfully brought against us or any of our strategic partners, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability lawsuits related to the testing of our product candidates in seriously ill patients, and will face an even greater risk if product candidates are approved by regulatory authorities and introduced commercially. Product liability claims may be brought against us or our strategic partners by participants enrolled in our clinical trials, patients, health care providers or others using, administering or selling any of our future approved products. If we cannot successfully defend ourselves against any such claims, we may incur substantial liabilities. Regardless of their merit or eventual outcome, liability claims may result in:

- decreased demand for any future approved products;
- injury to our reputation;
- withdrawal of clinical trial participants;
- termination of clinical trial sites or entire trial programs;
- increased regulatory scrutiny;
- significant litigation costs;
- substantial monetary awards to, or costly settlement with, patients or other claimants;
- product recalls or a change in the indications for which they may be used;
- loss of revenue;
- diversion of management and scientific resources from our business operations; and
- the inability to commercialize our product candidates.

If any of our product candidates are approved for commercial sale, we will be highly dependent upon consumer perceptions of us and the safety and quality of our products. We could be adversely affected if we are subject to negative publicity. We could also be adversely affected if any of our products or any similar products distributed by other companies prove to be, or are asserted to be, harmful to patients. Because of our dependence upon consumer perceptions, any adverse publicity associated with illness or other adverse effects resulting from patients' use or misuse of our products or any similar products distributed by other companies could have a material adverse impact on our financial condition or results of operations.

We may need to have in place increased product liability coverage when we begin the commercialization of our product candidates. Insurance coverage is becoming increasingly expensive. As a result, we may be unable to maintain or obtain sufficient insurance at a reasonable cost to protect us against losses that could have a material adverse effect on our business. A successful product liability claim or series of claims brought against us, particularly if judgments exceed any insurance coverage we may have, could decrease our cash resources and adversely affect our business, financial condition and results of operation.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates are developed through preclinical to late-stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause our product candidates to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the altered materials. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our product candidates and jeopardize our ability, or our strategic partners' ability, to commence product sales and generate revenue.

Acquisitions or joint ventures could disrupt our business, cause dilution to our shareholders and otherwise harm our business.

We actively evaluate various strategic transactions on an ongoing basis. We may acquire other businesses, products or technologies as well as pursue strategic alliances, joint ventures or investments in complementary businesses. Any of these transactions could be material to our financial condition and operating results and expose us to many risks, including:

- disruption in our relationships with existing strategic partners or suppliers as a result of such a transaction;
- unanticipated liabilities related to acquired companies;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- retention of key employees;
- diversion of management time and focus from operating our business to management of strategic alliances or joint ventures or acquisition integration challenges;
- increases in our expenses and reductions in our cash available for operations and other uses; and
- possible write-offs or impairment charges relating to acquired businesses.

Foreign acquisitions involve unique risks in addition to those mentioned above, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries.

Also, the anticipated benefit of any strategic alliance, joint venture or acquisition may not materialize or such strategic alliance, joint venture or acquisition may be prohibited. Additionally, future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

Foreign governments tend to impose strict price controls, which may adversely affect our future profitability.

In most foreign countries, particularly in those in the EU, prescription drug pricing and reimbursement is subject to governmental control. In those countries that impose price controls, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we or our strategic partners may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidates to other available therapies.

Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we or our strategic partners might obtain marketing approval for a product candidate in a particular country, but then be subject to price regulations that delay commercial launch of the product candidate, possibly for lengthy time periods, and negatively impact the revenue that is generated from the sale of the product in that country. If reimbursement of such product candidates is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, or if there is competition from lower priced cross-border sales, our profitability will be negatively affected.

Security breaches, loss of data and other disruptions could compromise sensitive information related to our business or protected health information or prevent us from accessing critical information and expose us to liability, which could adversely affect our business and our reputation.

In the ordinary course of our business, we collect and store petabytes of sensitive data, including legally protected health information, personally identifiable information, intellectual property and proprietary business information owned or controlled by ourselves or our strategic partners. We manage and maintain our applications and data by utilizing a combination of on-site systems, managed data center systems and cloud-based data center systems. These applications and data encompass a wide variety of business-critical information, including research and development information, commercial information and business and financial information. We face four primary risks relative to protecting this critical information, including loss of access risk, inappropriate disclosure risk, inappropriate modification risk and the risk of being unable to adequately monitor our controls over the first three risks.

The secure processing, storage, maintenance and transmission of this critical information are vital to our operations and business strategy, and we devote significant resources to protecting such information. Although we take measures to protect sensitive information from unauthorized access or disclosure, our information technology and infrastructure and that of any third-party billing and collections provider we may utilize, may be vulnerable to attacks by hackers or viruses or breached due to employee error, malfeasance or other disruptions. Any such breach or interruption could compromise our networks and the information stored there could be accessed by unauthorized parties, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, such as the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), and regulatory penalties. Although we have implemented security measures and a formal enterprise security program to prevent unauthorized access to patient data, there is no guarantee that we can continue to protect our systems from breach. Unauthorized access, loss or dissemination could also disrupt our operations (including our ability to conduct our analyses, provide test results, bill payors or providers, process claims and appeals, conduct research and development activities, collect, process and prepare company financial information, provide information about any future products, and manage the administrative aspects of our business) and damage our reputation, any of which could adversely affect our business.

HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act ("HITECH"), and its implementing regulations, impose certain requirements relating to the privacy, security, transmission and breach reporting of individually identifiable health information upon entities subject to the law, such as health plans, healthcare clearinghouses and healthcare providers and their respective business associates that perform services for them that involve individually identifiable health information. Mandatory penalties for HIPAA violations can be significant. A single breach incident can result in violations of multiple standards. If a person knowingly or intentionally obtains or discloses personal health information in violation of HIPAA requirements, criminal penalties may also be imposed. HITECH also created new tiers of civil monetary penalties, amended HIPAA to make civil and criminal penalties directly applicable to business associates, and gave state attorneys general new authority to file civil actions for damages or injunctions in U.S. federal courts to enforce the federal HIPAA laws and seek attorneys' fees and costs associated with pursuing federal civil actions. Although drug manufacturers are not directly subject to HIPAA, we could be subject to criminal penalties if we knowingly obtain individually identifiable health information from a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA.

Furthermore, in the event of a breach as defined by HIPAA, HIPAA regulations impose specific reporting requirements to regulators, individuals impacted by the breach and the media. Issuing such notifications can be costly, time and resource intensive, and can generate significant negative publicity. Breaches of HIPAA may also constitute contractual violations that could lead to contractual damages or terminations. In addition, U.S. states have enacted and are considering enacting laws relating to the protection of patient health and other data, which may be more rigorous than, or impose additional requirements beyond those required by, HIPAA. For example, the California Consumer Privacy Act ("CCPA") recently became effective on January 1, 2020. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used by requiring covered companies to provide new disclosures to California consumers (as that term is broadly defined) and provide such consumers new ways to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. Although there are limited exemptions for clinical trial data and the CCPA's implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, the CCPA may increase our compliance costs and potential liability. Many similar privacy laws have been proposed at the federal level and in other states.

We may also become subject to laws and regulations in non-U.S. countries covering data privacy and the protection of health-related and other personal information. In particular, the European Economic Area (" EEA ") has adopted data protection laws and regulations, which impose significant compliance obligations. Laws and regulations in these jurisdictions apply broadly to the collection, use, storage, disclosure, processing and security of personal information that identifies or may be used to identify an individual, such as names, contact information, and sensitive personal data such as health data. These laws and regulations are subject to frequent revisions and differing interpretations, and have generally become more stringent over time.

As of May 25, 2018, the General Data Protection Regulation 2016/676 (" GDPR "), replaced the Data Protection Directive (Directive 95/46/EC) with respect to the processing of personal data in the EEA. The GDPR imposes many requirements for controllers and processors of personal data, including, for example, higher standards for obtaining consent from individuals to process their personal data, more robust disclosures to individuals and a strengthened individual data rights regime, shortened timelines for data breach notifications, limitations on retention and secondary use of information, increased requirements pertaining to health data and pseudonymized (i.e., key-coded) data and additional obligations when contracting third-party processors in connection with the processing of the personal data. The GDPR allows EEA countries to make additional laws and regulations further limiting the processing of genetic, biometric or health data. Failure to comply with the requirements of the GDPR and the applicable national data protection laws of EEA countries may result in fines of up to € 20,000,000 or up to 4% of the total worldwide annual turnover of the preceding financial year, whichever is higher, and other administrative penalties; we may also be liable should any individual who has suffered financial or non-financial damage arising from our infringement of the GDPR exercise their right to receive compensation against us. Furthermore, adverse publicity relating to our failure to comply with the GDPR could cause ta loss of goodwill, which could have an adverse effect on our reputation, brand, business and financial condition.

Separate from, and in addition to, the GDPR requirements, certification requirements for the hosting of health data will vary by jurisdiction (and may or may not apply to hosts of health data). To the extent we begin to operate in various EEA countries, there might be other national healthcare regulations or regulatory requirements with which we will be required to comply. For example, in France, there is a procedure as of April 1, 2018 for hosts of health data to obtain a prior certification with the competent certification body.

The interpretation and application of consumer, health-related and data protection laws in the United States, the EEA, and elsewhere are often uncertain, contradictory and in flux. Any failure or perceived failure to comply with federal, state or foreign laws or regulations, contractual or other legal obligations related to data privacy or data protection may result in claims, warnings, communication, requests or investigations from individuals, supervisory authorities or other legal or regulatory authorities in relation to our processing of personal data. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with our practices. If so, this could result in government-imposed fines or orders requiring that we change our practices, which could adversely affect our business. In addition, these privacy regulations vary between states, may differ from country to country, and may vary based on whether testing is performed in the United States or in the local country. Complying with these various laws could cause us to incur substantial costs or require us to change our business practices and compliance procedures in a manner adverse to our business.

Furthermore, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on other third parties for the manufacture of our product candidates and to conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business.

Current and future legislation may increase the difficulty and cost for us to commercialize any products that we or our strategic partners develop and affect the prices we may obtain.

The United States and some foreign jurisdictions are considering or have enacted a number of legislative and regulatory proposals to change healthcare systems in ways that could affect our ability to sell any of our product candidates profitably, if such product candidates are approved for sale. 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 and has been significantly affected by major legislative initiatives.

In March 2010, the PPACA became law in the United States. The PPACA may affect the operational results of companies in the pharmaceutical industry, including us, by imposing on them additional costs. For example, effective January 1, 2010, PPACA increased the minimum Medicaid drug rebates for pharmaceutical companies and imposed an annual fee on certain branded prescription drugs and biologics. There have been judicial, Congressional and executive branch 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, signed into law in 2017, repealed the individual health insurance mandate, which is considered a key component of the PPACA. In addition, there is currently litigation pending in federal court in the United States regarding the constitutionality of the PPACA and the individual mandate. This and other ongoing challenges to the PPACA and new legislative proposals have resulted in uncertainty regarding the PPACA’s future viability and destabilization of the health insurance market.

Other legislative changes have been proposed and adopted since the PPACA was enacted. For example, the Bipartisan Budget Act of 2018, among other things, amends the PPACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans. The Budget Control Act of 2011, which began in 2013 and will remain in effect through 2027 unless additional Congressional action is taken, calls for aggregate reductions to Medicare payments to providers of up to 2% per fiscal year. The American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on potential customers for our product candidates, if approved, and, accordingly, our future financial operations. We are unable to predict the future course of federal or state health care legislation or foreign regulations relating to the marketing, pricing and reimbursement of pharmaceutical products. In addition, President Trump and the Secretary of the U.S. Department of Health and Human Services ("HHS") released the "American Patients First Blueprint" and have begun implementing certain portions. The initiative includes proposals to increase generic drug and biosimilar competition, enable the Medicare program to negotiate drug prices more directly and improve transparency regarding drug prices and ways to lower consumers' out-of-pocket costs. Further, many states have proposed or enacted legislation that seeks to indirectly or directly regulate pharmaceutical drug pricing, such as by requiring biopharmaceutical manufacturers to publicly report proprietary pricing information or to place a maximum price ceiling on pharmaceutical products purchased by state agencies. Both U.S. Congress and state legislatures are considering and have proposed various bills that would reform drug purchasing and price negotiations, allow greater use of utilization management tools to limit Medicare Part D coverage, facilitate the import of lower-priced drugs from outside the United States and encourage the use of generic drugs. Such initiatives and legislation may affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate, if approved, is prescribed or used.

Also, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed products, which have resulted in several Congressional inquiries and proposed bills designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. It is unclear whether any of these proposed bills will be signed into law, and if enacted, what effect these or other legislative measures would have on our business.

In the EU similar political, economic and regulatory developments may affect our ability to profitably commercialize our current or any future products. In addition to continuing pressure on prices and cost containment measures, legislative developments at the EU or member state level may result in significant additional requirements or obstacles that may increase our operating costs. In international markets, reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific products and therapies. Our future products, if any, might not be considered medically reasonable and necessary for a specific indication or cost-effective by third-party payors, an adequate level of reimbursement might not be available for such products, and third-party payors' reimbursement policies might adversely affect our or our strategic partners' ability to sell any future products profitably.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-approval testing and other requirements.

We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or elsewhere. If we or our strategic partners are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we or our strategic partners are not able to maintain regulatory compliance, our product candidates may lose any marketing approval that may have been obtained and we may not achieve or sustain profitability, which would adversely affect our business.

Our business may become subject to economic, political, regulatory and other risks associated with international operations.

Our business is subject to risks associated with conducting business internationally. Some of our suppliers and collaborative and clinical trial relationships are located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including:

- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- differing regulatory requirements for drug approvals in foreign countries;
- potentially reduced protection for intellectual property rights;
- difficulties in compliance with non-U.S. laws and regulations;
- changes in non-U.S. regulations and customs, tariffs and trade barriers, including any changes that China may impose as a result of political tensions between Canada and China or the United States and China;
- regulatory changes and economic conditions leading up to and following the United Kingdom's withdrawal from the EU and uncertainty related to the terms of the withdrawal;
- changes in non-U.S. currency exchange rates and currency controls;
- changes in a specific country's or region's political or economic environment;
- trade protection measures, import or export licensing requirements or other restrictive actions by U.S. or non-U.S. governments;
- differing reimbursement regimes, including price controls;
- negative consequences from changes in tax laws;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- difficulties associated with staffing and managing foreign operations, including differing labor relations;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters including earthquakes, typhoons, floods and fires; and
- supply and other disruptions resulting from the impact of public health epidemics on our strategic partners, third-party manufacturers, suppliers and other third parties upon which we rely, including the novel coronavirus (COVID-19).

Our business and current and future relationships with customers and third-party payors in the United States and elsewhere will be subject, directly or indirectly, to applicable federal and state anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, administrative burdens, and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors in the United States and elsewhere 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 and other entities may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act, that may constrain the business or financial arrangements and relationships through which we conduct clinical research on product candidates and market, sell and distribute any products for which we obtain marketing approval. In addition, we may be subject to transparency laws and patient privacy regulation by the federal government and by the U.S. states and foreign jurisdictions in which we conduct our business. The applicable federal, state and foreign healthcare laws and regulations that may affect our ability to operate include, but are not limited to, the following:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration (including any kickback, bribe or rebate), directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid;
- federal civil and criminal false claims laws and civil monetary penalty laws, including the federal False Claims Act, impose criminal or civil penalties, as applicable, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government (including the Medicare and Medicaid programs) or other third-party payor claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- HIPAA, which among other things, imposes criminal liability for knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or to obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g. public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of or payment for healthcare benefits, items or services relating to healthcare matters;
- HIPAA, as amended by HITECH, and its implementing regulations, which imposes certain obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information without the appropriate authorization by entities subject to the law, such as health plans, healthcare clearinghouses and healthcare providers and their respective business associates;
- the federal Open Payments program under the Physician Payments Sunshine Act, created under Section 6002 of the PPACA and its implementing regulations, 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 certain exceptions) to report annually to HHS information related to "payments or other transfers of value" made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors and, effective in 2022, advanced practice nurses and physician assistants) and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to HHS ownership and investment interests held by physicians (as defined above) and their immediate family members; and
- analogous state and foreign laws and regulations, including: state anti-kickback and false claims laws that may apply to our business practices (including, but not limited to, research, distribution, sales and marketing arrangements and claims involving healthcare items or services reimbursed by state governmental and non-governmental third-party payors, including private insurers); state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government; state laws that require drug manufacturers to track gifts and other remuneration and items of value provided to healthcare professionals and entities and file reports relating to pricing and marketing information; and

state and foreign laws that govern the privacy and security of health information in specified circumstances, many of which differ from each other in significant ways and often are not pre-empted by HIPAA, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of any available statutory exceptions and safe harbors, it is possible that some of our current and future business activities could be subject to challenge under one or more of such laws.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations may involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, including, without limitation, damages, fines, imprisonment, exclusion from participation in government 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 noncompliance with these laws and the curtailment or restructuring of our operations, which could have a material adverse effect on our business. If any of the physicians or other providers or entities with whom we expect to do business, including our strategic partners, is found not to be in compliance with applicable laws, it may be subject to criminal, civil or administrative sanctions, including exclusions from participation in government healthcare programs, which could also materially affect our business.

We are subject to U.S. and certain foreign export and import controls, sanctions, embargoes, anti-corruption laws, and anti-money laundering laws and regulations. Compliance with these legal standards could impair our ability to compete in domestic and international markets. We can face criminal liability and other serious consequences for violations that can harm our business.

We are subject to export control and import laws and regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations, various economic and trade sanctions regulations administered by the U.S. Treasury Department's Office of Foreign Assets Controls, the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.S. domestic bribery statute contained in 18 U.S.C. §201, the U.S. Travel Act, the USA PATRIOT Act, the United Kingdom Bribery Act 2010, the Proceeds of Crime Act 2002, and other state and national anti-bribery and anti-money laundering laws in the countries in which we conduct activities. Anti-corruption laws are interpreted broadly and prohibit companies and their employees, agents, contractors, and other partners from authorizing, promising, offering, or providing, directly or indirectly, improper payments or anything else of value to recipients in the public or private sector. We currently engage third parties for clinical trials outside of the United States and we may in the future engage third parties to sell our products abroad once we enter a commercialization phase, or to obtain necessary permits, licenses, patent registrations, and other regulatory approvals. We may have direct or indirect interactions with officials and employees of government agencies or government-affiliated hospitals, universities, and other organizations. We can be held liable for the corrupt or other illegal activities of our employees, agents, contractors, and other partners, even if we do not explicitly authorize or have actual knowledge of such activities. Any violation of the laws and regulations described above may result in substantial civil and criminal fines and penalties, imprisonment, the loss of export or import privileges, debarment, tax reassessments, breach of contract and fraud litigation, reputational harm, and other consequences.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since inception and anticipate that we will continue to incur losses for the foreseeable future. We have no products approved for commercial sale, and to date we have not generated any revenue or profit from product sales. We may never achieve or sustain profitability.

We are a clinical-stage biopharmaceutical company. We have incurred significant losses since our inception. Our net loss for the years ended December 31, 2019, 2018 and 2017 was $145.4 million, $36.6 million and

$10.4 million, respectively. As of December 31, 2019, our accumulated deficit was approximately $290.7 million. We expect to continue to incur losses for the foreseeable future, and we expect these losses to increase as we continue our research and development of, and seek regulatory approvals for, our product candidates, prepare for and begin to commercialize any approved product candidates and add infrastructure and personnel to support our product development efforts and operations as a public company. The net losses and negative cash flows incurred to date, together with expected future losses, have had, and likely will continue to have, an adverse effect on our shareholders' deficit and working capital. The amount of future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue.

Because of the numerous risks and uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability. For example, our expenses could increase if we are required by the FDA to perform trials in addition to those that we currently expect to perform, or if there are any delays in completing our currently planned clinical trials or in the development of any of our product candidates.

To become and remain profitable, we must succeed in developing and commercializing product candidates with significant market potential. This will require us to be successful in a range of challenging activities for which we are only in the preliminary stages, including developing product candidates, obtaining regulatory approval for such product candidates, and manufacturing, marketing and selling those product candidates for which we may obtain regulatory approval. We may never succeed in these activities and may never generate revenue from product sales that is significant enough to achieve profitability. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our failure to become or remain profitable would depress our market value and could impair our ability to raise capital, expand our business, develop other product candidates, or continue our operations. A decline in the value of our company could also cause our shareholders to lose all or part of their investment.

Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of uncertainty. We have never generated any revenue from product sales and may never be profitable.

We have devoted substantially all of our financial resources and efforts to developing our proprietary therapeutic platforms, identifying potential product candidates and conducting preclinical studies and clinical trials. We and our partners are still in the early stages of developing our product candidates, and we have not completed development of any products. Our revenue to date has been primarily revenue from the license of our proprietary therapeutic platforms for the development of product candidates by others or revenue from our strategic partners. Our ability to generate revenue and achieve profitability depends in large part on our ability, alone or with our strategic partners, to achieve milestones and to successfully complete the development of, obtain the necessary regulatory approvals for, and commercialize, product candidates. We do not anticipate generating revenue from sales of products for the foreseeable future.

We will require substantial additional funding, which may not be available to us on acceptable terms, or at all, and, if not available, may require us to delay, scale back, or cease our product development programs or operations.

We are currently advancing two of our product candidates through clinical development as well as other potential product candidates through discovery and preclinical development. Developing pharmaceutical products, including conducting preclinical studies and clinical trials, is expensive. In order to obtain such regulatory approval, we will be required to conduct clinical trials for each indication for each of our product candidates. We will continue to require additional funding to complete the development and commercialization of our product candidates and to continue to advance the development of our other product candidates, and such funding may not be available on acceptable terms or at all.

Although it is difficult to predict our liquidity requirements, based upon our current operating plan, we believe that our existing cash and cash equivalents and short-term investments, including net proceeds from our public offering that closed on January 27, 2020, and projected revenue from our existing strategic partnerships and licensing agreements will enable us to fund our operating expenses and capital expenditure requirement into 2022 and potentially beyond.

We may also be eligible to receive certain research, development and commercial milestone payments in the future, as described under "Business." However, because successful development of our product candidates and the achievement of milestones by our strategic partners is uncertain, we are unable to estimate the actual funds we will require to complete research and development and to commercialize our product candidates.

Our future funding requirements will depend on many factors, including but not limited to:

- the number and characteristics of other product candidates that we pursue;
- the scope, progress, timing, cost and results of research, preclinical development, and clinical trials;
- the costs, timing and outcome of seeking and obtaining FDA and non-U.S. regulatory approvals;
- the costs associated with manufacturing our product candidates and establishing sales, marketing and distribution capabilities;
- our ability to maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make in connection with the licensing, filing, defense and enforcement of any patents or other intellectual property rights;
- our need and ability to hire additional management, scientific and medical personnel;
- the effect of competing products that may limit market penetration of our product candidates;
- our need to implement additional internal systems and infrastructure, including financial and reporting systems; and
- the economic and other terms, timing of and success of our existing strategic partnerships, and any collaboration, licensing, or other arrangements into which we may enter in the future, including the timing of receipt of any milestone or royalty payments under these agreements.

Until we can generate a sufficient amount of product revenue to finance our cash requirements, which we may never do, we expect to finance future cash needs primarily through a combination of public and private equity offerings, debt financings, strategic partnerships and grant funding.

If sufficient funds on acceptable terms are not available when needed, or at all, we could be forced to significantly reduce operating expenses and delay, scale back or eliminate one or more of our development programs or our business operations.

Raising additional capital may cause dilution to our shareholders, restrict our operations or require us to relinquish substantial rights.

To the extent that we raise additional capital through the sale of equity or convertible debt securities, our shareholders' ownership interest will be diluted, and the terms of these new securities may include liquidation or other preferences that adversely affect our shareholders' rights as common shareholders. Debt financing, if available at all, may involve agreements that include covenants limiting or restricting our ability to take specific actions such as incurring additional debt, making capital expenditures, or declaring dividends. If we raise additional funds through partnerships, collaborations, strategic alliances, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, product candidates, or future revenue streams, or grant licenses on terms that are not favorable to us. We cannot assure that we will be able to obtain additional funding if and when necessary. If we are unable to obtain adequate financing on a timely basis, we could be required to delay, scale back or eliminate one or more of our development programs or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Unstable market and economic conditions may have serious adverse consequences on our business and financial condition.

Global credit and financial markets experienced extreme disruptions at various points over in the past several years, characterized by diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, increases in unemployment rates and uncertainty about economic stability. If another such disruption in credit and financial markets and deterioration of confidence in economic conditions occurs, our business may be adversely affected. If the equity and credit markets were to deteriorate significantly in the future, it may make any necessary debt or equity financing more difficult to complete, costlier, and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and share price and could require us to delay or abandon development or commercialization plans. In addition, there is a risk that one or more of our current strategic partners, service providers, manufacturers and other partners would not survive or be able to meet their commitments to us under such circumstances, which could directly affect our ability to attain our operating goals on schedule and on budget.

We are subject to risks associated with currency fluctuations, and changes in foreign currency exchange rates could impact our results of operations.

Management assesses its functional currency to be the U.S. dollar based on management's analysis of the primary economic environment in which we operate.

Our cash, cash equivalents and short term investments are primarily denominated in U.S. dollars. As of December 31, 2019, approximately 2.3% of our cash and cash equivalents and short-term investments was denominated in Canadian dollars. However, if our Canadian-dollar-denominated holdings substantially increase in the future, fluctuations in U.S. dollar and Canadian dollar exchange rates could result in a material increase in reported expenses relative to revenue, and therefore could cause our operating income (expense) to appear to decline materially. Fluctuations in foreign currency exchange rates also impact the reporting of our receivables and payables in non-Canadian currencies. As a result of such foreign currency fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our common shares could be adversely affected.

Although we do not currently do so, from time to time, we may engage in exchange rate hedging activities in an effort to mitigate the impact of exchange rate fluctuations. However, any hedging technique we implement may fail to be effective. If our hedging activities are not effective, changes in currency exchange rates may have a more significant impact on the trading price of our common shares.

Risks Related to Our Dependence on Third Parties

Our existing strategic partnerships are important to our business, and future strategic partnerships will likely also be important to us. If we are unable to maintain our strategic partnerships, or if these strategic partnerships are not successful, our business could be adversely affected.

We have limited capabilities for drug development and do not yet have any capability for sales, marketing or distribution. Accordingly, we have entered into strategic partnerships with other companies that we believe can provide such capabilities, including our collaboration and license agreements with Merck, Lilly, BMS, GSK, Daiichi Sankyo, Janssen, LEO, BeiGene and Iconic. These relationships also have provided us with non-dilutive funding for our wholly owned pipeline and therapeutic platforms and we expect to receive additional funding under these strategic partnerships in the future. Our existing strategic partnerships, and any future strategic partnerships we enter into, may pose a number of risks, including the following:

- strategic partners have significant discretion in determining the efforts and resources that they will apply to these partnerships;

- strategic partners may not perform their obligations as expected;
- strategic partners may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in the partners' strategic focus or available funding, or external factors, such as an acquisition, that divert resources or create competing priorities;
- strategic partners may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- strategic partners could independently develop, or develop with third parties, products that compete directly or indirectly with our product candidates if the strategic partners believe that competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than our product candidates;
- product candidates discovered in collaboration with us may be viewed by our strategic partners as competitive with their own product candidates or products, which may cause strategic partners to cease to devote resources to the commercialization of our product candidates;
- a strategic partner with marketing and distribution rights to one or more of our product candidates that achieve regulatory approval may not commit sufficient resources to the marketing and distribution of such product candidates;
- disagreements with strategic partners, including disagreements over proprietary rights, contract interpretation or the preferred course of development, might cause delays or termination of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- strategic partners may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- strategic partners may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- strategic partnerships may be terminated for the convenience of the partner and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates. For example, each of our collaboration and license agreements with Merck, Lilly, BMS, GSK, Daiichi Sankyo, Janssen, LEO, BeiGene and Iconic may be terminated for convenience upon the completion of a specified notice period; and
- we may elect to enter into additional licensing or collaboration agreements to partner our product candidates in territories we currently retain, and in the event we grant exclusive rights to such partners, we would be precluded from potential commercialization of our product candidates within the territories in which we have a partner.

We may not realize the anticipated benefits of our strategic partnerships.

If our strategic partnerships do not result in the successful development and commercialization of product candidates or if one of our partners terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. Moreover, our estimates of the potential revenue we are eligible to receive under our strategic partnerships may include potential payments in respect of therapeutic programs for which our partners have discontinued development or may discontinue development in the future. Furthermore, our strategic partners may not keep us informed as to the status of their in-house research activities and they may fail to exercise options embedded within certain agreements. Any discontinuation of product development by our strategic partners could reduce the amounts receivable under our strategic partnerships below the stated amounts we are eligible to receive under those agreements. If we do not receive the funding we expect under these agreements, our development of our therapeutic platforms and product candidates could be delayed and we may need additional resources to develop product candidates and our therapeutic platforms. All of the risks relating to product development, regulatory approval and commercialization described in this Annual Report on Form 10-K also apply to the activities of our program strategic partners.

Additionally, subject to its contractual obligations to us, if one of our strategic partners is involved in a business combination, the partner might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us. If one of our strategic partners terminates its agreement with us, we may find it more difficult to attract new partners.

We face significant competition in seeking new strategic partners.

For some of our product candidates, we may in the future determine to collaborate with additional pharmaceutical and biotechnology companies for development and potential commercialization of therapeutic products. Our ability to reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the strategic partner's resources and expertise, the terms and conditions of the proposed collaboration and the proposed strategic partner's evaluation of a number of factors. These factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The strategic partner may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate.

Strategic partnerships are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical companies that have resulted in a reduced number of potential future strategic partners. If we are unable to reach agreements with suitable strategic partners on a timely basis, on acceptable terms, or at all, we may have to curtail the development of a product candidate, reduce or delay one or more of our other development programs, delay potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into strategic partnerships and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop our product candidates or bring them to market or continue to develop our therapeutic platforms and our business may be materially and adversely affected.

We rely on third-party manufacturers to produce our clinical product candidates and on other third parties to store, monitor and transport bulk drug substance and drug product. We and our third-party partners may encounter difficulties with respect to these activities that could delay or impair our ability to initiate or complete our clinical trials or commercialize approved products.

We do not currently own or operate any manufacturing facilities. We rely on our strategic partners to manufacture product candidates licensed to them or work with multiple third-party contract manufacturers to produce sufficient quantities of materials required for the manufacture of our product candidates for preclinical testing and clinical trials, in compliance with applicable regulatory and quality standards, and intend to do so for the commercial manufacture of our products. If we are unable to arrange for such third-party manufacturing sources, or fail to do so on commercially reasonable terms, we may not be able to successfully produce sufficient supply of product candidate or we may be delayed in doing so. Such failure or substantial delay could materially harm our business.

The manufacture of biopharmaceutical products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. The process of manufacturing our product candidates is extremely susceptible to product loss due to contamination, equipment failure or improper installation or operation of equipment, vendor or operator error, contamination and inconsistency in yields, variability in product characteristics and difficulties in scaling the production process. Even minor deviations from normal manufacturing processes could result in reduced production yields, product defects and other supply disruptions. If microbial, viral or other contaminations are discovered in our product candidates or in the third-party manufacturing facilities in which our product candidates are made, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. All of our engineered antibodies are manufactured by starting cells that are stored in a cell bank. We have one master cell bank for each antibody manufactured in accordance with cGMP. While we believe we would have adequate back up should any cell bank be lost in a catastrophic event, it is possible that we could lose multiple cell banks and have our manufacturing severely impacted by the need to replace the cell banks. Any adverse developments affecting manufacturing operations for our product candidates, if any are approved, may result in shipment delays, inventory shortages, lot failures, product withdrawals or recalls, or other interruptions in the supply of our products. We may also have to take inventory write-offs and incur other charges and expenses for products that fail to meet specifications, undertake costly remediation efforts or seek more costly manufacturing alternatives.

Furthermore, reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured product candidates ourselves, including reliance on the third party for regulatory compliance and quality control and assurance, volume production, the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control (including a failure to synthesize and manufacture our product candidates in accordance with our product specifications) and the possibility of termination or nonrenewal of the agreement by the third party at a time that is costly or damaging to us. In addition, the FDA, EMA and other regulatory authorities require that our product candidates be manufactured according to cGMP and similar foreign standards. Pharmaceutical manufacturers and their subcontractors are required to register their facilities or products manufactured at the time of submission of the marketing application and then annually thereafter with the FDA and certain state and foreign agencies. They are also subject to periodic unannounced inspections by the FDA, state and other foreign authorities. Any subsequent discovery of problems with a product, or a manufacturing or laboratory facility used by us or our strategic partners, may result in restrictions on the product or on the manufacturing or laboratory facility, including marketed product recall, suspension of manufacturing, product seizure, or a voluntary withdrawal of the drug from the market. We may have little to no control regarding the occurrence of third-party manufacturer incidents. Any failure by our third-party manufacturers to comply with cGMP or failure to scale up manufacturing processes, including any failure to deliver sufficient quantities of product candidates in a timely manner, could lead to a delay in, or failure to obtain, regulatory approval of any of our product candidates.

In addition to third-party manufacturers, we rely on other third parties to store, monitor and transport bulk drug substance and drug product. If we are unable to arrange for such third-party sources, or fail to do so on commercially reasonable terms, we may not be able to successfully supply sufficient product candidate or we may be delayed in doing so. Such failure or substantial delay could materially harm our business.

We rely on third parties to monitor, support, conduct and oversee clinical trials of the product candidates that we are developing and, in some cases, to maintain regulatory files for those product candidates. We may not be able to obtain regulatory approval for our product candidates or commercialize any products that may result from our development efforts if we are not able to maintain or secure agreements with such third parties on acceptable terms, if these third parties do not perform their services as required, or if these third parties fail to timely transfer any regulatory information held by them to us.

We rely on entities outside of our control, which may include academic institutions, CROs, hospitals, clinics and other third-party strategic partners, to monitor, support, conduct and oversee preclinical studies and clinical trials of our current and future product candidates. We also rely on third parties to perform clinical trials on our current and future product candidates when they reach that stage. As a result, we have less control over the timing and cost of these studies and the ability to recruit trial subjects than if we conducted these trials with our own personnel.

If we are unable to maintain or enter into agreements with these third parties on acceptable terms, or if any such engagement is terminated prematurely, we may be unable to enroll patients on a timely basis or otherwise conduct our trials in the manner we anticipate. In addition, there is no guarantee that these third parties will devote adequate time and resources to our studies or perform as required by our contract or in accordance with regulatory requirements, including maintenance of clinical trial information regarding our product candidates. If these third parties fail to meet expected deadlines, fail to transfer to us any regulatory information in a timely manner, fail to adhere to protocols or fail to act in accordance with regulatory requirements or our agreements with them, or if they otherwise perform in a substandard manner or in a way that compromises the quality or accuracy of their activities or the data they obtain, then clinical trials of our product candidates may be extended or delayed with additional costs incurred, or our data may be rejected by the FDA, EMA or other regulatory agencies.

Ultimately, we are responsible for ensuring that each of our clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on third parties does not relieve us of our regulatory responsibilities.

We and our CROs are required to comply with cGCP regulations and guidelines enforced by the FDA, the competent authorities of the member states of the EU and comparable foreign regulatory authorities for products in clinical development. Regulatory authorities enforce these cGCP regulations through periodic inspections of clinical trial sponsors, principal investigators and clinical trial sites. If we or any of our CROs fail to comply with applicable cGCP regulations, the clinical data generated in our clinical trials may be deemed unreliable and our submission of marketing applications may be delayed or the FDA may require us to perform additional clinical trials before approving our marketing applications. Upon inspection, the FDA could determine that any of our clinical trials fail or have failed to comply with applicable cGCP regulations. In addition, our clinical trials must be conducted with product produced under the cGMP regulations enforced by the FDA, and our clinical trials may require a large number of test subjects. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process and increase our costs. Moreover, our business may be implicated if any of our CROs violates federal or state fraud and abuse or false claims laws and regulations or healthcare privacy and security laws.

If any of our clinical trial sites terminate for any reason, we may experience the loss of follow-up information on patients enrolled in our ongoing clinical trials unless we are able to transfer the care of those patients to another qualified clinical trial site. Further, if our relationship with any of our CROs is terminated, we may be unable to enter into arrangements with alternative CROs on commercially reasonable terms, or at all.

Switching or adding CROs or other suppliers can involve substantial cost and require extensive management time and focus. In addition, there is a natural transition period when a new CRO or supplier commences work. As a result, delays may occur, which can materially impact our ability to meet our desired clinical development timelines. If we are required to seek alternative supply arrangements, the resulting delays and potential inability to find a suitable replacement could materially and adversely impact our business.

We rely on third parties for various operational and administrative aspects of our business, including for certain cloud-based software platforms, which impact our financial, operational and research activities. If any of these third parties fail to provide timely, accurate and ongoing service or if the cloud-based platforms suffer outages that we are unable to mitigate, our business may be adversely affected.

We currently rely upon third-party consultants and contractors to provide certain operational and administrative services, including but not limited to external financial, legal, clinical and research consultation. The failure of any of these third parties to provide accurate and timely service may adversely impact our business operations. In addition, if such third-party service providers were to cease operations, temporarily or permanently, face financial distress or other business disruption, or increase their fees, or if our relationships with these providers deteriorate, we could suffer increased costs until an equivalent provider could be found, if at all, or we could develop internal capabilities, if ever.

In addition, if we are unsuccessful in choosing or finding high-quality partners, if we fail to negotiate cost-effective relationships with them, or if we ineffectively manage these relationships, it could have an adverse impact on our business and financial performance.

Further, our operations depend on the continuing and efficient operation of our information technology and communications systems and infrastructure, and specifically on “cloud-based” platforms. These platforms are vulnerable to damage or interruption from earthquakes, vandalism, sabotage, terrorist attacks, floods, fires, power outages, telecommunications failures, and computer viruses or other deliberate attempts to harm the systems. The occurrence of a natural or intentional disaster, any decision to close a facility we are using without adequate notice, or particularly an unanticipated problem at our cloud-based virtual server facility, could result in harmful interruptions in our service, resulting in adverse effects to our business.

Natural disasters, public health crises, political crises, and other catastrophic events or other events outside of our control may damage the facilities or disrupt the operations of our strategic partners, third-party manufacturers, suppliers or other third parties upon which we rely, and could delay or impair our ability to initiate or complete our clinical trials or commercialize approved products.

Our strategic partners, third-party manufacturers, suppliers and other third parties upon which we rely have operations around the world and are exposed to a number of global and regional risks outside of our control. These include, but are not limited to, natural disasters, such as earthquakes, tsunamis, power shortages or outages, floods or monsoons, public health crises, such as pandemics and epidemics, political crises, such as terrorism, war, political instability or other conflict, or other events outside of our control. If the current novel coronavirus (COVID-19) outbreak continues or increases in severity and results in expanded or prolonged travel, commercial or other similar restrictions, we could experience supply, logistics or other disruptions, which could have a negative impact on our ability to initiate or complete our clinical trials or commercialize approved products.

Risks Related to Our Intellectual Property

Our commercial success depends significantly on our ability to operate without infringing the patents and other proprietary rights of third parties.

Our success will depend in part on our ability to operate without infringing the proprietary rights of third parties. Other entities may have or obtain patents or proprietary rights that could limit our ability to make, use, sell, offer for sale or import our future approved products or impair our competitive position. For example, certain patents and patent applications held by third parties cover Fab and Fc region engineering methods for bispecific antibodies, and antibodies having mutations in Fab heavy and light chain regions and Fc regions to generate correctly paired bispecific antibodies. If our products or our strategic partners' products incorporate any Fab or Fc region mutations covered by any claims of these patents or patents that may issue from these applications and we are unable to invalidate those patents, or if licenses for them are not available on commercially reasonable terms or at all, our business could be materially harmed.

We are also aware of third-party patents and patent applications containing claims directed to compositions and methods for treating various forms of cancer with antibodies targeting HER2, alone or in combination with other anti-cancer agents, which patents and applications could potentially be construed to cover our product candidates and the use thereof to treat cancer. If our products or our strategic partners' products were to be found to infringe any such patents, and we were unable to invalidate those patents, or if licenses for them are not available on commercially reasonable terms, or at all, our business could be materially harmed. These patents may not expire before we receive marketing authorization for our product candidates, and could delay the commercial launch of one or more future products. There is also no assurance that there are not third-party patents or patent applications of which we are aware, but which we do not believe are relevant to our business, which may, nonetheless, ultimately be found to limit our ability to make, use, sell, offer for sale or import our future approved products or impair our competitive position.

Patents that we may ultimately be found to infringe could be issued to third parties. Third parties may have or obtain valid and enforceable patents or proprietary rights that could block us from developing product candidates using our technology. Our failure to obtain a license to any technology that we require may materially harm our business, financial condition and results of operations. Moreover, our failure to maintain a license to any technology that we require may also materially harm our business, financial condition and results of operations. Furthermore, we would be exposed to a threat of litigation.

In the pharmaceutical industry, significant litigation and other proceedings regarding patents, patent applications, trademarks and other intellectual property rights have become commonplace. The types of situations in which we may become a party to such litigation or proceedings include:

- we or our strategic partners may initiate litigation or other proceedings against third parties seeking to invalidate the patents held by those third parties, to obtain a judgment that our products or processes do not infringe those third parties' patents or to obtain a judgement that those parties' patents are unenforceable;
- if our competitors file patent applications that claim technology also claimed by us or our licensors, we or our licensors may be required to participate in interference, derivation or opposition proceedings to determine the priority of invention, which could jeopardize our patent rights and potentially provide a third party with a dominant patent position;
- if third parties initiate litigation claiming that our processes or products infringe their patent or other intellectual property rights or initiating other proceedings, including post-grant proceedings and *inter partes* reviews, we and our strategic partners will need to defend against such proceedings; and
- if a license to necessary technology is terminated, the licensor may initiate litigation claiming that our processes or products infringe or misappropriate their patent or other intellectual property rights and/or that we breached our obligations under the license agreement, and we and our strategic partners would need to defend against such proceedings.

These lawsuits would be costly and could affect our results of operations and divert the attention of our management and scientific personnel. Some of our competitors may be able to sustain the cost of such litigation and proceedings more effectively than we can because of their substantially greater resources. There is a risk that a court would decide that we or our strategic partners are infringing the third party's patents and would order us or our strategic partners to stop the activities covered by the patents. In that event, we or our strategic partners may not have a viable alternative to the technology protected by the patent and may need to halt work on the affected product candidate or cease commercialization of an approved product. In addition, there is a risk that a court will order us or our strategic partners to pay third-party damages or some other monetary award, depending upon the jurisdiction. An adverse outcome in any litigation or other proceeding could subject us to significant liabilities to third parties, potentially including treble damages and attorneys' fees if we are found to have willfully infringed, and we may be required to cease using the technology that is at issue or to license the technology from third parties. We may not be able to obtain any required licenses on commercially acceptable terms or at all. Any of these outcomes could have a material adverse effect on our business.

If we are unable to obtain, maintain and enforce patent and trade secret protection for our product candidates and related technology, our business could be materially harmed.

Our strategy depends on our ability to identify and seek patent protection for our discoveries. This process is expensive and time consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner or in all jurisdictions where protection may be commercially advantageous. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we have licensed from third parties. Therefore, our owned or in-licensed patents and patent applications may not be prosecuted and enforced in a manner consistent with the best interests of our business. Our patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless, and until, patents issue from such applications, and then only to the extent the issued claims cover the technology. The patent applications that we own or in-license may fail to result in issued patents with claims that cover our current and future product candidates in the United States or in other foreign countries.

Moreover, the patent position of biopharmaceutical companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. The issuance of a patent does not ensure that it is valid or enforceable. Third parties may challenge the validity, enforceability or scope of our issued patents, and such patents may be narrowed, invalidated, circumvented, or deemed unenforceable. In addition, changes in law may introduce uncertainty in the enforceability or scope of patents owned by biotechnology companies. If our patents are narrowed, invalidated or held unenforceable, third parties may be able to commercialize our technology or products and compete directly with us without payment to us. There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found, and such prior art could potentially invalidate one or more of our patents or prevent a patent from issuing from one or more of our pending patent applications. There is also no assurance that there is not prior art of which we are aware, but which we do not believe affects the validity or enforceability of a claim in our patents and patent applications, which may, nonetheless, ultimately be found to affect the validity or enforceability of a claim. Furthermore, even if our patents are unchallenged, they may not adequately protect our intellectual property, provide exclusivity for our product candidates, prevent others from designing around our claims or provide us with a competitive advantage. The legal systems of certain countries do not favor the aggressive enforcement of patents, and the laws of foreign countries may not allow us to protect our inventions with patents to the same extent as the laws of the United States. Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in scientific literature lag behind actual discoveries, we cannot be certain that we were the first to make the inventions claimed in our issued patents or pending patent applications, or that we were the first to file for protection of the inventions set forth in our patents or patent applications. As a result, we may not be able to obtain or maintain protection for certain inventions. Therefore, the issuance, validity, enforceability, scope and commercial value of our patents in the United States and in foreign countries cannot be predicted with certainty and, as a result, any patents that we own or license may not provide sufficient protection against competitors. We may not be able to obtain or maintain patent protection from our pending patent applications, from those we may file in the future, or from those we may license from third parties. Moreover, even if we are able to obtain patent protection, such patent protection may be of insufficient scope to achieve our business objectives. In addition, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from marketing our own patented product and practicing our own patented technology.

Our patents covering one or more of our products or product candidates could be found invalid or unenforceable if challenged.

Any of our intellectual property rights could be challenged or invalidated despite measures we take to obtain patent and other intellectual property protection with respect to our product candidates and proprietary technology. For example, if we were to initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that our patent is invalid and/or unenforceable. In patent litigation in the United States and in some other jurisdictions, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld material information from the U.S. Patent and Trademark Office ("USPTO") or the applicable foreign counterpart, or made a misleading statement, during prosecution. A litigant or the USPTO itself could challenge our patents on this basis even if we believe that we have conducted our patent prosecution in accordance with the duty of candor and in good faith. The outcome following such a challenge is unpredictable.

With respect to challenges to the validity of our patents, for example, there might be invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on a product candidate. Even if a defendant does not prevail on a legal assertion of invalidity and/or unenforceability, our patent claims may be construed in a manner that would limit our ability to enforce such claims against the defendant and others. The cost of defending such a challenge, particularly in a foreign jurisdiction, and any resulting loss of patent protection could have a material adverse impact on one or more of our product candidates and our business.

Enforcing our intellectual property rights against third parties may also cause such third parties to file other counterclaims against us, which could be costly to defend, particularly in a foreign jurisdiction, and could require us to pay substantial damages, cease the sale of certain products or enter into a license agreement and pay royalties (which may not be possible on commercially reasonable terms or at all). Any efforts to enforce our intellectual property rights are also likely to be costly and may divert the efforts of our scientific and management personnel.

Our intellectual property rights will not necessarily provide us with competitive advantages.

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, or permit us to maintain our competitive advantage. The following examples are illustrative:

- others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of the patents that we or our strategic partners own or have exclusively licensed;
- others may independently develop similar or alternative technologies without infringing our intellectual property rights;
- issued patents that we own or have exclusively licensed may not provide us with any competitive advantages, or may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- we may obtain patents for certain compounds many years before we obtain marketing approval for products containing such compounds, and because patents have a limited life, which may begin to run prior to the commercial sale of the related product, the commercial value of our patents may be limited;

- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may fail to develop additional proprietary technologies that are patentable;
- the laws of certain foreign countries may not protect our intellectual property rights to the same extent as the laws of the United States, or we may fail to apply for or obtain adequate intellectual property protection in all the jurisdictions in which we operate; and
- the patents of others may have an adverse effect on our business, for example by preventing us from marketing one or more of our product candidates for one or more indications.

Any of the aforementioned threats to our competitive advantage could have a material adverse effect on our business.

We may become involved in lawsuits to protect or enforce our patents and trade secrets, which could be expensive, time consuming and unsuccessful.

Third parties may seek to market biosimilar versions of any approved products. Alternatively, third parties may seek approval to market their own products similar to or otherwise competitive with our product candidates. In these circumstances, we may need to defend or assert our patents, including by filing lawsuits alleging patent infringement. The outcome following legal assertions of invalidity and unenforceability is unpredictable. In any of these types of proceedings, a court or agency with jurisdiction may find our patents invalid or unenforceable. Even if we have valid and enforceable patents, these patents still may not provide protection against competing products or processes sufficient to achieve our business objectives.

Even after they have issued, our patents and any patents that we license may be challenged, narrowed, invalidated or circumvented. If our patents are invalidated or otherwise limited or will expire prior to the commercialization of our product candidates, other companies may be better able to develop products that compete with ours, which could adversely affect our competitive business position, business prospects and financial condition. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

The following are examples of litigation and other adversarial proceedings or disputes that we could become a party to involving our patents or patents licensed to us:

- we or our strategic partners may initiate litigation or other proceedings against third parties to enforce our patent and trade secret rights;
- third parties may initiate litigation or other proceedings seeking to invalidate patents owned by or licensed to us or to obtain a declaratory judgment that their product or technology does not infringe our patents or patents licensed to us;
- third parties may initiate opposition or reexamination proceedings challenging the validity or scope of our patent rights, requiring us or our strategic partners and/or licensors to participate in such proceedings to defend the validity and scope of our patents;
- there may be a challenge or dispute regarding inventorship or ownership of patents or trade secrets currently identified as being owned by or licensed to us;
- the USPTO may initiate an interference between patents or patent applications owned by or licensed to us and those of our competitors, requiring us or our strategic partners and/or licensors to participate in an interference proceeding to determine the priority of invention, which could jeopardize our patent rights; or

- third parties may seek approval to market biosimilar versions of our future approved products prior to expiration of relevant patents owned by or licensed to us, requiring us to defend our patents, including by filing lawsuits alleging patent infringement.

These lawsuits and proceedings would be costly and could affect our results of operations and divert the attention of our managerial and scientific personnel. Adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we or our licensors can. There is a risk that a court or administrative body would decide that our patents are invalid or not infringed or trade secrets not misappropriated by a third party's activities, or that the scope of certain issued claims must be further limited. An adverse outcome in a litigation or proceeding involving our own patents or trade secrets could limit our ability to assert our patents or trade secrets against these or other competitors, affect our ability to receive royalties or other licensing consideration from our licensees, and may curtail or preclude our ability to exclude third parties from making, using and selling similar or competitive products. Any of these occurrences could adversely affect our competitive business position, business prospects and financial condition.

We may not be able to prevent, alone or with our licensors, infringement or misappropriation of our intellectual property rights, particularly in countries where the laws may not protect those rights as fully as in the United States. Any litigation or other proceedings to enforce our intellectual property rights may fail, and even if successful, may result in substantial costs and distract our management and other employees.

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 this type of litigation. There could also 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 an adverse effect on the price of our common shares.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. For example:

- others may be able to develop a platform that is similar to, or better than, ours in a way that is not covered by the claims of our patents;
- others may be able to make compounds that are similar to our product candidates but that are not covered by the claims of our patents;
- we might not have been the first to make the inventions covered by patents or pending patent applications;
- we might not have been the first to file patent applications for these inventions;
- any patents that we obtain may not provide us with any competitive advantages or may ultimately be found invalid or unenforceable; or
- we may not develop additional proprietary technologies that are patentable or that afford meaningful trade secret protection.

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

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products, including biosimilars. 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. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

If we do not obtain protection under the Hatch-Waxman amendments and similar foreign legislation for extending the term of patents covering each of our product candidates, our business may be materially harmed.

Depending upon the timing, duration and conditions of FDA marketing approval of our product candidates, one or more of our U.S. patents may be eligible for limited patent term extension under the Drug Price Competition and Patent Term Restoration Act of 1984, referred to as the Hatch-Waxman Amendments. The Hatch-Waxman Amendments permit a patent term extension of up to five years for a patent covering an approved product as compensation for effective patent term lost during product development and the FDA regulatory review process. However, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. If we are unable to obtain patent term extension or the term of any such extension is less than we request, the period during which we can enforce our patent rights for that product will be shortened and our competitors may obtain approval to market competing products sooner. As a result, our revenue from applicable products could be reduced, possibly materially. Further, if this occurs, our competitors may take advantage of our investment in development and trials by referencing our clinical and preclinical data and launch their product earlier than might otherwise be the case.

If we are unable to protect the confidentiality of our proprietary information, the value of our technology and products could be adversely affected.

In addition to patent protection, we also rely on other proprietary rights, including protection of trade secrets, and other proprietary information. For example, we treat our proprietary computational technologies, including unpatented know-how and other proprietary information, as trade secrets. To maintain the confidentiality of trade secrets and proprietary information, we enter into confidentiality agreements with our employees, consultants, strategic partners and others upon the commencement of their relationships with us. These agreements require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. Our agreements with employees and our personnel policies also provide that any inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. However, we may not obtain these agreements in all circumstances, and individuals with whom we have these agreements may not comply with their terms. Thus, despite such agreement, such inventions may become assigned to third parties. In the event of unauthorized use or disclosure of our trade secrets or proprietary information, these agreements, even if obtained, may not provide meaningful protection, particularly for our trade secrets or other confidential information. To the extent that our employees, consultants or contractors use technology or know-how owned by third parties in their work for us, disputes may arise between us and those third parties as to the rights in related inventions. To the extent that an individual who is not obligated to assign rights in intellectual property to us is rightfully an inventor of intellectual property, we may need to obtain an assignment or a license to that intellectual property from that individual, or a third party or from that individual's assignee. Such assignment or license may not be available on commercially reasonable terms or at all.

Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming and the outcome is unpredictable. The disclosure of our trade secrets would impair our competitive position and may materially harm our business, financial condition and results of operations. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to maintain trade secret protection could adversely affect our competitive business position. In addition, if any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such third party, or those to whom they communicate such technology or information, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, or if we otherwise lose protection for our trade secrets or proprietary know-how, the value of this information may be greatly reduced and our business and competitive position could be harmed. Adequate remedies may not exist in the event of unauthorized use or disclosure of our proprietary information.

As is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously or concurrently employed at research institutions and/or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. We may be subject to claims that these employees, or we, have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers, or that patents and applications we have filed to protect inventions of these employees, even those related to one or more of our product candidates, are rightfully owned by their former or concurrent employer. Litigation may be necessary to defend against these claims. Such trade secrets or other proprietary information could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products. Such license may not be available on commercially reasonable terms or at all. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by regulations and governmental patent agencies, and our patent protection could be reduced or eliminated for noncompliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents or applications will be due to the USPTO and various foreign patent offices at various points over the lifetime of our patents or applications. We have systems in place to remind us to pay these fees, and we rely on our outside patent annuity service to pay these fees when due. Additionally, the USPTO and various foreign patent offices require compliance with a number of 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, and in many cases an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with rules applicable to the particular jurisdiction. However, there are situations in which noncompliance 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. If such an event were to occur, it could have a material adverse effect on our business.

We may be subject to claims challenging the inventorship of our patents and other intellectual property.

Although we are not currently experiencing any claims challenging the inventorship or ownership of our patents, we may in the future be subject to claims that former employees, strategic partners or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor. While it is our policy to require our employees and contractors who may be involved in the conception or 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. For example, the assignment of intellectual property rights may not be self-executing or the assignment agreements may be breached, or we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, valuable intellectual property. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

Patent protection and patent prosecution for some of our product candidates may be dependent on, and the ability to assert patents and defend them against claims of invalidity may be maintained by, third parties.

There may be times in the future when certain patents that relate to our product candidates or any approved products are controlled by our licensees or licensors. Although we may, under such arrangements, have rights to consult with our strategic partners on actions taken as well as back-up rights of prosecution and enforcement, we have in the past and may in the future relinquish rights to prosecute and maintain patents and patent applications within our portfolio as well as the ability to assert such patents against infringers.

If any current or future licensee or licensor with rights to prosecute, assert or defend patents related to our product candidates fails to appropriately prosecute and maintain patent protection for patents covering any of our product candidates, or if patents covering any of our product candidates are asserted against infringers or defended against claims of invalidity or unenforceability in a manner that adversely affects such coverage, our ability to develop and commercialize any such product candidate may be adversely affected and we may not be able to prevent competitors from making, using and selling competing products.

Changes in patent laws or patent jurisprudence could diminish the value of patents in general, thereby impairing our ability to protect our products.

The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. Changes in either the patent laws or in the interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property. We cannot predict the breadth of claims that may be allowed or found to be enforceable in our patents, in our strategic partners' patents or in third-party patents. Recent U.S. Supreme Court rulings have either narrowed the scope of patent protection available in certain circumstances or weakened 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 has created uncertainty with respect to the validity, scope and value of patents, once obtained.

For our U.S. patent applications containing a priority claim after March 16, 2013, there is a greater level of uncertainty in the patent law. In September 2011, the Leahy-Smith America Invents Act, also known as the America Invents Act ("AIA"), was signed into law. The AIA includes a number of significant changes to U.S. patent law, including provisions that affect the way patent applications will be prosecuted and may also affect patent litigation.

The AIA and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have an adverse effect on our business. An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties disclosing or claiming the same invention. A third party that has filed, or files a patent application in the USPTO after March 16, 2013 but before us, could be awarded a patent covering a given invention, even if we had made the invention before it was made by the third party. This requires us to be cognizant of the time from invention to filing of a patent application.

Among some of the other changes introduced by the AIA are changes that limit where a patentee may file a patent infringement suit and providing opportunities for third parties to challenge any issued patent in the USPTO. This applies to all of our U.S. patents, even those issued before March 16, 2013. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal court necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action.

Depending on decisions by the U.S. Congress, the U.S. federal courts, the USPTO or similar authorities in foreign jurisdictions, the laws and regulations governing patents could change in unpredictable ways that may weaken our and our licensors' ability to obtain new patents or to enforce existing patents we and our licensors or partners may obtain in the future.

We may not be able to protect our intellectual property rights throughout the world.

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 can be less extensive than those in 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. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our current or future products, if any, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. Recent U.S. Supreme Court cases have narrowed the scope of what is considered patentable subject matter, for example, in the areas of software and diagnostic methods involving the association between treatment outcome and biomarkers. This could impact our ability to patent certain aspects of our technology in the United States.

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, trade secrets and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents 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.

Additionally, the requirements for patentability may differ in certain countries, particularly developing countries. For example, unlike other countries, China has a heightened requirement for patentability, and specifically requires a detailed description of medical uses of a claimed drug. In India, unlike the United States, there is no link between regulatory approval of a drug and its patent status. In addition to India, certain countries in Europe and developing countries, including China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In those countries, we and our licensors may have limited remedies if patents are infringed or if we or our licensors are compelled to grant a license to a third party, which could materially diminish the value of those patents. This could limit our potential revenue opportunities. Accordingly, our efforts to enforce intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license.

We will need to obtain FDA approval for any proposed product candidate names, and any failure or delay associated with such approval may adversely affect our business.

Any proprietary name or trademark we intend to use for our product candidates will require approval from the FDA regardless of whether we have secured a formal trademark registration from the USPTO. The FDA typically conducts a review of proposed product candidate names, including an evaluation of the potential for confusion with other product names. The FDA may also object to a product name if it believes the name inappropriately implies certain medical claims or contributes to an overstatement of efficacy. If the FDA objects to any product candidate names we propose, we may be required to adopt an alternative name for our product candidates. If we adopt an alternative name, we would lose the benefit of any existing trademark applications for such product candidate and may be required to expend significant additional resources in an effort to identify a suitable product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. We may be unable to build a successful brand identity for a new trademark in a timely manner or at all, which would limit our ability to commercialize our product candidates.

Risks Related to Additional Legal and Compliance Matters

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with FDA regulations, to provide accurate information to the FDA, to comply with federal and state health care fraud and abuse laws and regulations, to report financial information or data accurately or to disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the health care industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a Code of Conduct and Business Ethics, but 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 governmental 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 have a significant impact on our business, including the imposition of significant fines or other sanctions.

If we market products in a manner that violates healthcare fraud and abuse laws, or if we violate government price reporting laws, we may be subject to civil or criminal penalties.

In addition to FDA restrictions on the marketing of pharmaceutical products, federal and state healthcare laws restrict certain business practices in the biopharmaceutical industry. Although we currently do not have any products on the market, we may be subject, and if our product candidates are approved and we begin commercialization will be subject, to additional healthcare laws and regulations enforced by the federal government and by authorities in the states and foreign jurisdictions in which we conduct our business. These state and federal healthcare laws, commonly referred to as “fraud and abuse” laws, have been applied in recent years to restrict certain marketing practices in the pharmaceutical industry, and include, but are not limited to, anti-kickback, false claims, data privacy and security and transparency statutes and regulations.

Federal false claims laws prohibit any person from knowingly presenting, or causing to be presented, a false claim for payment to the federal government or knowingly making, or causing to be made, a false statement to get a false claim paid. The federal healthcare program anti-kickback statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving remuneration to induce, or in return for, purchasing, leasing, ordering or arranging for the purchase, lease or order of any healthcare item or service reimbursable under Medicare, Medicaid or other federally financed healthcare programs. This 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 several statutory exemptions and regulatory safe harbors protecting certain common activities from prosecution, the exemptions and safe harbors are drawn narrowly, and practices that involve remuneration intended to induce prescribing, purchasing or recommending may be subject to scrutiny if they do not qualify for an exemption or safe harbor. Most states also have statutes or regulations similar to the federal anti-kickback law and federal false claims laws, which may apply to items such as pharmaceutical products and services reimbursed by private insurers. Administrative, civil and criminal sanctions may be imposed under these federal and state laws.

Over the past few years, a number of pharmaceutical and other healthcare companies have been prosecuted under these laws for a variety of promotional and marketing activities, such as:

- providing free trips, free goods, sham consulting fees and grants and other monetary benefits to prescribers;
- reporting to pricing services inflated average wholesale prices that were then used by federal programs to set reimbursement rates;
- engaging in off-label promotion;
- submitting inflated best price information to the Medicaid Rebate Program to reduce liability for Medicaid rebates; and
- providing funding to third-party charitable foundations in order to offset patient co-payment obligations.

The civil monetary penalties statute imposes penalties against any person or entity who, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

HIPAA created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, 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.

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 HITECH, and its implementing regulations, imposes certain requirements 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—independent contractors or agents of covered entities that receive or obtain protected health information in connection with providing a service on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties, and newly empowered state attorneys general with the authority to enforce HIPAA. In January 2013, the Office for Civil Rights of the U.S. Department of Health and Human Services issued the Final Omnibus Rule under HIPAA pursuant to HITECH that makes significant changes to the privacy, security and breach notification requirements and penalties. The Final Omnibus Rule generally took effect in September 2013 and enhances certain privacy and security protections, and strengthens the government's ability to enforce HIPAA. The Final Omnibus Rule also enhanced requirements for both covered entities and business associates regarding notification of breaches of unsecured protected health information. In addition, state laws govern the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways. These state laws may not have the same effect and often are not pre-empted by HIPAA, thus complicating compliance efforts.

Additionally, the PPACA also included the federal Physician Payments Sunshine Act, which requires certain manufacturers of drugs, devices, biologicals and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually information related to certain payments or other transfers of value made or distributed to physicians and teaching hospitals, or to entities or individuals at the request of, or designated on behalf of, the physicians and teaching hospitals and to report annually certain ownership and investment interests held by physicians and their immediate family members. Failure to comply with required reporting requirements could subject applicable manufacturers and others to substantial civil money penalties.

Also, many states have similar healthcare 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. Certain states require pharmaceutical companies to implement a comprehensive compliance program that includes a limit or outright ban on expenditures for, or payments to, individual medical or health professionals and/or require pharmaceutical companies to track and report gifts and other payments made to physicians and other healthcare providers.

If our operations are found to be in violation of any of the healthcare laws or regulations described above or any other laws that apply to us, we may be subject to penalties, including potentially significant criminal, civil or administrative penalties, damages, fines, disgorgement, individual imprisonment, exclusion of products from reimbursement under government programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings or 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 will be 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, fraud and abuse laws, and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

If we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.

Our research and development involves, and may in the future involve, the use of potentially hazardous materials and chemicals. Our operations may produce hazardous waste products. Although we believe that our safety procedures for handling and disposing of these materials comply with the standards mandated by local, state and federal laws and regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations and fire and building codes, including those governing laboratory procedures, exposure to blood-borne pathogens, use and storage of flammable agents and the handling of biohazardous materials. Although we maintain workers' compensation insurance as prescribed by Washington State and the Province of British Columbia to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of these materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us. Additional federal, state and local laws and regulations affecting our operations may be adopted in the future. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

Risks Related to 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 the research and development, clinical and business expertise of Dr. Ali Tehrani, Ph.D., our President and Chief Executive Officer, Dr. Diana Hausman, our Chief Medical Officer, and other members of our senior management, scientific and clinical teams. Although we have entered into employment agreements with our executive officers, each of them may terminate their employment with us at any time. 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.

Recruiting and retaining qualified scientific, clinical, manufacturing and sales and marketing personnel will also be critical to our success. In addition, we will need to expand and effectively manage our managerial, operational, financial, development and other resources in order to successfully pursue our research, development and commercialization efforts for our existing and future product candidates. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited talent pool in our industry due to the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Intense competition for attracting key skill-sets may limit our ability to retain and motivate these key personnel on acceptable terms. 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 be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We will need to grow our organization, and we may experience difficulty in managing this growth, which could disrupt our operations.

As of December 31, 2019, we had 251 full-time employees. As our development and commercialization plans and strategies develop, we expect to expand our employee base for managerial, operational, financial and other resources. Additionally, as our product candidates enter and advance through preclinical studies and any clinical trials, we will need to expand our development, manufacturing, regulatory sales and marketing capabilities or contract with other organizations to provide these capabilities for us. Future growth would impose significant added responsibilities on members of management, including the need to identify, recruit, maintain, motivate and integrate additional employees. Also, our management may need to divert a disproportionate amount of their attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our infrastructure, give rise to operational errors, loss of business opportunities, loss of employees and reduced productivity amongst remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of existing and additional product candidates. If our management is unable to effectively manage our expected growth, our expenses may increase more than expected, our ability to generate or grow revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize our product candidates and compete effectively with others in our industry will depend on our ability to effectively manage any future growth.

Risks Related to Our Common Shares

Our share price is likely to be volatile and the market price of our common shares may drop below the price paid by shareholders.

Investors should consider an investment in our common shares as risky and invest only if they can withstand a significant loss and wide fluctuations in the market value of their investment. In addition, the stock market has experienced significant volatility, particularly with respect to pharmaceutical, biotechnology and other life sciences company stocks. The volatility of pharmaceutical, biotechnology and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Some of the factors that may cause the market price of our common shares to fluctuate or decrease include:

- results and timing of our clinical trials and clinical trials of our competitors' products;
- failure or discontinuation of any of our development programs;
- issues in manufacturing our product candidates or future approved products;

- regulatory developments or enforcement in the United States and foreign countries with respect to our product candidates or our competitors' products;
- competition from existing products or new products that may emerge;
- developments or disputes concerning patents or other proprietary rights;
- introduction of technological innovations or new commercial products by us or our competitors;
- announcements by us, our strategic partners or our competitors of significant acquisitions, strategic partnerships, joint ventures, or capital commitments;
- changes in estimates or recommendations by securities analysts that cover our common shares;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- public concern over our product candidates or any future approved products;
- litigation;
- future sales of our common shares;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- additions or departures of key personnel;
- changes in the structure of health care payment systems in the United States or overseas;
- failure of any of our product candidates, if approved, to achieve commercial success;
- economic and other external factors or other disasters or crises;
- period-to-period fluctuations in our financial condition and results of operations, including the timing of receipt of any milestone or other payments under commercialization or licensing agreements;
- general market conditions and market conditions for biopharmaceutical stocks;
- overall fluctuations in U.S. equity markets; and
- other factors that may be unanticipated or out of our control.

In addition, in the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our shareholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit and divert the time and attention of our management, which could seriously harm our business.

An active trading market for our common shares may not be sustained.

An active trading market for our shares may not be sustained. If an active market for our common shares does not continue, it may be difficult for our shareholders to sell their shares without depressing the market price for the shares or sell their shares at or above the prices at which they acquired their shares or sell their shares at the time they would like to sell. Any inactive trading market for our common shares may also impair our ability to raise capital to continue to fund our operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

Substantial future sales of our common shares, or the perception that these sales could occur, may cause the price of our common shares to drop significantly, even if our business is performing well.

A large volume of sales of our common shares could decrease the prevailing market price of our common shares and could impair our ability to raise additional capital through the sale of equity securities in the future. Even if a substantial number of sales of our common shares does not occur, the mere perception of the possibility of these sales could depress the market price of our common shares and have a negative effect on our ability to raise capital in the future.

We incur significant costs as a result of operating as a public company, and our management is required to devote substantial time to corporate governance standards.

As a public company, we incur significant legal, accounting and other expenses. In addition, our administrative staff are required to perform additional tasks not required for a private company. For example, as a public company, we have adopted additional internal controls and disclosure controls and procedures, retained a transfer agent and adopted an insider trading policy. As a public company, we bear all of the internal and external costs of preparing and distributing periodic public reports in compliance with our obligations under securities laws.

In addition, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act and the related rules and regulations implemented by the SEC, the applicable Canadian securities regulators and the New York Stock Exchange (“NYSE”) have legal and financial compliance costs and make some compliance activities time consuming. We intend to invest resources to comply with evolving laws, regulations and standards, and such investment will result in increased general and administrative expenses and may divert management’s time and attention from our other business activities. If our efforts to comply with new laws, regulations and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to practice, regulatory authorities may initiate legal proceedings against us and our business may be harmed. Additionally, as a public company, we maintain our directors’ and officers’ liability insurance coverage, which results in higher insurance costs. In the future, it may be more expensive or more difficult for us to obtain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our board of directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

Under the corporate governance standards of the NYSE, a majority of our board of directors and each member of our audit committee must be an independent director. Canadian securities laws require each member of the audit committee to be independent within the meaning of Canadian securities laws. As of the date of this Annual Report on Form 10-K, we meet these requirements, but we may in the future encounter difficulty in attracting and retaining qualified persons to serve on our board of directors and the audit committee, and our board of directors and management may be required to divert significant time and attention and resources away from our business to identify qualified directors. If we fail to attract and retain the required number of independent directors, we may be subject to the delisting of our common shares from the NYSE.

Effective December 31, 2019, we no longer qualify as an “an emerging growth company” and the reduced disclosure requirements applicable to emerging growth companies no longer apply, which will increase our costs and demands on management.

As a result of our public float (the market value of our common shares held by non-affiliates) as of June 28, 2019, we became a large accelerated filer as of December 31, 2019 and therefore no longer qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012 (“JOBS Act”). Additionally, due to our public float as of June 28, 2019, we no longer qualify as a “smaller reporting company” as defined under the Exchange Act. However, we are not required to reflect the change in our smaller reporting company status until our first quarterly report in our next fiscal year (i.e., the quarterly report for the three-month period ended March 31, 2020).

As an emerging growth company and a smaller reporting company, we have had the option to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies, including, but not limited to, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions related to certain “Say-on-Pay” rules under Section 14A of the Exchange Act, including requirements to hold a nonbinding advisory vote on named executive officer compensation, the frequency of such votes and arrangements with named executive officers regarding compensation based on or related to an acquisition, merger, or similar transaction.

Further, as an emerging growth company, we had not been subject to Section 404(b) of the Sarbanes Oxley Act (“Section 404”), which requires that our independent registered public accounting firm provide an attestation report of our internal controls over financial reporting. Preparing such attestation report and the cost of compliance with reporting requirements that we have not previously implemented will increase our expenses and require significant management time. Investors may find our common shares less attractive because of the additional compliance costs. In addition, even if our management concludes that our internal control over financial reporting is effective, our independent registered public accounting firm may conclude that there are material weaknesses or significant deficiencies with respect to our internal controls or the level at which our internal controls are documented, designed, implemented or reviewed. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common shares.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, shareholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common shares.

Effective internal control over financial reporting is necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation, could cause us to fail to meet our reporting obligations. Pursuant to Section 404, and related rules adopted by the SEC and the U.S. Public Company Accounting Oversight Board (the “PCAOB”), our management is required to disclose changes made in our internal control over financial reporting on a quarterly basis and assess the effectiveness of our disclosure controls and procedures annually. In connection with previous financial reports, we elected to take advantage of certain exceptions from reporting requirements that are available to emerging growth companies under the JOBS Act and therefore have not previously delivered an auditor’s attestation report on the effectiveness of our internal control over financial reporting pursuant to Section 404.

As of December 31, 2019, we no longer qualify as an emerging growth company. As a result, our independent registered public accounting firm is required to issue an attestation report on the effectiveness of our internal control over financial reporting, pursuant to Section 404. Going forward, even if our management concludes that our internal control over financial reporting is effective, our independent registered public accounting firm may conclude that there are material weaknesses or significant deficiencies with respect to our internal controls or the level at which our internal controls are documented, designed, implemented or reviewed. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common shares.

We are at risk of securities class action litigation.

Securities class action litigation has often been brought against companies following a decline in the market price of their securities. This risk is especially relevant for us because biotechnology companies have experienced significant stock price volatility in recent years. If we face such litigation, it could result in substantial costs and a diversion of management’s attention and resources, which could materially harm our business.

We do not anticipate paying cash dividends, and accordingly, shareholders must rely on share appreciation for any return on their investment.

We have never paid any dividends on our common shares. We currently intend to retain our future earnings, if any, to fund the development and growth of our business and do not anticipate that we will declare or pay any cash dividends on our common shares in the foreseeable future. As a result, capital appreciation, if any, of our common shares will be the sole source of gain on investment in our common shares for the foreseeable future. Investors seeking cash dividends should not invest in our common shares.

The NYSE may delist our securities from its exchange, which could limit investors' ability to make transactions in our securities and subject us to additional trading restrictions.

Our securities may fail to meet the continued listing requirements to be listed on the NYSE. If the NYSE delists our common shares from trading on its exchange, we could face significant material adverse consequences, including:

- a limited availability of market quotations for our securities;
- a determination that our common shares is a "penny stock", which will require brokers trading in our common shares to adhere to more stringent rules and possibly result in a reduced level of trading activity in the secondary trading market for our common shares;
- a limited amount of news and analyst coverage for our company; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

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

We are governed by the BCBCA and other relevant Canadian 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 our company 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 BCBCA and Delaware General Corporation Law ("DGCL") that may have the greatest such effect include, but are not limited to, the following: (i) for certain corporate transactions (such as mergers and amalgamations or amendments to our articles) the BCBCA generally requires the voting threshold to be a special resolution approved by $66\,^{2}/_{3}\,\%$ of shareholders, or as set out in the articles, as applicable, whereas DGCL generally only requires a majority vote; and (ii) under the BCBCA 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. We cannot predict whether investors will find our company and our common shares less attractive because we are governed by foreign laws.

U.S. civil liabilities may not be enforceable against us, our directors, our officers or certain experts named in this Annual Report on Form 10-K.

We are governed by the BCBCA and our principal place of business is in Canada. One of our directors and certain of our officers, as well as certain experts named herein, reside outside of the United States, and all or a substantial portion of their assets as well as all or a substantial portion of our assets are 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 and such directors, officers and experts or to enforce judgments obtained against us or such persons, in U.S. courts, in any action, including actions predicated upon the civil liability provisions of U.S. federal securities laws or any other laws of the United States. Additionally, rights predicated solely upon civil liability provisions of U.S. federal securities laws or any other laws of the United States may not be enforceable in original actions, or actions to enforce judgments obtained in U.S. courts, brought in Canadian courts, including courts in the Province of British Columbia. Furthermore, provisions in our articles provide that, unless we consent in writing to the selection of an alternative forum, the Supreme Court of British Columbia and the appellate courts therefrom, to the fullest extent permitted by law, will be the sole and exclusive forum for certain actions or proceedings brought against us, our directors and/or our officers. These provisions may limit our shareholders' ability to bring a claim against us in a judicial forum that our shareholders consider favorable or convenient for such disputes and may discourage lawsuits with respect to such claims.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our share price and trading volume could decline.

The trading market for our common shares will depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. We cannot assure that analysts will cover us or provide accurate or favorable coverage. If one or more of the analysts who cover us downgrade our stock or change their opinion of our common shares negatively, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline. Moreover, the research and reports that analysts publish may suggest a price for our common shares that does not fully or accurately reflect the true value of our company. Furthermore, even if such analyst publications are favorable, these reports could have negative consequences for us.

U.S. holders of the company's shares may suffer adverse tax consequences if we are characterized as a passive foreign investment company.

We believe that we were not classified as a passive foreign investment company ("PFIC") for the taxable year ended December 31, 2019. However, the determination as to whether we are a PFIC for any taxable year is based on the application of complex U.S. federal income tax rules that are subject to differing interpretations. If we are a PFIC for any taxable year during which a U.S. Holder (as defined under Item 5, "Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities—Certain U.S. Income Tax Considerations For U.S. Holders") holds the common shares, it would likely result in adverse U.S. federal income tax consequences for such U.S. Holder. U.S. Holders should carefully read Item 5, "Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities—Certain U.S. Income Tax Considerations For U.S. Holders" for more information and consult their own tax advisors regarding the likelihood and consequences if we are treated as a PFIC for U.S. federal income tax purposes, including the advisability of making a "qualified electing fund" election (including a protective election), which may mitigate certain possible adverse U.S. federal income tax consequences but may result in an inclusion in gross income without receipt of such income.

Our principal shareholders, in aggregate, could exert substantial control over us, which could delay or prevent a change in corporate control or result in the entrenchment of management or the board of directors.

Our principal shareholders, together with their affiliates and related persons, in aggregate, own or could acquire (contingent upon the exercise of convertible securities they own) approximately 30.9% of our outstanding common shares as of December 31, 2019 (19.3% excluding the exercise of convertible securities). Our directors and named executive officers beneficially own, in the aggregate, approximately 4.1% of our outstanding common shares as of December 31, 2019. Our principal shareholders, if acting together (with or without our directors and named executive officers), may have the ability to exert substantial control over the outcome of matters submitted to our shareholders for approval, including but not limited to the election and removal of directors and any merger or sale of all or substantially all of our assets. In addition, our principal shareholders, if acting together (with or without our directors and named executive officers), may have the ability to exert substantial control over the management and affairs of our company. Accordingly, this concentration of ownership could harm the market price of our common shares by:

- delaying, deferring, or preventing a change in control;
- entrenching our management or the board of directors;
- impeding a merger, takeover, or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

Provisions in our corporate charter documents and Canadian law could make an acquisition of us, which may be beneficial to our shareholders, more difficult and may prevent attempts by our shareholders to replace or remove our current management and/or limit the market price of our common shares.

Provisions in our notice of articles and articles, as well as certain provisions under the BCBCA, and applicable Canadian securities laws, may discourage, delay or prevent a merger, acquisition or other change in control of us that shareholders may consider favorable, including transactions in which they might otherwise receive a premium for their common shares. These provisions include the establishment of a staggered board of directors, which divides the board into three groups, with directors in each group serving a three-year term. The existence of a staggered board can make it more difficult for shareholders to replace or remove incumbent members of our board of directors. As such, these provisions could also limit the price that investors might be willing to pay in the future for our common shares, thereby depressing the market price of our common shares. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our shareholders to replace or remove our current management by making it more difficult for shareholders to replace members of our board of directors. Among other things, these provisions include the following:

- shareholders cannot amend our articles unless such amendment is approved by shareholders holding at least a majority of the shares entitled to vote on such approval;
- our board of directors may, without shareholder approval, issue preferred shares having any terms, conditions, rights, preferences and privileges as the board of directors may determine; and
- shareholders must give advance notice to nominate directors or to submit proposals for consideration at shareholders' meetings.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

Our headquarters are located in Vancouver, British Columbia, where we lease separate office and laboratory space. The term of each lease expires in August 2021. We entered into a lease on January 25, 2019 to serve as our new Vancouver, British Columbia headquarters (our "New Headquarters"). Our New Headquarters will provide us with more space than our current Vancouver leases and will allow us to have our office and laboratory spaces in a single building. The commencement date of this lease depends upon completion of construction of the building and is currently estimated to be no later than September 1, 2021. This lease has an initial term of ten years, with two five-year extension options.

We believe that our existing facilities are adequate for our immediate needs and we have entered into the lease for our New Headquarters to accommodate our anticipated growth. We believe that, should it be needed, additional space can be leased to accommodate any future growth.

Our U.S. office is located in Seattle, Washington. The expiration date of the lease is September 30, 2025.

Item 3. Legal Proceedings

From time to time, we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. As of December 31, 2019, we are not a party to any legal proceedings that, in the opinion of our management, would reasonably be expected to have a material adverse effect on our business, financial condition, operating results or cash flows if determined adversely to us. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common shares began trading on the NYSE and the Toronto Stock Exchange ("TSX") on April 28, 2017 under the symbol "ZYME." Prior to such time, there was no public market for our common shares. We voluntarily delisted our common shares from the TSX as of the close of business on October 1, 2019. The following table sets forth the high and low sales prices per common share as reported on the NYSE and TSX for the periods indicated.

	NYSE		TSX	
	High	Low	High	Low
	US$		C$	
Quarter Ended				
December 31, 2019	45.83	24.00	n/a	n/a
September 30, 2019	29.75	21.52	39.10	29.64
June 30, 2019	23.17	14.65	30.43	19.75
March 31, 2019	17.30	13.96	23.02	18.73
December 31, 2018	15.73	10.72	20.52	14.34
September 30, 2018	16.88	12.15	21.69	15.84
June 30, 2018	29.00	10.37	30.36	13.37
March 31, 2018	14.00	7.69	17.31	9.62
December 31, 2017	9.33	6.87	11.60	9.00
September 30, 2017	9.12	6.25	11.48	8.05
April 28, 2017 to June 30, 2017	14.25	7.24	19.55	10.50

On February 27, 2020, the last reported sale price of our common shares on the NYSE was $39.70 per share.

Holders

As at February 27, 2020, we had 31 shareholders of record holding our common shares, of which six were U.S. shareholders. A substantially greater number of holders of Zymeworks' common stock are "street name" or beneficial holders whose shares of record are held by banks, brokers, and other financial institutions.

Dividends

We have never paid any dividends on our common shares or any of our other securities. We currently intend to retain any future earnings to finance the growth and development of our business, and we do not anticipate that we will declare or pay any cash dividends in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of our board of directors and will be dependent upon our financial condition, results of operations, capital requirements, restrictions under any future indebtedness and other factors the board of directors deems relevant.

Certain Canadian Federal Income Tax Considerations for U.S. Holders

The following is a general summary of the principal Canadian federal income tax considerations generally applicable under *Income Tax Act* (Canada) (the "Tax Act") to a holder of common shares, each of whom, at all relevant times, for the purposes of the Tax Act, holds such common shares as capital property, deals at arm's length with the Company, is not affiliated with the Company and, for purposes of the Tax Act, is not, and is not deemed to be, a resident of Canada and has not and will not use or hold or be deemed to use or hold the common shares in the course of carrying on business in Canada (a "Non-Resident Holder") and is not a "specified shareholder" (as defined in subsection 18(5) of the Tax Act). A "specified shareholder" for these purposes generally includes a person who (either alone or together with persons with whom that person is not dealing at arm's length for purposes of the Tax Act) owns or has the right to acquire or control 25% or more of the common shares determined on a votes or fair market value basis. Special rules, which are not discussed below, may apply to a non-resident of Canada that is an insurer that carries on business in Canada and elsewhere.

The common shares will generally be considered capital property to a Non-Resident Holder unless either (i) the Non-Resident Holder holds the common shares in the course of carrying on a business of buying and selling securities or (ii) the Non-Resident Holder has acquired the common shares in a transaction or transactions considered to be an adventure or concern in the nature of trade.

The term "U.S. Holder," for the purposes of this section, means a Non-Resident Holder who, for purposes of the *Canada-United States Income Tax Convention* (1980) as amended, (the "Convention"), is at all relevant times a resident of the United States and is a "qualifying person" within the meaning of the Convention. In some circumstances, fiscally transparent entities (including limited liability companies) will be entitled to benefits under the Convention. U.S. Holders are urged to consult with their own tax advisors to determine their entitlement to benefits under the Convention based on their particular circumstances.

This summary is based on the current provisions of the Tax Act, the regulations thereunder (the "Regulations"), the current provisions of the Convention, and counsel's understanding of the current published administrative policies and assessing practices of the Canada Revenue Agency (the "CRA") publicly available prior to the date hereof. This summary also takes into account all specific proposals to amend the Tax Act and Regulations publicly announced by or on behalf of the Minister of Finance (Canada) prior to the date hereof (collectively, the "Proposed Tax Amendments"). No assurances can be given that the Proposed Tax Amendments will be enacted or will be enacted as proposed. Other than the Proposed Tax Amendments, this summary does not take into account or anticipate any changes in law or the administration policies or assessing practice of CRA, whether by judicial, legislative, governmental or administrative decision or action, nor does it take into account provincial, territorial or foreign income tax legislation or considerations, which may differ significantly from those discussed herein.

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 U.S. Holder and no representations with respect to the income tax consequences to any particular U.S. Holder are made. This summary is not exhaustive of all Canadian federal income tax considerations. Accordingly, U.S. Holders should consult their own tax advisors with respect to their own particular circumstances. The discussion below is qualified accordingly.

Currency Conversion

Subject to certain exceptions that are not discussed herein, for purposes of the Tax Act, all amounts relating to the acquisition, holding or disposition of common shares, including dividends, adjusted cost base and proceeds of dispositions must be determined in Canadian dollars using the daily exchange rate of the Bank of Canada on the particular date the particular amount arose or such other rate of exchange as acceptable to the CRA.

Disposition of Common Shares

A Non-Resident Holder will not be subject to tax under the Tax Act in respect of any capital gain realized by such Non-Resident Holder on a disposition of the common shares, nor will capital losses arising from the disposition be recognized under the Tax Act, unless the common shares constitute "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. As long as the shares are then listed on a "designated stock exchange" (as defined in the Tax Act) (which currently includes the NYSE) at the time of disposition, the common shares generally will not constitute taxable Canadian property of a Non-Resident Holder, unless at any time during the 60-month period immediately preceding the disposition the following two conditions are met concurrently: (i) the Non-Resident Holder, persons with whom the Non-Resident Holder did not deal at arm's length, partnerships in which the Non-Resident Holder or persons with whom the Non-Resident Holder did not deal at arm's length holds a membership interest directly or indirectly through one or more partnerships, or the Non-Resident Holder together with all such persons, owned or was considered to own 25% or more of the issued shares of any class or series of shares of the capital stock of the Company; and (ii) more than 50% of the fair market value of the common shares was derived directly or indirectly from one or any combination of real or immovable property situated in Canada, "Canadian resource properties" (as defined in the Tax Act), "timber resource properties" (as defined in the Tax Act) or a options in respect of, or interests in, or civil law rights in, such properties, whether or not it exists.

If the common shares are taxable Canadian property to a Non-Resident Holder, any capital gain realized on the disposition or deemed disposition of such shares may not be subject to Canadian federal income tax pursuant to the terms of an applicable income tax treaty or convention between Canada and the country of residence of a Non-Resident Holder, including the Convention.

A Non-Resident Holder whose shares are taxable Canadian property should consult their own advisors.

Dividends on Common Shares

Under the Tax Act, dividends on shares paid or credited to a Non-Resident Holder will be subject to Canadian withholding tax at the rate of 25% of the gross amount of the dividends. This withholding tax may be reduced pursuant to the terms of an applicable income tax treaty or convention between Canada and the country of residence of a Non-Resident Holder. Under the Convention, a U.S. Holder will generally be subject to Canadian withholding tax at a rate of 15% of the gross amount of such dividends (or 5% in the case of a U.S. Holder that is a company beneficially owning at least 10% of the Company's voting shares). In addition, under the Convention, dividends may be exempt from Canadian non-resident withholding tax if paid to certain U.S. Holders that are qualifying religious, scientific, literary, educational or charitable tax-exempt organizations and qualifying trusts, companies, organizations or arrangements operated exclusively to administer or provide pension, retirement or employee benefits that are exempt from tax in the United States and that have complied with specific administrative procedures.

The CRA allows residents of any country with which Canada has a tax treaty to certify that they reside in that country, so they are eligible to have Canadian non-resident tax withheld on the payment of dividends at the reduced tax treaty rate. Individual registered shareholders should complete a Form NR301—"Declaration of Eligibility for Benefits (Reduced Tax) under a Tax Treaty for a Non-Resident Person" and return it to our transfer agent, Computershare Investor Services Inc.

Certain U.S. Income Tax Considerations For U.S. Holders

The following discussion is a general summary of certain U.S. federal income tax consequences of the ownership and disposition of the common shares. It applies only to U.S. Holders (as defined below) that acquire and hold the common shares as capital assets (generally, property held for investment purposes) and is of a general nature. This summary should not be construed to constitute legal or tax advice to any particular U.S. Holder.

This summary does not apply to or address U.S. Holders subject to special rules, including, without limitation, brokers, dealers in securities or currencies, traders in securities that elect to use a mark-to-market method of accounting for securities holdings, tax-exempt organizations, insurance companies, banks, thrifts and other financial institutions, persons liable for alternative minimum tax, persons that hold an interest in an entity that holds the common shares, persons that will own, or will have owned, directly, indirectly or constructively 10% or more (by vote or value) of the Company's equity, persons that hold the common shares as part of a hedging, integration, conversion or constructive sale transaction or a straddle, or persons whose functional currency is not the U.S. dollar.

This summary does not purport to be a complete analysis of all of the potential U.S. federal income tax considerations that may be relevant to U.S. Holders in light of their particular circumstances. Further, it does not address any aspect of foreign, state, local or estate or gift taxation or the 3.8% surtax imposed on certain net investment income. **Investors should consult their own tax advisor as to the U.S. federal, state, local, foreign and any other tax consequences of the ownership and disposition of the common shares.**

This summary is based on the Internal Revenue Code of 1986, as amended (the "Code"), its legislative history, U.S. Treasury Regulations, Internal Revenue Service ("IRS") rulings, published court decisions, and the Convention, all as in effect as of the date hereof, and any of which may be repealed, revoked or modified (possibly with retroactive effect) so as to result in U.S. federal income tax consequences different from those discussed below. This summary is applicable to U.S. Holders who are residents of the United States for purposes of the Convention and who qualify for the full benefits of the Convention.

A "U.S. Holder" is a beneficial owner of the common shares who, for U.S. federal income tax purposes, is a citizen or individual resident of the United States, a corporation (or other entity that is classified as a corporation for U.S. federal income tax purposes) that is created or organized in or under the laws of the United States or any State thereof or the District of Columbia, an estate whose income is subject to U.S. federal income tax regardless of its source, or a trust (i) if a U.S. court can exercise primary supervision over the trust's administration and one or more U.S. persons are authorized to control all substantial decisions of the trust, or (ii) that validly elects to be treated as a U.S. person for U.S. federal income tax purposes.

If a partnership or other pass-through entity holds the common shares of the Company, the U.S. federal income tax treatment of a partner, beneficiary, or other stakeholder will generally depend on the status of that person and the tax treatment of the pass-through entity. A partner, beneficiary, or other stakeholder in a pass-through entity holding the common shares should consult its own tax advisor with regard to the U.S. federal income tax treatment of its investment in the common shares.

Distributions on the Common Shares

Subject to the PFIC rules discussed below, the gross amount of any distribution received by a U.S. Holder with respect to the common shares (including any amounts withheld to pay Canadian withholding taxes) will be included in the gross income of the U.S. Holder as a dividend to the extent attributable to the Company's current or accumulated earnings and profits, as determined under U.S. federal income tax principles. The Company does not intend to calculate its earnings and profits under U.S. federal income tax rules. Accordingly, U.S. Holders should expect that a distribution generally will be treated as a dividend for U.S. federal income tax purposes. Unless the Company is treated as a PFIC for the taxable year in which it pays a distribution or in the preceding taxable year (see "Passive Foreign Investment Company Rules" below), the Company believes that it may qualify as a "qualified foreign corporation," in which case distributions treated as dividends and received by non-corporate U.S. Holders may be eligible for a preferential tax rate. Distributions on the common shares generally will not be eligible for the dividends received deduction available to U.S. Holders that are corporations.

The amount of any dividend paid in Canadian dollars (including any amounts withheld to pay Canadian withholding taxes) will equal the U.S. dollar value of the Canadian dollars calculated by reference to the exchange rate in effect on the date the dividend is received by the U.S. Holder, regardless of whether the Canadian dollars are converted into U.S. dollars. A U.S. Holder will have a tax basis in the Canadian dollars equal to their U.S. dollar value on the date of receipt. If the Canadian dollars received are converted into U.S. dollars on the date of receipt, the U.S. Holder should generally not be required to recognize foreign currency gain or loss in respect of the distribution. If the Canadian dollars received are not converted into U.S. dollars on the date of receipt, a U.S. Holder may recognize foreign currency gain or loss on a subsequent conversion or other disposition of the Canadian dollars. Such gain or loss will be treated as U.S. source ordinary income or loss.

A U.S. Holder may be entitled to deduct or credit Canadian withholding tax imposed on dividends paid to a U.S. Holder, subject to applicable limitations in the Code. For purposes of calculating a U.S. Holder's foreign tax credit, dividends received by such U.S. Holder with respect to the common shares of a foreign corporation generally constitute foreign source income. However, and subject to certain exceptions, a portion of the dividends paid by a foreign corporation will be treated as U.S. source income for U.S. foreign tax credit purposes, in proportion to its U.S. source earnings and profits, if U.S. persons collectively own, directly or indirectly, 50% or more of the voting power or value of the foreign corporation's common shares. If a portion of any dividends paid with respect to the common shares are treated as U.S. source income under these rules, it may limit the ability of a U.S. Holder to claim a foreign tax credit for any Canadian withholding taxes imposed in respect of such dividend, although certain elections under the Code and the Convention may be available to mitigate these effects. The rules governing the foreign tax credit are complex. U.S. Holders are urged to consult their own tax advisors regarding the availability of the foreign tax credit under their particular circumstances, including the impact of, and any exception available to, the special income sourcing rule described in this paragraph.

Sale, Exchange or Other Taxable Disposition of the Common Shares

Subject to the PFIC rules discussed below, a U.S. Holder will recognize a capital gain or loss on the sale, exchange or other taxable disposition of the common shares in an amount equal to the difference between the amount realized for the common shares and the U.S. Holder's adjusted tax basis in the common shares. Capital gains of non-corporate U.S. Holders derived with respect to capital assets held for more than one year are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations. Any capital gain or loss recognized by a U.S. Holder generally will be treated as U.S. source gain or loss for U.S. foreign tax credit purposes.

Passive Foreign Investment Company Rules

A foreign corporation will be considered a PFIC for any taxable year in which (1) 75% or more of its gross income is "passive income" under the PFIC rules or (2) 50% or more of the average quarterly value of its assets produce (or are held for the production of) "passive income." For this purpose, "passive income" generally includes interest, dividends, certain rents and royalties, and certain gains. Royalties derived in the active conduct of a trade or business by a corporation in the licensing of property developed or created through its own officers or staff of employees is generally excluded from passive income, and interest, dividends, rents and royalties received from a related person (within the meaning of the PFIC rules) are excluded from passive income to the extent such payments are properly allocable to the active income of such related person. Moreover, for purposes of determining if the foreign corporation is a PFIC, if the foreign corporation owns, directly or indirectly, at least 25%, by value, of the shares of another corporation, it will be treated as if it holds directly its proportionate share of the assets and receives directly its proportionate share of the income of such other corporation. If a corporation is treated as a PFIC with respect to a U.S. Holder for any taxable year, the corporation will continue to be treated as a PFIC with respect to that U.S. Holder in all succeeding taxable years, regardless of whether the corporation continues to meet the PFIC requirements in such years, unless certain elections are made.

The determination as to whether a foreign corporation is a PFIC is based on the application of complex U.S. federal income tax rules, which are subject to differing interpretations, and the determination will depend on the composition of the income, expenses and assets of the foreign corporation from time to time and the nature of the activities performed by its officers and employees. The Company believes that it was not classified as a PFIC for the taxable year ended December 31, 2019. However, the Company cannot provide any assurance regarding its PFIC status for the current or future taxable years given that the determination of PFIC status is fact-intensive and made on an annual basis. Neither the Company's U.S. counsel nor U.S. tax advisor expresses any opinion with respect to the Company's PFIC status or with respect to the Company's expectations regarding its PFIC status.

If the Company is classified as a PFIC, a U.S. Holder that does not make any of the elections described below would be required to report any gain on the disposition of common shares as ordinary income, rather than as capital gain, and to compute the tax liability on the gain and any “Excess Distribution” (as defined below) received in respect of common shares as if such items had been earned ratably over each day in the U.S. Holder’s holding period (or a portion thereof) for the common shares. The amounts allocated to the taxable year during which the gain is realized or distribution is made, and to any taxable years in such U.S. Holder’s holding period that are before the first taxable year in which the Company is treated as a PFIC with respect to the U.S. Holder, would be included in the U.S. Holder’s gross income as ordinary income for the taxable year of the gain or distribution. The amount allocated to each other taxable year would be taxed as ordinary income in the taxable year during which the gain is realized or distribution is made at the highest tax rate in effect for the U.S. Holder in that other taxable year and would be subject to an interest charge as if the income tax liabilities had been due with respect to each such prior year. For purposes of these rules, gifts, exchanges pursuant to corporate reorganizations and use of common shares as security for a loan may be treated as a taxable disposition of the common shares. An “Excess Distribution” is the amount by which distributions during a taxable year in respect of a common share exceed 125% of the average amount of distributions in respect thereof during the three preceding taxable years (or, if shorter, the U.S. Holder’s holding period for the common shares).

Certain additional adverse tax rules will apply to a U.S. Holder for any taxable year in which the Company is treated as a PFIC with respect to such U.S. Holder and any of the Company’s subsidiaries is also treated as a PFIC (a “Subsidiary PFIC”). In such a case, the U.S. Holder will generally be deemed to own its proportionate interest (by value) in any Subsidiary PFIC and be subject to the PFIC rules described above with respect to the Subsidiary PFIC regardless of such U.S. Holder’s percentage ownership in the Company.

The adverse tax consequences described above may be mitigated if a U.S. Holder makes a timely “qualified electing fund” (a “QEF”) election with respect to its interest in the PFIC. Consequently, if the Company is classified as a PFIC, it would likely be advantageous for a U.S. Holder to elect to treat the Company as a QEF with respect to such U.S. Holder in the first year in which it holds common shares. If a U.S. Holder makes a timely QEF election with respect to the Company, the electing U.S. Holder would be required in each taxable year that the Company is considered a PFIC to include in gross income (i) as ordinary income, the U.S. Holder’s pro rata share of the ordinary earnings of the Company and (ii) as capital gain, the U.S. Holder’s pro rata share of the net capital gain (if any) of the Company, whether or not the ordinary earnings or net capital gain are distributed. An electing U.S. Holder’s basis in common shares will be increased to reflect the amount of any taxed but undistributed income. Distributions of income that had previously been taxed will result in a corresponding reduction of basis in the common shares and will not be taxed again as distributions to the U.S. Holder.

A QEF election made with respect to the Company will not apply to any Subsidiary PFIC; a QEF election must be made separately for each Subsidiary PFIC (in which case the treatment described above would apply to such Subsidiary PFIC). If a U.S. Holder makes a timely QEF election with respect to a Subsidiary PFIC, it would be required in each taxable year to include in gross income its pro rata share of the ordinary earnings and net capital gain of such Subsidiary PFIC, but may not receive a distribution of such income. Such a U.S. Holder may, subject to certain limitations, elect to defer payment of current U.S. federal income tax on such amounts, subject to an interest charge (which would not be deductible for U.S. federal income tax purposes if the U.S. Holder were an individual).

If the Company determines that it, and any subsidiary in which the Company owns, directly or indirectly, more than 50% of such subsidiary’s total aggregate voting power, is likely a PFIC in any taxable year, the Company intends to make available to U.S. Holders, upon request and in accordance with applicable procedures, a “PFIC Annual Information Statement” with respect to the Company and any such subsidiary for such taxable year. The “PFIC Annual Information Statement” may be used by U.S. Holders for purposes of complying with the reporting requirements applicable to a QEF election with respect to the Company and any Subsidiary PFIC. The U.S. federal income tax on any gain from the disposition of common shares or from the receipt of Excess Distributions may be greater than the tax if a timely QEF election is made.

Alternatively, if the Company were to be classified as a PFIC, a U.S. Holder could also avoid certain of the rules described above by making a mark-to-market election (instead of a QEF election), provided the common shares are treated as regularly traded on a qualified exchange or other market within the meaning of the applicable U.S. Treasury Regulations. However, a U.S. Holder will not be permitted to make a mark-to-market election with respect to a Subsidiary PFIC. U.S. Holders should consult their own tax advisors regarding the potential availability and consequences of a mark-to-market election, as well as the advisability of making a protective QEF election in case the Company is classified as a PFIC in any taxable year.

During any taxable year in which the Company or any Subsidiary PFIC is treated as a PFIC with respect to a U.S. Holder, that U.S. Holder generally must file IRS Form 8621, Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund. U.S. Holders should consult their own tax advisors concerning annual filing requirements.

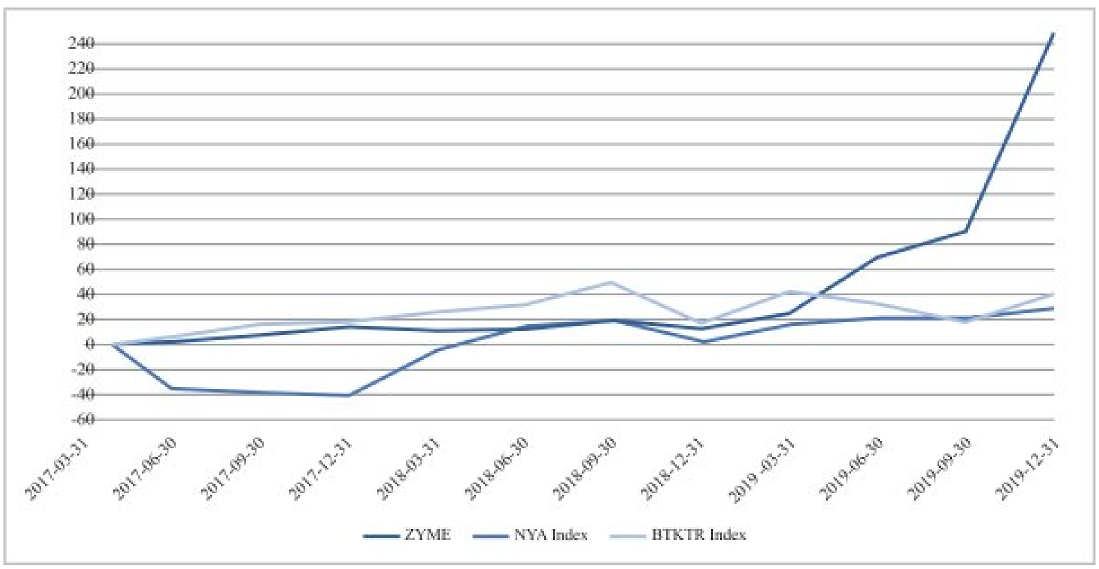
Required Disclosure with Respect to Foreign Financial Assets

Certain U.S. Holders are required to report information relating to an interest in the common shares, subject to certain exceptions (including an exception for common shares held in accounts maintained by certain financial institutions), by attaching a completed IRS Form 8938, Statement of Specified Foreign Financial Assets, with their tax return for each year in which they hold an interest in the common shares. U.S. Holders should consult their own tax advisors regarding information reporting requirements relating to their ownership of the common shares.

Performance Graph

This performance graph shall not be deemed “filed” for purposes of Section 18 of the Exchange Act or incorporated by reference into any of our filings under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The following stock performance graph illustrates a comparison of the total cumulative shareholder return on our common shares from April 28, 2017, which is the date our common shares commenced trading on the NYSE, through December 31, 2019, to two indices: the NYSE Composite Index (“NYA Index”) and the NYSE Arca Biotechnology Index (“BTKTR Index”). The graph assumes an initial investment of $100 on April 28, 2017, and, where applicable, includes the reinvestment of dividends.



The comparisons in the graph above are not intended to forecast or be indicative of possible future performance of our common shares.

Recent Sales of Unregistered Securities

During the fiscal year ended December 31, 2019, we (i) granted our Canadian employees, consultants and advisors options to purchase an aggregate of 960,500 common shares under our equity compensation plans at exercise prices ranging from C$20.77 to C$37.12 and ranging from $15.23 to $34.24 per share and (ii) made an aggregate of 26,368 common shares available to eligible Canadian employees for purchase under our employee stock purchase plan at purchase price of $12.48 and $12.49 per share. Such options and shares were issued and sold in offshore transactions pursuant to Regulation S under the Securities Act.

Issuer Repurchases of Equity Securities

None.

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Item 6. Selected Financial Data

The following selected financial data is derived from our audited consolidated financial statements and should be read in conjunction with, and is qualified in its entirety by, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Item 8, "Financial Statements and Supplementary Data" contained elsewhere in this Annual Report on Form 10-K. The selected Consolidated Statement of Operations Data for the years ended December 31, 2019, 2018 and 2017 and Consolidated Balance Sheet Data as of December 31, 2019 and 2018 have been derived from our audited consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. The selected Consolidated Statement of Operations Data for the years ended December 31, 2016 and 2015 and Consolidated Balance Sheet Data as of December 31, 2017 and 2016 have been derived from our audited financial statements that are not included in this Annual Report on Form 10-K. Historical results are not necessarily indicative of future results. Our audited annual consolidated financial statements have been prepared in U.S. dollars and in accordance with U.S. Generally Accepted Accounting Principles.

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(dollars in thousands except share and per share amounts)				
Consolidated Statement of Operations Data					
Revenue	$ 29,544	$ 53,019	$ 51,762	$ 11,009	$ 9,660
Operating Expenses:					
Research and development	115,900	56,926	41,144	35,551	24,403
General and administrative	64,177	29,457	18,550	12,554	5,217
Impairment on acquired IPR&D	768	—	1,536	768	—
Total operating expenses	180,845	86,383	61,230	48,873	29,620
Loss from Operations	(151,301)	(33,364)	(9,468)	(37,864)	(19,960)
Other income (expense), net	5,282	(1,021)	(494)	(1,020)	824
Loss before income taxes	(146,019)	(34,385)	(9,962)	(38,884)	(19,136)
Net income tax recovery (expense), net	582	(2,171)	(444)	5,075	(34)
Net loss	$ (145,437)	$ (36,556)	$ (10,406)	$ (33,809)	$ (19,170)
Net loss per common share (basic) [(1)]	(3.83)	(1.26)	(0.51)	(2.65)	(1.70)
Net loss per common share (diluted) [(1)]	(3.83)	(1.26)	(0.64)	(2.65)	(1.70)
Weighted-average number of common shares (basic) [(1)]	38,022,014	29,089,896	21,249,414	12,736,567	11,266,451
Weighted-average number of commons shares (diluted) [(1)]	38,022,014	29,089,896	21,321,209	12,736,567	11,266,451

(1) See "Notes to the Consolidated Financial Statements—Summary of Significant Accounting Policies—Net Income (Loss) Per Share" for an explanation of the method used to calculate basic and diluted net income (loss) per common share and the weighted-average number of common shares used in computation of the per common share amounts.

	Year Ended December 31,			
	2019	2018	2017	2016
	(dollars in thousands)			
Consolidated Balance Sheet Data				
Cash and cash equivalents	$128,451	$ 42,205	$ 35,946	$16,437
Short-term investments	170,453	157,959	51,851	23,824
Working capital	229,278	174,383	77,674	29,928
Long-term obligations	39,972	34,001	866	9,577
Total assets	368,205	244,477	131,955	93,995
Total liabilities	122,524	63,987	15,527	26,133
Total shareholders’ equity	245,681	180,490	116,428	9,002

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation

The following discussion should be read in conjunction with the attached financial statements and notes thereto. This Annual Report on Form 10-K, including the following sections, contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. These statements are subject to risks and uncertainties that could cause actual results and events to differ materially from those expressed or implied by such forward-looking statements. For a detailed discussion of these risks and uncertainties, see Item 1A, "Risk Factors" of this Annual Report on Form 10-K. We caution the reader not to place undue reliance on these forward-looking statements, which reflect management's analysis only as of the date of this Annual Report on Form 10-K. We undertake no obligation to update forward-looking statements to reflect events or circumstances occurring after the date of this Annual Report on Form 10-K. Throughout this discussion, unless the context specifies or implies otherwise, the terms "Zymeworks," "we," "us," and "our" refer to Zymeworks Inc. and its subsidiary. For a discussion regarding our financial condition and results of operations for fiscal 2018 as compared to fiscal 2017 see Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31 2018, filed with the SEC on March 6, 2019.

Overview

Zymeworks is a clinical-stage biopharmaceutical company dedicated to the development of next-generation multifunctional biotherapeutics. Our suite of complementary therapeutic platforms and our fully integrated drug development engine provide the flexibility and compatibility to precisely engineer and develop highly differentiated product candidates. These capabilities have resulted in multiple product candidates with the potential to drive positive outcomes in large underserved and unaddressed patient populations.

Our goal is to leverage our next-generation therapeutic platforms and proprietary protein engineering capabilities to become a domain dominator in the discovery, development and commercialization of best-in-class multifunctional biotherapeutics for the treatment of cancer and other diseases with high unmet medical need.

Our key priorities to achieve this goal are to:

- initiate ZW25 registration-enabling studies in 2nd line HER2-positive BTC and 1st line HER2-positive GEA;
- report ZW49 Phase 1 dose-escalation data and initiate expansion cohorts;
- expand ZW25 clinical development into additional HER2-expressing cancers;
- report ZW25 Phase 2 chemotherapy combination data from 1st line HER2-positive GEA; and
- continue building a strong preclinical pipeline through internal R&D and external partnerships.

We commenced operations in 2003 and have since devoted substantially all of our resources to research and development activities including developing our therapeutic platforms, identifying and developing potential product candidates and undertaking preclinical studies and clinical trials. Additionally, we have supported our research and development activities with general and administrative support, as well as by raising capital, conducting business planning and protecting our intellectual property. We have not generated any revenue from the sale of approved products to date and do not expect to do so until such time as we obtain regulatory approval and commercialize one or more of our product candidates. We cannot be certain of the timing or success of approval of our product candidates. We have financed our operations primarily through private equity placements, an issuance of convertible debentures, payments received under license and collaboration agreements, government grants and Scientific Research and Experimental Development ("SR&ED") tax credits and a credit facility as well as our initial public offering ("IPO") in 2017 and subsequent public offerings in 2018, 2019 and 2020. From inception to date, we received approximately $786.9 million, net of equity issue costs, from private equity placements, the issuance of convertible debt, which subsequently converted into equity securities, our IPO and subsequent public offerings including issuance of pre-funded warrants as well as proceeds from exercises of options and employee stock purchase plans. Payments received from our license and collaboration agreements include upfront fees and milestone payments as well as research support and reimbursement payments through our strategic partnerships and government grants. As of December 31, 2019, we had cash, cash equivalents and short-term investments totaling $298.9 million.

Although it is difficult to predict our funding requirements, based upon our current operating plan, we anticipate that our existing cash and cash equivalents and short-term investments as of December 31, 2019, net proceeds from our public offering that closed on January 27, 2020, combined with the collaboration payments we anticipate receiving, will enable us to fund our planned operations into 2022 and potentially beyond.

We reported a net loss of $145.4 million for the year ended December 31, 2019 and through December 31, 2019, we had an accumulated deficit of $290.7 million. We expect that over the next several years we will increase our research and development expenditures in connection with the ongoing development of our product candidates and other clinical, preclinical and regulatory activities.

Recent Developments

ZW25 Clinical Program:

In January 2020, we announced an agreement with Pfizer and the initiation of a Phase 2 clinical trial evaluating ZW25 in combination with Pfizer's Ibrance ® (palbociclib), an oral CDK4/6 inhibitor, and the hormone therapy fulvestrant with the goal of providing a chemotherapy-free treatment option to people with advanced HER2-positive, hormone receptor-positive breast cancer. We will sponsor the study, and Pfizer will provide palbociclib. Part one of the study will evaluate the safety and tolerability of ZW25 in combination with palbociclib and fulvestrant and identify the RD of ZW25 and palbociclib. Part two of the study will evaluate anti-tumor activity at the RD level. The trial will enroll up to 76 patients at sites in the United States and Canada, and expansion to Spain is planned.

In January 2020, we announced that the FDA has granted Fast Track and Orphan Drug Designations to ZW25 in refractory BTC.

In November 2019, we announced updated Phase 1 data for single agent ZW25 in heavily pretreated patients with HER2-expressing solid tumors. Zymeworks and its collaborator BeiGene plan to advance ZW25 into potentially registration-enabling global studies in HER2-expressing BTC and GEA, based on these clinical data.

In October 2019, we announced the first data from our Phase 1 study evaluating ZW25 in combination with chemotherapy in HER2-expressing GEA. Overall, the majority of patients experienced a decrease in their target lesions and responses were observed in both low and high HER2-expressing GEA.

In September, 2019, we announced updated data from the ongoing multi-center Phase 1 clinical trial evaluating ZW25 in patients with HER2-expressing solid tumors, including BTC, colorectal cancer, gynecological cancers, and GEA. Data support the initiation of a registration-enabling Phase 2 clinical trial evaluating single agent ZW25 in second-line HER2-expressing BTC.

In May 2019, we announced that the FDA has granted Fast Track designation to ZW25 for the first-line treatment of patients with HER2-overexpressing GEA in combination with standard of care chemotherapy.

In April 2019, we announced the initiation of a global multicenter Phase 2 clinical trial evaluating ZW25 in combination with standard of care chemotherapy for the first-line treatment of HER2-positive GEA. The primary objectives of this trial are to confirm the safety, tolerability, and anti-tumor activity of ZW25 in combination with global standard of care regimens for GEA, including platinum and fluoropyrimidine-based regimens.

ZW49 Clinical Program:

In January 2020, we announced an interim update from the ongoing ZW49 Phase 1 dose-escalation study highlighting that there have been no dose-limiting toxicities observed and the maximum tolerated dose has not been reached. With over ten patients treated, the majority of treatment-related adverse events have been grade 1 or 2, and were reversible and manageable on an outpatient basis. Preliminary results from these initial dose cohorts include anti-tumor activity.

Licensing and Collaboration Agreements:

In July 2019, we announced that we earned a $7.5 million milestone payment from Celgene (now BMS) under our 2014 collaboration and licensing agreement with BMS, in connection with BMS exercising its option for a commercial license to a proprietary immune-oncology bispecific built on our Azymetric platform.

In May 2019, we announced that we earned a $2.0 million milestone payment from Merck under our 2014 research and license agreement with Merck, in connection with Merck's completion of a late-stage preclinical study for a bispecific antibody candidate using our proprietary Azymetric and EFECT therapeutic platforms.

In May 2019, we expanded our 2016 licensing and collaboration agreement with GSK for the research, development, and commercialization of bispecific antibodies across multiple disease areas. Under the expanded agreement, GSK will now have access to our unique heavy-light chain pairing technology, part of our proprietary Azymetric platform. We will be eligible to receive increased pre-clinical, development and commercial milestone payments, with the new potential value of the collaboration increasing up to $1.1 billion. Additionally, we are eligible to receive increased tiered royalties on worldwide sales.

In May 2019, we entered into a licensing agreement with Iconic granting Iconic non-exclusive rights to our proprietary ZymeLink ADC platform for the development of Iconic's ICON-2 Tissue Factor ADC for cancer. This is the first collaboration leveraging the ZymeLink platform and represents our third technology platform licensed to a collaborator. Under the terms of the agreement, we will be eligible to receive development and commercial milestone payments and tiered royalties on worldwide net sales.

In April 2019, we announced that we earned a $3.5 million milestone payment from Daiichi Sankyo under our 2016 cross-licensing and collaboration agreement with Daiichi Sankyo, in connection with Daiichi Sanko exercising its option for a commercial license to a proprietary immune-oncology bispecific built on our Azymetric and EFECT platforms.

Financing Activities:

On January 27, 2020, we announced the closing of our underwritten public offering which consisted of the issuance of 5,824,729 common shares, including the exercise in full of the underwriters' over-allotment option to purchase 900,000 additional shares, and, in lieu of common shares, to a certain investor, pre-funded warrants to purchase up to 1,075,271 common shares. The common shares were offered at a price to the public of $46.50 per common share and the pre-funded warrants were offered at a price of $46.4999 per pre-funded warrant, for aggregate gross proceeds to the Company of approximately $320.8 million, before deducting underwriting discounts and commissions and estimated offering expenses. The securities were offered in Canada pursuant to our final prospectus supplement, dated January 22, 2020 (the "Canadian Supplement"), to our Canadian final base shelf prospectus, dated November 18, 2019 (the "Base Prospectus"), and in the United States pursuant to our final prospectus supplement, dated January 22, 2020 (the "U.S. Supplement", together with the Canadian Supplement, the "Supplements"), to our U.S. automatic shelf registration statement on Form S-3ASR, including a prospectus dated November 5, 2019 (the "Registration Statement"). The Supplements were filed in Canada and the United States on January 23, 2020.

In November 2019, we filed an automatic shelf registration statement with the SEC to replace our existing shelf registration statement on Form S-3 , which permits us to take advantage of certain benefits only available to well-known seasoned issuers under SEC rules. Concurrent with the filing of the registration statement, we entered into an at-the-market equity offering sales agreement (the "ATM Sales Agreement") with Jefferies LLC, effective as of November 5, 2019. Under the ATM Sales Agreement, we may sell our common shares from time to time for up to $75.0 million in aggregate sales proceeds in "at-the-market" transactions.

We voluntarily delisted our common shares from the TSX as of the close of business on October 1, 2019.

In June 2019, we closed an underwritten public offering pursuant to which we sold 7,013,892 common shares (including 1,458,336 common shares upon the full exercise of the underwriters' over-allotment option) at $18.00 per common share and in lieu of common shares, to a certain investor, 4,166,690 pre-funded warrants at $17.9999 per pre-funded warrant. We received net proceeds of approximately $188.0 million for the offering, after deducting underwriting discounts, commissions and offering expenses.

Board of Director Changes:

In September 2019, we announced the appointment of Lota Zoth as Chair of the Board of Directors succeeding Nick Bedford, who retired from his functions as Chair and Board member. Mr. Bedford served as Board Chair since September 2004.

In June 2019, we announced the appointment of two independent biopharmaceutical executives, Susan Mahony and Troy Cox, to the Board of Directors. Dr. Mahony brings extensive operational, clinical, and commercialization experience to Zymeworks Board of Directors from over 30 years of combined experience with Lilly, Schering-Plough Corporation ("Schering-Plough"), Amgen Inc., and BMS. Mr. Cox brings extensive biotechnology business and executive leadership experience from numerous senior leadership positions at leading biopharmaceutical companies such as Foundation Medicine, Inc., Roche-Genentech, Inc., UCB S.A., Sanofi-Aventis U.S. LLC, and Schering-Plough.

Management Changes:

In October 2019, Kathryn O'Driscoll was appointed Chief People Officer of Zymeworks. Ms. O'Driscoll brings over 20 years of experience as an executive-level human resources leader across large global organizations in the technology and non-profit sectors. In her new role as Zymeworks' Chief People Officer, she will be responsible for growing and developing its highly diverse and skilled workforce.

Financial Operations Overview

Revenue

Our revenue consists of collaboration revenue, including amounts recognized relating to upfront non-refundable payments for licenses or options to obtain future licenses, research and development funding and milestone payments earned under collaboration and license agreements. We have recognized a total of $186.8 million in collaboration revenue from inception to date. We expect that collaboration revenue from our strategic partnerships will be our primary source of revenue for the foreseeable future.

Research and Development Expense

Research and development expenses consist of expenses incurred in performing research and development activities. These expenses include conducting preclinical research studies, clinical trials, and other indirect expenses in support of advancing our product candidates and therapeutic platforms. The following items are included in research and development expenses:

- employee-related expenses such as salaries and benefits;
- employee-related overhead expenses such as facilities and other allocated items;

- share-based compensation expense related to employees and consultants engaged in research and development activities;
- depreciation of laboratory equipment, computers and leasehold improvements;
- fees paid to third-party manufacturers to produce our clinical product candidate supplies and on other third parties to store, monitor and transport bulk drug substance and drug product;
- fees paid to consultants, subcontractors, CROs, and other third-party vendors for work performed under our clinical trials and preclinical studies, including but not limited to laboratory work and analysis, database management, statistical analysis, and other items; and
- Amounts paid to vendors and suppliers for laboratory supplies.

Our research and development expenditures increased to $115.9 million for the year ended December 31, 2019, compared to $56.9 million for the year ended December 31, 2018. This was primarily due to an increase in activities related to the progression and expansion of ZW25 clinical studies and the associated manufacturing costs, as well as development activities for ZW49 in 2019, and an increase in other research and development, which includes an increase in salaries and benefits expense as a result of an increase in headcount and non-cash stock-based compensation expense compared to the same period in 2018.

It is difficult to determine with certainty the duration and completion costs of our current or future clinical trials and preclinical programs of our product candidates, or if, when or to what extent we will generate revenue from the commercialization and sale of any of our product candidates that obtain regulatory approval. We may never succeed in achieving regulatory approval for any of our product candidates. The duration, costs and timing of clinical trials and development of our product candidates will depend on a variety of factors, including the uncertainties of clinical trials and preclinical studies, uncertainties in clinical trial enrollment rates and significant and changing government regulation. In addition, the probability of success for each product candidate will depend on numerous factors, including competition, manufacturing capability and commercial viability. We will determine which programs to pursue and how much to fund each program in response to the scientific and clinical success of each product candidate, as well as an assessment of each product candidate’s commercial potential.

General and Administrative Expense

General and administrative expenses consist of salaries and related benefit costs for employees in our executive, finance, intellectual property, business development, human resources and other support functions, as well as legal and professional fees. We expect general and administrative expenses to increase as we expand our infrastructure to support our ongoing research and development activities and operate as a public company.

Other Income (Expense)

Other income (expense) primarily consists of interest and accretion expenses, interest income, change in fair value of warrant liabilities, foreign exchange gain (loss) and loss on debt extinguishment.

Critical Accounting Policies and Estimates

Our management’s discussion and analysis of financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates, judgments and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable. We review and evaluate these estimates on an ongoing basis. These assumptions and estimates form the basis for making judgments about the carrying values of assets and liabilities and amounts that have been recorded as revenue and expenses. Actual results and experiences may differ from these estimates. The results of any material revisions would be reflected in the consolidated financial statements prospectively from the date of the change in estimate.

For a summary of our significant accounting policies, see Note 2 to the Consolidated Financial Statements in Part II, Item 8, “Consolidated Financial Statements and Supplementary Data”. We consider the following accounting policies to be critical to an understanding of our financial condition and results of operations because these policies require the most subjective or complex judgments on the part of management in their application. There have been no material changes to our critical accounting policies during the year ended December 31, 2019, except the adoption of ASU 2016–02, Leases (Topic 842), effective on January 1, 2019.

Revenue Recognition

Our revenue consists of amounts earned under research and development license and collaboration agreements with our strategic partners. Promised deliverables within these agreements may include grants of licenses, or options to obtain licenses, to our intellectual property, research and development services, and participation on joint research and/or development committees.

In accordance with ASC 606, the Company recognizes revenue when the Company’s customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that the Company determines are within the scope of Topic 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when or as the Company satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the Company will collect the consideration that it is entitled to in exchange for the goods and services transferred to the customer. If the expectation at contract inception is such that the period between payment by the licensee and the completion of related performance obligations will be one year or less, the Company assumes that the contract does not have a significant financing component.

When applying the revenue recognition criteria of ASC 606 to license and collaboration agreements, management applies significant judgment when evaluating whether contractual obligations represent distinct performance obligations , allocating transaction price to performance obligations within a contract, determining when performance obligations have been met, assessing the recognition and future reversal of variable consideration, and determining and applying appropriate methods of measuring progress for performance obligations satisfied over time. These judgments are discussed in more detail in the following paragraphs for each type of payment received by the Company under the terms of the license and collaborations agreements.

Licenses of intellectual property including platform technology access: If the license to the Company’s intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenues from non-refundable, upfront fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are not distinct from other promises, the Company applies judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, upfront fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the related revenue recognition accordingly.

Milestone payments: At the inception of each arrangement that includes research, development or regulatory milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied.

At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect license, collaboration and other revenues and earnings in the period of adjustment. The process of successfully achieving the criteria for the milestone payments is highly uncertain. Consequently, there is a significant risk that the Company may not earn all of the milestone payments from each of its strategic partners. Management applies significant judgment when assessing the likelihood of whether milestones are considered probable of being achieved and when allocating the transaction price to each performance obligation for revenue recognition purposes.

Royalties and commercial milestones: For arrangements that include sales-based royalties, including commercial milestone payments based on pre-specified level of sales, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). Achievement of these royalties and commercial milestones may solely depend upon performance of the licensee. Since inception to date, the Company has not recognized any royalty revenue or commercial milestone from any of its out-licensing arrangements.

Research support and other payments: Payments by the licensees in exchange for research activities performed by the Company on behalf of the licensee are recognized as revenue upon performance of such activities at rates consistent with prevailing market rates. Payments for research supplies provided are recognized as revenue upon delivery of the supplies.

Research and Development Costs and Related Accrued Expenses

Research and development costs are expensed as incurred and include costs that we incur for our own and for our strategic partners' research and development activities. These costs primarily consist of employee-related expenses, including salaries and benefits, expenses incurred under agreements with contract research organizations on our behalf, costs associated with investigative sites and consultants that conduct our clinical trials, the cost of acquiring and manufacturing clinical trial materials and other allocated expenses, share-based compensation expense, and costs associated with nonclinical activities and regulatory approvals.

Clinical trial expenses represent a significant component of research and development expenses and we outsource a significant portion of these activities to third party contract research organizations. Third-party clinical trial expenses include investigator fees, site costs, clinical research organization costs and other trial-related vendor costs. As part of preparing our consolidated financial statements, we estimate accrued liabilities for services that have been performed by clinical research organizations or investigator sites but have not yet been invoiced to us. When making these estimates, management uses operational and contractual information from third party service providers, operational data from internal personnel, and considerable judgment. The accrued balance factors in management's best estimate of the date on which certain services commence, the level of services performed before a given date, whether certain services are invoiceable and the cost of such services. If the actual timing of provision of services or level of effort varies from our estimates, we adjust research and development expense and accrued liabilities accordingly on a prospective basis.

Business Combinations

In a business combination, the fair value of total purchase consideration is allocated to the fair values of identifiable tangible and intangible assets acquired and liabilities assumed, with the remaining amount being classified as goodwill. All assets, liabilities and contingent liabilities acquired or assumed are recorded at their fair values at the date of acquisition. Management uses judgment when estimating fair values of the net assets acquired and any contingent consideration to be recognized as part of the initial purchase consideration. The fair value of intangible assets acquired, including acquired in-process research and development ("IPR&D), is determined using valuation techniques that require estimates and assumptions for replacement costs, future net cash flows and discount rates. For IPR&D, estimates are made for costs required to conduct clinical trials, the number of potential patients, market prices of future commercial products and cost to commercialize them and for the probability of success. Changes in these estimates and assumptions used could have a material impact on the amount of goodwill and intangible assets recorded and the results of impairment tests performed in future periods.

Impairment of Long-Lived Assets

Goodwill and IPR&D assets classified as indefinite-lived are not amortized, but are evaluated for impairment annually or more frequently if impairment indicators arise. IPR&D becomes definite-lived upon the completion or abandonment of the associated research and development efforts. For definite-lived intangible assets, if there is a major event indicating that the carrying value may be impaired, then management will perform an impairment test.

Impairment tests for goodwill and intangibles assets involve considerable use of judgment and require management to make estimates and assumptions. The fair values of reporting units are derived from valuation models, which consider various factors such as discount rates, future earnings and growth rates. Changes in estimates and assumptions can affect the reported value of goodwill and intangible assets.

Share-Based Compensation

We recognize share-based compensation expense on share awards granted to employees and members of the board of directors based on their estimated fair values using the Black-Scholes option pricing model. The Black-Scholes option pricing model requires assumptions for various inputs to measure fair value, including expected term of the awards, underlying share price volatility, forfeiture rates, risk-free interest rate and expected dividend yields of our common shares. Management uses judgement to determine the inputs to the Black-Scholes option pricing model and changes in these assumptions could have a material impact to the fair value calculations and the amount and timing of share-based compensation expense recognized in earnings.

Recent Accounting Pronouncements

A summary of recent accounting pronouncements is presented in Note 3 of our Annual Consolidated Financial Statements for the year ended December 31, 2019 within this Annual Report on Form 10-K.

Results of Operations for the Years Ended December 31, 2019, 2018 and 2017

Revenue

	Year Ended December 31,				
	2019	2018	2017	Change 2019 – 2018	
	(dollars in millions)				
Revenue from research and development collaborations	$ 29.5	$ 53.0	$ 51.8	$ (23.5)	(44%)

Revenue for all periods presented relates primarily to non-recurring upfront fees, expansion payment or milestone payments from our licensing and collaboration agreements. Total revenue decreased by $23.5 million in 2019 compared to 2018. Revenue for 2019 includes $8.0 million received from Lilly for achievement of a development milestone upon Lilly's submission of an IND application, $7.5 million received upon BMS's exercise of its commercial license option, $3.5 million received upon Daiichi Sankyo's exercise of a commercial license option, and $3.0 million received in development milestones from collaboration partners, as well as $4.0 million received in research support and other payments from our partners. Revenue in 2019 also included recognition of $3.5 million from deferred revenue relating to the upfront fee received in the prior year from BeiGene under the 2018 licensing and collaboration agreement for development of ZW25. Revenue for 2018 included recognition of $23.5 million of an upfront fee from BeiGene in relation to the Company granting

BeiGene a license to its Azymetric and EFECT platforms to develop and commercialize up to three bispecific antibodies globally as well as granting licenses for development of ZW25; an $18.0 million upfront fee in relation to the second licensing agreement with Daiichi Sankyo; a $5.0 million upfront fee in relation to the licensing agreement with LEO; a $4.0 million research program expansion fee from BMS; a $2.0 million development milestone payment triggered upon Lilly's submission of an IND application under the first licensing agreement with Lilly and $0.5 million in research support payments from various collaborations.

Research and Development Expense

	Year Ended December 31,				
	2019	2018	2017	Change 2019 – 2018	
		(dollars in millions)			
Total research and development expense	$ 115.9	$ 56.9	$ 41.1	$ 59.0	104%

Research and development expense increased by $57.4 million in 2019 compared to 2018. This was primarily due to an increase in activities related to the progression and expansion of ZW25 clinical studies and the associated manufacturing costs, as well as development activities for ZW49 in 2019, and an increase in other research and development activities, which included an increase in salaries and benefits expense as a result of an increase in headcount and non-cash stock-based compensation expense compared to the same period in 2018. Research and development expense included non-cash stock-based compensation expense of $14.3 million including $8.4 million in expense related to the mark-to-market revaluation of certain historical liability classified equity awards (2018 – $4.2 million stock-based compensation expense, including $2.0 million expense related to mark-to-market revaluation of liability classified equity awards).

General and Administrative Expense

	Year Ended December 31,				
	2019	2018	2017	Change 2019 – 2018	
		(dollars in millions)			
General and administrative expense	$ 64.2	$ 29.5	$ 18.6	$ 34.7	118%

General and administrative expense increased by $34.7 million in 2019 compared to 2018, primarily due to an increase in headcount to support our expanding research and development activities and non-cash stock-based compensation expense. General and administrative expense included non-cash stock-based compensation expense of $34.2 million, including $27.5 million expense related to the mark-to-market revaluation of certain historical liability classified equity awards (2018 – $9.1 million stock-based compensation expense, including $5.4 million expense related to mark-to-market revaluation of liability classified equity awards).

Other Income (Expense)

	Year Ended December 31,				
	2019	2018	2017	Change 2019 – 2018	
		(dollars in millions)			
Other income (expense), net	$ 5.3	$ (1.0)	$ (0.5)	$ 6.3	630%

Net other income increased by $6.3 million in 2019 compared to 2018. Net other income for 2019 primarily included interest income of $6.0 million, which was partially offset by a net foreign exchange loss of $0.6 million. Net other expense for 2018 included a loss of $3.6 million due to an increase in fair value of warrant liabilities and interest expenses of $0.2 million, which was partially offset by interest income of $2.6 million and a net foreign exchange gain of $0.1 million.

Liquidity and Capital Resources

Sources of Liquidity

Until the completion of our IPO in Q2 2017, we had financed our operations primarily through private equity placements of our common shares, the issuance of convertible debentures that subsequently converted into equity securities, a private placement of preferred shares and a credit facility.

We closed our IPO on May 3, 2017, pursuant to which we sold 4,894,467 common shares (including the sale of 394,467 common shares to the underwriters upon their partial exercise of their over-allotment option to purchase additional shares on May 31, 2017) for gross proceeds of $63.6 million. We received net cash proceeds of approximately $54.2 million, after underwriting discounts, commissions and offering expenses.

We completed a subsequent public offering on June 11, 2018, pursuant to which we sold 6,210,000 common shares (including the sale of 810,000 common shares to the underwriters upon their full exercise of their over-allotment option) for gross proceeds of $97.8 million. We received net proceeds of approximately $90.8 million, after underwriting discounts, commissions and offering expenses.

We completed a subsequent public offering on June 24, 2019 pursuant to which we sold (i) 7,013,892 common shares (including the sale of 1,458,336 common shares to the underwriters upon their full exercise of their over-allotment option) and (ii) 4,166,690 pre-funded warrants in lieu of common shares. We received gross proceeds of approximately $201.3 million and net cash proceeds of approximately $188.0 million, after underwriting discounts, commissions and offering expenses.

We completed a subsequent public offering on January 27, 2020 pursuant to which we sold (i) 5,824,729 common shares (including the sale of 900,000 common shares to the underwriters upon their full exercise of their over-allotment option) and (ii) 1,075,271 pre-funded warrants in lieu of common shares. We received gross proceeds of approximately $320.8 million and net cash proceeds of approximately $301.1 million, after underwriting discounts, commissions and estimated offering expenses.

In addition to equity offerings, our operations have been funded through upfront fees, milestone payments, and research support payments generated from our strategic collaborations and licensing agreements, government grants and SR&ED credits. We have not generated any revenue from approved product sales to date and do not expect to do so until such time as we obtain regulatory approval and commercialize one or more of our product candidates. As we are currently in the clinical and preclinical stages of development, it will be some time before we expect to achieve this, and it is uncertain that we ever will. We expect that we will continue to increase our operating expenses in connection with ongoing clinical trials and preclinical activities and the development of product candidates in our pipeline. We expect to continue our strategic partnerships and will look for additional collaborations as well as expanded collaboration opportunities. Although it is difficult to predict our funding requirements, based on our current operating plan, we anticipate that our existing cash and cash equivalents and short-term investments, including net proceeds from our public offering that closed on January 27, 2020, combined with certain anticipated milestone payments from our collaborations, will enable us to fund our operating expenses and capital expenditure requirements into 2022 and potentially beyond. We have based these estimates on assumptions and plans which may change and which could impact the magnitude and/or timing of operating expenses, capital expenditures and our cash runway. These estimates include future milestone payments which are dependent upon the successful completion of specified research and development activities by us and our collaborators and are therefore uncertain at this time. The successful development of our product candidates and the achievement of milestones by our strategic partners is uncertain, and therefore we are unable to estimate the actual funds we will require to complete the research, development and commercialization of product candidates. See Item 1A, “Risk Factors—Risks Related to Our Dependence on Third Parties—We may not realize the anticipated benefits of our strategic partnerships”.

As of December 31, 2019, we had $298.9 million in cash and cash equivalents and short-term investments.

Cash Flows

The following table represents a summary of our cash flows for the years ended December 31, 2019, 2018 and 2017:

	Year Ended December 31,		
	2019	2018	2017
	(dollars in millions)		
Net cash provided by (used in):			
Operating activities	$ (81.8)	$ 24.2	$ 0.2
Investing activities	(25.6)	(109.0)	(30.9)
Financing activities	193.7	91.4	50.0
Effect of exchange rate changes on cash and cash equivalents	(0.0)	(0.3)	0.2
Net increase in cash and cash equivalents	$ 86.3	$ 6.3	$ 19.5

Operating Activities

In 2019, we used net cash of $81.8 million in operating activities whereas in 2018, we generated net cash of $24.2 million from operating activities. The year-over year change in net cash used in operating activities was primarily due to lower receipts in 2019 from collaboration partners in the form of upfront fees, milestones, license option fees and research support payments as well as increased expenditures for expansion of our clinical programs, research and development and other operational activities. In 2019, receipts from our partners were primarily from Lilly, BMS, Daiichi Sankyo and Merck of $8.0 million, $7.5 million, $3.5 million and $2.0 million respectively, whereas, in 2018, receipts were primarily from BeiGene, Daiichi Sankyo, LEO and BMS of $60.0 million, $18.0 million, $5.0 million and $4.0 million, respectively.

In 2018, we generated net cash of $24.2 million in operating activities whereas in 2017, operating cash inflows and outflows offset each other resulting in a net cash flow of $0.2 million from operating activities. The increase in net cash generated from operating activities was primarily due to higher amounts received from our partners during 2018 in the form of upfront fees, milestones, license option fees and research support payments, which were partially offset by increased expenditures for expansion of our clinical programs, research and development and other operational activities. In 2018, payments from our partners were primarily from BeiGene, Daiichi Sankyo, LEO and BMS of $60.0 million, $18.0 million, $5.0 million and $4.0 million, respectively, whereas in 2017, receipts were primarily from Janssen of $50.0 million.

Investing Activities

Net cash used in investing activities in 2019 is primarily related to an increase in short term investments of $11.7 million, purchases of leasehold improvements and office equipment of $6.3 million and purchases of research licenses and other intangible assets of $7.6 million. Net cash used in investing activities in 2018 is primarily related to an increase in short-term investments of $105.6 million, purchases of laboratory equipment, computer hardware and office equipment as well as increases in leaseholds totaling $0.8 million and purchases of research licenses and software of $2.6 million. Net cash used in investing activities in 2017 is primarily related to an increase in short-term investments of $27.8 million, purchases of laboratory equipment and computer hardware as well as increases in leaseholds totaling $2.0 million and purchases of research licenses and software of $1.1 million.

Financing Activities

Net cash provided by financing activities in 2019 primarily included net proceeds of $188.2 million from our June 2019 public offering of equity securities, $5.5 million from stock option exercises and $0.6 million from the issuance of common shares in relation to our employee stock purchase plan. Net cash provided by financing activities in 2018 primarily included net proceeds of $90.8 million from a public offering of equity securities, as well as $0.9 million from exercises of stock options and shares issued under the Company's employee share purchase plan. Net cash provided by financing activities in 2017 included net proceeds of $55.8 million from the IPO and $2.0 million from exercises of warrants and stock options, offset by $7.8 million in debt repayments.

Contractual Obligations and Contingent Liabilities

Lease Commitments

We lease separate office and laboratory space in Vancouver, British Columbia, with terms of each lease expiring in August 2021. We entered into a lease on January 25, 2019 to serve as our new Vancouver, British Columbia headquarters, including both office and laboratory space. The commencement date of this lease depends upon completion of construction of the building and is currently estimated to be no later than September 1, 2021. This lease has an initial term of ten years, with two five-year extension options.

In addition, we lease office space in Seattle, Washington which expires in February 2022. On February 25, 2019, we entered into a new lease for office space in Seattle. The commencement date of this lease was July 30, 2019 for a portion of the space and is April 1, 2020, subject to adjustment related to ongoing construction, for the remaining portion of the space. The expiration date of the lease is September 30, 2025.

We also lease office equipment under capital lease agreements. Future minimum lease payments under the non-cancellable operating leases and capital leases at December 31, 2019 are as follows:

	Payments due by period					
	Less Than 1 Year	1 to 2 Years	2 to 3 Years	3 to 4 Years	Thereafter	Total
	(dollars in thousands)					
Capital lease obligations	$ 31	$ 16	$ 6	$ 3	$ 1	$ 57
Operating lease obligations	1,438	2,076	1,007	991	1,019	6,531
Total contractual obligations	$ 1,469	$2,092	$1,013	$994	$ 1,020	$ 6,588

Other Commitments

We have entered into research collaboration agreements with strategic partners, in the ordinary course of operations, that may include contractual milestone payments related to the achievement of pre-specified research, development, regulatory and commercialization events and indemnification provisions, which are common in such agreements. Pursuant to the agreements, we are obligated to make research and development and regulatory milestone payments upon the occurrence of certain events and royalty payments based on net sales. The maximum amount of potential future indemnification is unlimited; however, we currently hold commercial and product liability insurance. This insurance limits our liability and may enable us to recover a portion of any future amounts paid. Historically, we have not made any indemnification payments under such agreements and we believe that the fair value of these indemnification obligations is minimal. Accordingly, we have not recognized any liabilities relating to these obligations for any period presented.

In August 2016, we entered into a license agreement with Innovative Targeting Solutions Inc. ("ITS") to use ITS' protein engineering technology for the development and commercialization of antibody and protein therapeutics. Pursuant to the agreement, we agreed to pay an aggregate of $12.0 million in annual licensing fees to ITS over a five-year period, the full outstanding amount of which was paid in the period ended December 31, 2019 in accordance with the prepayment terms thereunder. As a result, as of December 31, 2019, we have no further licensing fee payment obligations under the agreement. Licensing fees paid have been recorded in intangible assets and are being amortized over their useful lives. We may also be required to make future payments to ITS upon the achievement of certain development and commercial milestones, as well as royalty payments on net sales.

In connection with our acquisition of Kairos Therapeutics Inc. ("Kairos"), we may be required to make future payments to CDRD Ventures Inc. ("CVI") upon the direct achievement of certain development milestones for products incorporating certain Kairos intellectual property, as well as royalty payments on the net sales of such products. For out-licensed products and technologies incorporating certain Kairos intellectual property, we may be required to pay CVI a mid-single-digit percentage of the future revenue as a result of a revenue sharing agreement. As of December 31, 2019, the development milestone payments had an estimated fair value of approximately $1.0 million, which has been recorded as contingent consideration within other long-term liabilities (December 31, 2018: $0.7 million). The contingent consideration was calculated using a probability weighted assessment of the likelihood the milestones would be met, a probability adjusted discount rate that reflects the stage of the development and time to complete the development. Contingent consideration is a financial liability and measured at its fair value at each reporting period, with any changes in fair value from the previous reporting period recorded in the statement of operations and comprehensive loss.

Contingencies

From time to time, we may be subject to various legal proceedings and claims related to matters arising in the ordinary course of business. We do not believe we are currently subject to any matters where there is at least a reasonable possibility that a material loss may be incurred.

Off-Balance Sheet Arrangements

We have no material undisclosed off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on our results of operations or financial condition.

Segment Reporting

We view our operations and manage our business in one segment, which is the discovery, development and commercialization of next-generation biotherapeutics.

Outstanding Share Data

As of February 27, 2020, our authorized share capital consisted of an unlimited number of common shares, each without par value, of which 45,518,869 were issued and outstanding, and an unlimited number of preferred shares, each without par value, none of which were issued and outstanding. As of February 27, 2020, we had 5,241,961 common shares issuable pursuant to 5,241,961 pre-funded warrants, 2,454,941 common shares issuable pursuant to 2,454,941 exercisable outstanding stock options and 2,710,965 common shares issuable pursuant to 2,710,965 outstanding options that were not exercisable at that date.

JOBS Act

Prior to December 31, 2019, the Company was an "emerging growth company" under the JOBS Act. Section 107 of the JOBS Act provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. However, we irrevocably elected not to avail ourselves of this extended transition period and, as a result, adopted new or revised accounting standards on the relevant dates on which adoption of such standards was required for other public companies.

Item 7A. Quantitative and Qualitative Disclosure About Market Risk

We are exposed to market risks in the ordinary course of our business. The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates and exchange rates.

Interest Rate Risk

Our exposure to interest rate risk relates primarily to our cash, cash equivalent and short-term investment portfolio. At December 31, 2019 and 2018, we had cash, cash equivalents and short-term investments of $299.0 million and $200.2 million, respectively, consisting primarily of funds in cash, guaranteed investment certificates and term deposits. The primary objective of our investment activities is to preserve principal while also maintaining liquidity and maximizing investment returns 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 that a hypothetical 10% increase in interest rates or in investment returns would have a material effect on the fair market value of our portfolio or investment income, and accordingly we do not expect our operating results or cash flows to be materially affected by a sudden change in market interest rates.

Foreign Currency Exchange Risk

Our functional currency is the U.S. dollar as most of our revenues and operating expenses are denominated in U.S. dollars. We incur certain operating expenses in Canadian dollars and accordingly, are subject to foreign currency transaction risk. We do not use derivative instruments to hedge exposure to foreign transaction risk due to the low volume of transactions denominated in Canadian dollars and other foreign currencies. We do not anticipate that foreign currency transaction gains or losses will be significant at our current level of operations.

At December 31, 2019, our net monetary assets denominated in Canadian dollars were $5.0 million (C$6.4 million). We are subject to foreign currency translation risk when translating these foreign currency denominated net monetary assets to U.S. dollars for period end financial statement preparation. The fluctuation of the Canadian dollar relative to the U.S. dollar will have an impact on the reported balances for net assets, net loss and shareholders' equity in our consolidated financial statements. A hypothetical 10% increase (decrease) in the value of the Canadian dollar relative to the U.S. dollar would result in a foreign exchange gain (loss) of $0.5 million in Consolidated Statements of Loss and Comprehensive Loss for the year ended December 31, 2019.

Item 8. Financial Statements and Supplementary Data

Zymeworks Inc.

Index to Consolidated Financial Statements

Year ended December 31, 2019

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Zymeworks, Inc.:

O pinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Zymeworks Inc. (the Company) as of December 31, 2019 and 2018, the related consolidated statements of loss and comprehensive loss, changes in redeemable convertible preferred shares and shareholder's equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 2, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Cha nge in Accounting Principle

As discussed in Note 3 to the consolidated financial statements, the Company has changed its accounting policies for leases as of January 1, 2019 due to the adoption of ASC 842 – *Leases.* As discussed in Note 2 to the consolidated financial statements, the Company has changed its accounting policies for revenue recognition as of January 1, 2018 due to the adoption of ASC 606 – *Revenue from Contracts with Customers*.

B asis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

C ritical Audit Matter

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

A ssessment of distinct performance obligations in research, collaboration and licensing agreements

As discussed in Notes 2 and 13 to the consolidated financial statements, the Company has entered into research, collaboration and licensing agreements for which revenue recognized for the year ended December 31, 2019 was $29,544 thousand, of which $1,000 thousand relates to contracts entered into during the current year that have a license and other performance obligations. The accounting for the Company’s contracts with customers arising from research, collaboration and licensing arrangements requires the identification of all performance obligations and, for those that include a license of intellectual property, require an allocation of the transaction price to the identified performance obligations based on whether the other products or services are distinct from the license in the contract.

We identified the assessment of distinct performance obligations in research, collaboration and licensing agreements as a critical audit matter. Complex auditor judgment was required in evaluating the rights and obligations described in the agreements, their intended benefit to the customer, and the level of interdependence that exists between the licenses and other promised goods and services in the contract which are factors in determining whether a performance obligation is distinct.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company’s revenue recognition process. This included controls over the Company’s accounting analyses of research, licensing and collaboration agreements and the determination of distinct performance obligations. We read the research, collaboration and licensing agreements entered into during the current year to gain an understanding of the contractual terms and conditions and commitment being made in the agreements and compared our understanding to the Company’s analyses. We conducted interviews with the Company’s business development personnel to understand the specific functionalities of the license and to evaluate the nature of the promises made to the customers. We inspected a selection of invoices from third parties and compared to the Company’s analysis of the determination of distinct performance obligations.

/s/ KPMG LLP

Chartered Professional Accountants

We have served as the Company’s auditor since 2015. Vancouver, Canada

March 2, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Zymeworks, Inc.:

O pinion on Internal Control Over Financial Reporting

We have audited Zymeworks, Inc . 's (the Company) internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of loss and comprehensive loss, changes in redeemable convertible preferred shares and shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements), and our report dated March 2, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Controls over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

Chartered Professional Accountants

Vancouver, Canada
March 2, 2020

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ZYMEWORKS INC.
Consolidated Balance Sheets
(Expressed in thousands of U.S. dollars except share data)

	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 128,451	$ 42,205
Short-term investments (note 5)	170,453	157,959
Accounts receivable	2,185	358
Prepaid expenses and other current assets	10,741	3,847
Total current assets	311,830	204,369
Deferred financing fees	650	265
Long-term prepaid assets	2,306	1,135
Deferred tax asset (note 15)	1,218	198
Property and equipment, net (note 7)	11,100	6,484
Operating lease right-of-use assets (note 1 6)	5,400	—
Intangible assets, net (note 8)	6,057	1,614
Acquired in-process research and development (note 6)	17,628	18,396
Goodwill (note 6)	12,016	12,016
Total assets	$ 368,205	$ 244,477
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable and accrued liabilities (note 9)	$ 35,691	$ 13,403
Fair value of liability classified options (note 17)	45,569	12,603
Current portion of operating lease liability (note 1 6)	1,282	—
Current portion of deferred revenue (note 1 3)	—	3,530
Other current liabilities	10	450
Total current liabilities	82,552	29,986
Long-term portion of operating lease liability (note 1 6)	5,599	—
Long-term portion of deferred revenue (note 1 3)	32,941	32,941
Other long-term liabilities (note 9)	1,024	946
Deferred tax liability (note 15)	408	114
Total liabilities	122,524	63,987
Shareholders' equity:		
Common shares, no par value; unlimited authorized shares at December 31, 2019 and 2018; 39,564,529 and 31,977,668 shares issued and outstanding at December 31, 2019 and 2018, respectively (note 1 1b)	450,210	320,074
Additional paid-in capital	92,839	12,347
Accumulated other comprehensive loss	(6,659)	(6,659)
Accumulated deficit	(290,709)	(145,272)
Total shareholders' equity	245,681	180,490
Total liabilities and shareholders' equity	$ 368,205	$ 244,477

Research collaboration and licensing agreements (note 1 3)
Commitments and contingencies (note 1 8)
Subsequent event (note 1 9)

The accompanying notes are an integral part of these financial statements

ZYMEWORKS INC.
Consolidated Statements of Loss and Comprehensive Loss
(Expressed in thousands of U.S. dollars except share and per share data)

	Year Ended December 31,		
	2019	**2018**	**2017**
Revenue:			
Research and development collaborations (note 1 3)	$ 29,544	$ 53,019	$ 51,762
Operating expenses:			
Research and development , net of government grants and c redits	115,900	56,926	41,144
General and administrative	64,177	29,457	18,550
Impairment on acquired IPR&D (note 6)	768	—	1,536
Total operating expenses	180,845	86,383	61,230
Loss from operations	(151,301)	(33,364)	(9,468)
Other income (expense):			
Interest and other income	6,022	2,638	743
Other expense, net (note 14)	(740)	(3,659)	(1,237)
Total other income (expense), net	5,282	(1,021)	(494)
Loss before income taxes	(146,019)	(34,385)	(9,962)
Income tax recovery (expense), net (note 15)	582	(2,171)	(444)
Net loss and comprehensive loss	$ (145,437)	$ (36,556)	$ (10,406)
Net loss per common share (note 4):			
Basic	$ (3.83)	$ (1.26)	$ (0.51)
Diluted	$ (3.83)	$ (1.26)	$ (0.64)
Weighted-average common shares outstanding (note 4):			
Basic	38,022,014	29,089,896	21,249,414
Diluted	38,022,014	29,089,896	21,321,209

The accompanying notes are an integral part of these financial statements

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ZYMEWORKS INC.
Consolidated Statements of Changes in Redeemable Convertible Preferred Shares and Shareholders’ Equity
(Expressed in thousands of U.S. dollars except share data)

	Rede emable Convertible C lass A Preferred shares		Com mon s hares		Accumulated deficit	Accumulated o ther comprehensive loss	A dditional paid-i n capital	T otal shareholders' equity
	Shares	Amount	Shares	Amount				
Balance at December 31, 2016	5,260,404	$ 58,860	13,126,248	$106,595	$ (97,790)	$ (6,659)	$ 6,856	$ 9,002
Issuance of common shares on exercise of options	—	—	207,777	1,777	—	—	(512)	1,265
Issuance of common shares on exercise of warrants	—	—	117,320	1,563	—	—	—	1,563
Fair value adjustments upon reclassification of options to liabilities	—	—	—	—	—	—	(2,879)	(2,879)
Stock -based compensation	—	—	—	—	—	—	4,827	4,827
Beneficial conversion feature recognized on the conversion of redeemable convertible class A preferred shares (note 11 c)	—	—	—	—	(520)	—	520	—
Conversion of redeemable convertible class A preferred shares to common shares in connection with initial public offering (note 11c)	(5,260,404)	(58,860)	7,098,194	58,860	—	—	—	58,860
Issuance of common shares in connection with initial public offering, net of offering costs (note 11 a)	—	—	4,894,467	54,196	—	—	—	54,196
Net loss	—	—	—	—	(10,406)	—	—	(10,406)
Balance at December 31, 2017	—	$ —	25,444,006	$222,991	$ (108,716)	$ (6,659)	$ 8,812	$ 116,428
Issuance of common shares on exercise stock options (note 1 1 e)	—	—	94,812	1,166	—	—	(341)	825
Issuance of common shares through employee stock purchase plan (note 1 1 f)	—	—	22,489	252	—	—	—	252
Stock -based compensation	—	—	—	—	—	—	3,876	3,876
Issuance of common shares on exercise of warrants (note 10)	—	—	206,361	4,913	—	—	—	4,913
Issuance of common shares in connection with public offering, net of offering costs (note 11a)	—	—	6,210,000	90,752	—	—	—	90,752
Net loss	—	—	—	—	(36,556)	—	—	(36,556)
Balance at December 31, 2018	—	$ —	31,977,668	$320,074	$ (145,272)	$ (6,659)	$ 12,347	$ 180,490
Issuance of common shares on exercise of options (note 1 1 e)	—	—	529,661	11,432	—	—	(2,129)	9,303
Issuance of common shares through employee share purchase plan (note 1 1 f)	—	—	43,308	763	—	—	—	763
Fair value adjustments upon reclassification of options to liabilities	—	—	—	—	—	—	(119)	(119)
Stock -based compensation	—	—	—	—	—	—	12,676	12,676
Issuance of common shares and pre-funded warrants in connection with public offering, net of offering costs (notes 11a and 11d)	—	—	7,013,892	117,941	—	—	70,064	188,005
Net loss	—	—	—	—	(145,437)	—	—	(145,437)
Balance at December 31, 2019	—	$ —	39,564,529	$450,210	$ (290,709)	$ (6,659)	$ 92,839	$ 245,681

The accompanying notes are an integral part of these financial statements

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ZYMEWORKS INC.
Consolidated Statements of Cash Flows
(Expressed in thousands of U.S. dollars)

	Year Ended December 31,		
	2019	**2018**	**2017**
Cash flows from operating activities:			
Net loss	$(145,437)	$ (36,556)	$(10,406)
Items not involving cash:			
Depreciation of property and equipment	2,312	1,880	1,681
Amortization of intangible assets	3,113	1,750	1,058
Impairment on acquired IPR&D	768	—	1,536
Stock-based compensation (note 11 e)	48,996	13,441	3,429
Amortization of operating lease right-of-use assets	1,906	—	—
Deferred income tax (recovery) expense	(726)	(17)	15
Change in fair value of contingent consideration (note 18)	271	237	470
Change in fair value of warrant liabilities (note 10)	—	3,565	(2,450)
Accretion on long-term debt	—	—	248
Loss on debt extinguishment	—	—	3,114
Unrealized foreign exchange loss/(gain)	504	(48)	(254)
Changes in non-cash operating working capital:			
Accounts receivable	(1,828)	(119)	2,409
Prepaid expenses and other current assets	(8,680)	(251)	(202)
Accounts payable and accrued liabilities	21,572	3,684	(358)
Operating lease liabilities	(795)	—	—
Deferred revenue	(3,530)	36,471	—
Income taxes payable	(299)	140	(71)
Net cash (used in) provided by operating activities	$ (81,853)	$ 24,177	$ 219
Cash flows from financing activities:			
Proceeds from initial public offering, net of issuance costs (note 11a)	—	—	55,791
Proceeds from subsequent public offerings, net of issuance costs (note 11a)	188,231	90,752	—
Issuance of common shares on exercise of options (note 1 1 e)	5,498	682	965
Issuance of common shares on exercise of warrants (note 10)	—	—	1,018
Issuance of common shares through employee stock purchase plan (note 1 1 f)	598	233	—
Repayment of debt (note 10)	—	—	(7,814)
Deferred financing fees	(650)	(225)	—
Finance lease payments	(16)	(11)	(9)
Net cash provided by financing activities	$ 193,661	$ 91,431	$ 49,951
Cash flows from investing activities:			
Purchase of s hort-term investments	(11,714)	(105,626)	(27,767)
Acquisition of property and equipment	(6,322)	(803)	(2,015)
Acquisition of intangible assets	(7,556)	(2,617)	(1,106)
Net cash used in investing activities	$ (25,592)	$(109,046)	$(30,888)
Effect of exchange rate changes on cash and cash equivalents	30	(303)	227
Net change in cash and cash equivalents	86,246	6,259	19,509
Cash and cash equivalents, beginning of year	42,205	35,946	16,437
Cash and cash equivalents, end of year	$ 128,451	$ 42,205	$ 35,946
Supplemental disclosure of non-cash investing and finance items:			
Leased assets obtained in exchange for operating lease liabilities	$ 7,026	$ —	$ —
Acquisition of property and equipment in accounts payable and accrued liabilities	607	382	123
Cashless exercise of warrants (note 10)	—	4,913	—

The accompanying notes are an integral part of these financial statements

ZYMEWORKS INC.

Notes to the Consolidated Financial Statements

(Expressed in thousands of U.S. dollars except share and per share data)

1. Nature of Operations

Zymeworks Inc. (the “Company” or “Zymeworks”) is a clinical-stage biopharmaceutical company dedicated to the development of next-generation multifunctional biotherapeutics. Zymeworks was incorporated on September 8, 2003 under the laws of the Canada Business Corporations Act. On October 22, 2003, the Company was registered as an extra-provincial company under the Company Act (British Columbia). On May 2, 2017, the Company continued under the Business Corporations Act (British Columbia).

Since its inception, the Company has devoted substantially all of its resources to research and development activities, including developing its therapeutic platforms, identifying and developing potential product candidates by undertaking preclinical studies and clinical trials. The Company supports these activities through general and administrative support, as well as by raising capital, conducting business planning and protecting its intellectual property.

2. Summary of Significant Accounting Policies

Basis of Presentation

The consolidated financial statements of the Company have been prepared in accordance with generally accepted accounting principles in the United States of America (“U.S. GAAP”). The consolidated financial statements include the accounts of Zymeworks Inc. and its wholly owned subsidiar y , Zymeworks Biopharmaceuticals Inc., which was incorporated in the State of Washington on December 5, 2014. All inter-company accounts and transactions have been eliminated on consolidation.

All amounts expressed in the consolidated financial statements of the Company and the accompanying notes thereto are expressed in thousands of U.S. dollars, except for share and per share data and where otherwise indicated. References to “$” are to U.S. dollars and references to “C$” are to Canadian dollars.

Certain prior year amounts have been reclassified for consistency with the current year presentation. These reclassifications had no effect on the reported results of operations.

Foreign Currency

The functional currency of the Company is the U.S. dollar. Transactions denominated in foreign currencies are translated at the approximate exchange rate prevailing on the date of the transaction. At period end, monetary assets and liabilities denominated in foreign currencies are translated into U.S. dollars using exchange rates in effect at the balance sheet date. Resulting foreign exchange gains and losses are reflected in the Consolidated Statements of Loss and Comprehensive Loss.

Use of Estimates

The preparation of the financial statements in accordance with U.S. GAAP requires the Company to make estimates and judgments in certain circumstances that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. In preparing these consolidated financial statements, management has made its best estimates and judgments of certain amounts included in the financial statements, giving due consideration to materiality. On an ongoing basis, the Company evaluates its estimates, some of which are those related to revenue recognition including estimated timing of completion of performance obligations required to meet revenue recognition criteria, accrual of expenses including clinical and preclinical study expense accruals, stock-based compensation, valuation allowance for deferred taxes, benefits under the Scientific Research and Experimental Development ("SR&ED") Program, and other contingencies. Management bases its estimates on historical experience or on various other assumptions that it believes to be reasonable under the circumstances. Actual results could differ from these estimates.

Revenue Recognition

Effective January 1, 2018, the Company adopted on a modified retrospective basis Accounting Standards Codification Topic 606, *Revenue from Contracts with Customers* ("ASC 606" or "Topic 606"). This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. In accordance with ASC 606, the Company recognizes revenue when the Company's customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expect to receives in exchange for those goods or services.

The Company applied ASC 606 to all arrangements to date. For collaborative arrangements that fall within the scope of ASC 808, Collaborative Arrangements ("ASC 808"), the Company applies the revenue recognition model under ASC 606 to part or all of the arrangement, when deemed appropriate.

In accordance with ASC 606, the Company recognizes revenue when the Company's customer obtains control of promised goods or services, in an amount that reflects the consideration that the Company expects to receive in exchange for those goods or services. In determining the appropriate amount of revenue to be recognized as it fulfills its obligations under each of its agreements, the Company performs the following steps: (i) identification of the promised deliverables in the contract; (ii) determination of whether the promised deliverables are performance obligations including whether they are distinct; (iii) measurement of the transaction price, including uncertainties related to variable consideration; (iv) allocation of the transaction price to the performance obligations based on the stand-alone selling prices; and (v) recognition of revenue when or as the Company satisfies each performance obligation.

The Company only applies the five-step model to contracts when it is probable that the Company will collect the consideration that it is entitled to in exchange for the goods and services transferred to the customer. At contract inception, the Company assesses the goods or services promised within each contract that falls under the scope of Topic 606, to identify distinct performance obligations. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when or as the performance obligation is satisfied.

The Company has entered into a number of collaboration and licensing agreements. Promised deliverables within these agreements may include: (i) grants of licenses, or options to obtain licenses, to the Company's intellectual property, (ii) research and development services, (iii) drug product manufacturing, and (iv) participation on joint research and/or development committees. The terms of these agreements typically include one or more of the following types of payments to the Company:

- non-refundable, upfront license and platform technology access fees;
- research, development and regulatory milestone payments;
- research support payments; and
- royalties and commercial milestone payments.

If the expectation at contract inception is such that the period between payment by the licensee and the completion of related performance obligations will be one year or less, the Company assumes that the contract does not have a significant financing component.

When applying the revenue recognition criteria of ASC 606 to license and collaboration agreements, the Company may be required to apply significant judgment when evaluating whether contractual obligations represent distinct performance obligations, allocating transaction price to performance obligations within a contract, determining when performance obligations have been met, assessing the recognition and future reversal of variable consideration, and determining and applying appropriate methods of measuring progress for performance obligations satisfied over time. These judgments are discussed in more detail in the following paragraphs for each type of payment received by the Company under the terms of the license and collaborations agreements.

Non-refundable, upfront license and platform technology access fees

If the license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, the Company recognizes revenue from non-refundable, upfront fees allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are not distinct from other promises, the Company uses judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from non-refundable, upfront fees. The Company evaluates the measure of progress each reporting period and, if necessary, adjusts the related revenue recognition accordingly.

Research, development and regulatory milestone payments

At the inception of each arrangement that includes research, development or regulatory milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price using the most likely amount method. When it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. The transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis, for which the Company recognizes revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability of achievement of such development milestones and any related constraint, and if necessary, adjusts its estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect license, collaboration and other revenues and earnings in the period of adjustment. The probability of successfully achieving the criteria for the milestone payments is highly uncertain. Consequently, there is a significant risk that the Company may not earn all of the milestone payments from each of its strategic partners.

Research and development milestones in the Company's collaboration agreements may include some, but not necessarily all, of the following types of events:

- completion of preclinical research and development work leading to selection of product candidates;
- initiation of Phase 1, Phase 2 and Phase 3 clinical trials; and
- achievement of certain other technical, scientific or development criteria.

Regulatory milestone payments may include the following types of events:

- filing of regulatory applications for marketing approval in the United States, Europe or Japan, including Investigational New Drug ("IND") applications and Biologics License Application ("BLA"); and
- marketing approval in major markets, such as the United States, Europe or Japan.

Research support and other payments

Payments by the licensees in exchange for research activities performed by the Company on behalf of the licensee are recognized as revenue upon performance of such activities at rates consistent with prevailing market rates. Payments for research supplies provided are recognized as revenue upon delivery of the supplies.

Royalties and commercial milestone payments

For arrangements that include sales-based royalties, including commercial milestone payments based on pre-specified level of sales, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). Achievement of these royalties and commercial milestones may solely depend upon performance of the licensee.

Contract Assets and Liabilities

Contract assets are mainly comprised of trade receivables net of allowance for doubtful debts, which includes amounts billed and currently due from customers.

Contract liabilities are mainly comprised of deferred revenues. Amounts received prior to satisfying all revenue recognition criteria are recorded as deferred revenue in the Company's consolidated financial statements. Amounts not expected to be recognized as revenue within the next twelve months of the consolidated balance sheet date are classified as long-term deferred revenue.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of 90 days or less at the date of acquisition to be cash equivalents. Cash and cash equivalents consist primarily of money market funds and are recorded at cost, which approximates fair value.

Short-Term Investments

The Company's short-term investments consist of guaranteed investment certificates and term deposits with original maturities exceeding three months and less than one year. The investments are recorded at cost plus accrued interest, which approximates their fair value.

Accounts Receivable a nd Allowance for Doubtful Accoun ts

Accounts receivable are recorded at invoiced amounts, net of any allowance for doubtful accounts. The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in existing accounts receivable.

The Company evaluates the collectability of accounts receivable on a regular basis based upon various factors including the financial condition and payment history of customers, an overall review of collections experience on other accounts and economic factors or events expected to affect future collections experience. There is no allowance for doubtful accounts recorded as at December 31, 2019 and 2018.

Deferred Financing Fees

Deferred financing fees consist of amount s charged by underwriters, attorneys, accountants and printers that are directly attributable to future financing transactions. These costs are deferred and subsequently charged against the gross proceeds of the related financing transaction upon closing of such tra nsaction.

Segment Information

The Company operates and manages its business in one segment, which is the discovery, development and commercialization of next-generation multifunctional biotherapeutics. Operating segments are defined as components of an enterprise about which separate discrete information is available for the chief operating decision maker, or decision making group, in deciding how to allocate resources and assessing performance.

Property and Equipment

Property and equipment are recorded at cost net of accumulated depreciation. Upon retirement or sale, the cost of assets disposed of and the related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized in earnings. Repairs and maintenance costs are expensed as incurred.

The Company records depreciation using the straight-line method over the estimated useful lives of the property and equipment as follows:

Asset Class	Rate
Computer hardware	3 years
Office equipment	3 years
Furniture and fixtures	5 years
Laboratory equipment	7 years
Leasehold improvements	Shorter of the initial lease term or useful life

Property and equipment acquired or disposed of during the year are depreciated proportionately for the period they are in use.

Patents and Intellectual Property Costs

Costs incurred to acquire patents and to prosecute and maintain intellectual property rights are expensed as incurred to general and administrative expense due to the uncertainty surrounding the drug development process and the uncertainty of future benefits. Patents and intellectual property acquired from third parties are capitalized and amortized over the remaining life of the patent, if related to approved products or if there are alternative future uses fo r the underlying technol ogy . No patent or intellectual property costs have been capitalized to date.

Impairment of Long-Lived Assets

The Company assesses the recoverability of its long-lived assets whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of the long-lived asset is measured by a comparison of the carrying amount of the asset to future undiscounted net cash flows expected to be generated by the asset or group of assets. If carrying value exceeds the sum of undiscounted cash flows, the Company then determines the fair value of the underlying asset. Any impairment to be recognized is measured by the amount by which the carrying amount of the asset group exceeds the estimated fair value of the asset or asset group. Assets classified as held for sale are reported at the lower of the carrying amount or fair value, less costs to sell. As of December 31, 2019 and 2018, the Company determined that there were no impairments of long-lived assets and no assets held-for-sale.

Government Grants and Credits

Government grants are recognized where there is reasonable assurance that the grant will be received and all associated conditions will be complied with. Reimbursements of eligible research and development expenditures pursuant to government assistance programs are recorded as reductions of research and development costs when the related costs have been incurred and there is reasonable assurance regarding collection of the claim.

Grant claims not settled by the balance sheet date are recorded as receivables, provided their receipt is reasonably assured. The determination of the amount of the claim, and hence the receivable amount, requires management to make calculations based on its interpretation of eligible expenditures in accordance with the terms of the programs. The reimbursement claims submitted by the Company are subject to review by the relevant government agencies. The Company has used its best judgment and understanding of the related program agreements in determining the receivable amount.

The Company participates in SR&ED and Research Tax Credit Programs, two federal tax incentive programs that encourage Canadian and U.S. businesses to conduct research and development in Canada and in U.S. respectively. The benefits of investment tax credits for scientific research and development expenditures are recognized in the year the qualifying expenditure is made provided there is reasonable assurance of recoverability. These investment tax credits are recorded as reductions to research and development expenditures.

Research and Development Costs

Research and development costs are expensed as incurred and include costs that the Company incurs for its own and for the Company's strategic partners' research and development activities. These costs primarily consist of employee related expenses, including salaries and benefits, expenses incurred under agreements with contract research organizations on the Company's behalf, investigative sites and consultants that conduct the Company's clinical trials, the cost of acquiring and manufacturing clinical trial materials and other allocated expenses, stock-based compensation expense, and costs associated with nonclinical activities and regulatory approvals.

Clinical Trial Expense Accruals

Clinical trial expenses represent a significant component of research and development expenses and the Company outsources a significant portion of these activities to third party contract research organizations. Third-party clinical trial expenses include investigator fees, site costs, clinical research organization costs and other trial-related vendor costs. As part of preparing the consolidated financial statements, the Company estimates accrued liabilities for services that have been performed by clinical research organizations or investigator sites but have not yet been invoiced to the Company. When making these estimates, the Company uses operational and contractual information from third party service providers, operational data from internal personnel, and considerable judgment. The accrued balance factors in the Company's best estimate of the date on which certain services commence, the level of services performed before a given date, whether certain services are invoiceable and the cost of such services. If the actual timing of provision of services or level of effort varies from our estimates, the Company adjusts research and development expense and accrued liabilities accordingly on a prospective basis.

Income Taxes

The Company accounts for income taxes using an asset and liability approach. Deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The measurement of deferred tax assets is reduced, if necessary, by the extent of a valuation allowance. The recognition of uncertain tax positions is evaluated based on whether it is considered more likely than not that the position taken, or expected to be taken, on a tax return will be sustained upon examination through litigation or appeal. For those positions that meet the recognition criteria, they are measured as the largest amount that is more than 50% likely to be realized upon ultimate settlement.

Interest and tax penalties are expensed as incurred.

Stock-Based Compensation

The Company recognizes stock-based compensation expense on equity and liability classified stock-based awards granted to employees, directors, and certain consultants. The Company measures the cost of such awards based on the fair value of the award, net of estimated forfeitures, and recognizes stock-based compensation expense in the consolidated statements of loss and comprehensive loss on a straight-line basis over the requisite service period. The requisite service period generally equals the vesting period of the awards. The fair values of the awards are estimated using the Black-Scholes option pricing model which uses various inputs including estimated fair value of the Company's underlying common share at the grant date, expected term, estimated volatility, risk-free interest rate and expected dividend yields of the Company's common shares. The Company applies an estimated forfeiture rate derived from historical employee termination behavior. If the actual number of forfeitures differs from those estimated by management, adjustments to compensation expense may be required in future periods.

Equity classified awards are measured using their grant date fair value. Liability classified awards are initially measured using their grant date fair value and are subsequently remeasured at fair value at each balance sheet date until exercised or cancelled, with changes in fair value recognized as compensation cost (ASC 718 awards) or additional paid-in capital or other income and expenses (ASC 815 awards) for the period.

Awards accounted for under Accounting Standards Codification ("ASC") 718 "Compensation—Stock Options" ("ASC 718"), with an exercise price which is not denominated in: (a) the currency of a market in which a substantial portion of the Company's equity securities trades, (b) the currency in which the individual's pay is denominated, or (c) the Company's functional currency, are required to be classified as liabilities. For awards accounted for under ASC 815 "Derivatives and Hedging" ("ASC 815"), any warrant or option that provides for an exercise price which is not denominated in the Company's functional currency is required to be classified as a liability. Certain option awards which were classified as equity on grant dates were subsequently reclassified to liability:

- Upon the change of the compensation currency for certain executives from Canadian dollars to U.S. dollars effective January 1, 2017 , options held by such executives which were previously classified as equity awards per ASC 718 with a total fair value of $7,371 on January 1, 2017 have been reclassified as liability awards of which $2,879 was reclassified from additional paid-in capital and the remaining $4,492 was recorded to the statement of loss on January 1, 2017 as under ASC 718 , upon the change in classification, the change in fair value of the options while they were classified as equity is recorded as an adjustment to the statement of loss .
- Upon the change of the compensation currency for a certain executive from Canadian dollars to U.S. dollars effective January 1, 2019, options held by such executive which were previously classified as equity awards per ASC 718 with a total fair value of $240 on January 1, 2019 have been reclassified as liability awards of which $119 was reclassified from additional paid-in capital and the remaining $121 was recorded to the statement of loss on January 1, 2019 as under ASC 718, upon the change in classification, the change in fair value of the options while they were classified as equity is recorded as an adjustment to the statement of loss.

The Company has an employee stock purchase plan which is considered compensatory. Accordingly, the Company recognizes compensation expense on these awards based on their estimated grant date fair value using the Black-Scholes option pricing model. The Company recognizes compensation expense in the consolidated statements of loss and comprehensive loss on a straight-line basis over the requisite service period.

Business Combinations and Goodwill

Business combinations are accounted for using the acquisition method. The fair value of total purchase consideration is allocated to the fair values of identifiable tangible and intangible assets acquired and liabilities assumed, with the remaining amount being classified as goodwill. All assets, liabilities and contingent liabilities acquired or assumed in a business combination are recorded at their fair values at the date of acquisition. If the Company's interest in the fair value of the acquiree's net identifiable assets exceeds the cost of the acquisition, the excess is recognized in earnings or loss immediately. Transaction costs that are incurred in connection with a business combination, other than costs associated with the issuance of debt or equity securities, are expensed as incurred.

Goodwill is evaluated for impairment on an annual basis or more frequently if an indicator of impairment is present (note 6). As part of the impairment evaluation, the Company may elect to perform an assessment of qualitative factors. If this qualitative assessment indicates that it is more likely than not that the fair value of the reporting unit that includes the goodwill is less than its carrying value, then a quantitative impairment test would be prepared to compare the fair value to the carrying value and record an impairment charge if the carrying value exceeds the fair value.

Acquired In-Process Research and Development (IPR&D) and Definite-lived Intangible Assets

Acquired IPR&D represents the fair value assigned to research and development assets that have not reached technological feasibility. IPR&D is classified as an indefinite-lived intangible asset and is not amortized. IPR&D becomes definite-lived upon the completion or abandonment of the associated research and development efforts. All research and development costs incurred subsequent to the acquisition of IPR&D are expensed as incurred. Indefinite-lived intangible assets are evaluated for impairment on an annual basis or more frequently if an indicator of impairment is present.

Definite-lived intangible assets include computer software and a research license and are amortized on a basis which reflects the pattern in which the economic benefits are consumed. Amortization begins when the assets are put into use. If there is a event indicating that the carrying value of a definte-lived intangible asset may be impaired, then the Company will perform an impairment test. When an impairment test is performed, if the carrying value exceeds the recoverable value, based on the sum of undiscounted future cash flows, then such asset is written down to its fair value.

Net loss per share

Basic net loss per share attributable to common shareholders is computed by dividing the net loss attributable to common shareholders by the weighted average number of common shares outstanding for the year. Diluted net loss per share attributable to common shareholders is computed by adjusting net loss attributable to common shareholders to reallocate undistributed earnings based on the potential impact of dilutive securities, including outstanding redeemable convertible Class A preferred shares, stock options and warrants. Diluted net loss per share attributable to common shareholders is computed by dividing the diluted net loss attributable to common shareholders by the weighted-average number of common shares outstanding for the year, including potential dilutive common shares assuming the dilutive effect of outstanding instruments. The if-converted method is used to determine the dilutive effect of the Company's redeemable convertible Class A preferred shares. The treasury stock method is used to determine the dilutive effect of the Company's stock option grants and warrants. ASC 260 "Earnings Per Share" requires an adjustment to the numerator for any income or loss related to ASC 815 liability classified warrants and stock options, if dilutive, if they are presumed to be share settled. The redeemable convertible Class A preferred shares and stock options outstanding were all excluded from the calculation of diluted loss per share because their inclusion would have been anti-dilutive.

3. Recent Accounting Pronouncements

Adoption of Topic 842 (Leases)

On January 1, 2019 the Company adopted Topic 842 using the modified retrospective approach with a cumulative-effect adjustment to accumulated deficit as of January 1, 2019 in accordance with ASU No. 2018-11, *Leases (Topic 842)—Targeted Improvements* . Results for the year ended Dec ember 31 , 2019 are presented under Topic 842. Prior period amounts are not adjusted and continue to be reported in accordance with the Company's historic accounting under previous lease guidance, ASC Topic 840: *Leases* ("Topic 840"). The Company elected certain practical expedients permitted under the transition guidance within the new standard, including not to separate non-lease components in determining operating lease liability.

The impact of the adoption of Topic 842 on the accompanying c onsolidated b alance s heet as of January 1, 2019 was as follows:

	December 31, 2018	Adjustments Due to the Adoption of Topic 842	January 1, 2019
Operating lease right-of-use assets (1)	$ —	$ 3,222	$ 3,222
Total lease inducements (2)	333	(333)	—
Total operating lease liabilities (3)	—	3,561	3,561

(1) Right-of-use assets include operating leases. Right-of-use assets for finance leases are included in property and equipment
(2) Included in current and long-term other liabilities (note 9)
(3) Includes current and non-current operating lease liabilities

The adjustments due to the adoption of Topic 842 primarily related to the recognition of operating lease right-of-use assets and operating lease liabilities. No adjustment was made to accumulated deficit as of January 1, 2019.

The Company evaluated its facility leases and determined that, effective upon the adoption of Topic 842, they were all operating leases. The Company performed an evaluation of its other contracts with customers and suppliers in accordance with Topic 842 and determined that, except for the facility and equipment leases described above, none of its contracts contain a lease. The impact of the adoption of Topic 842 on the consolidated statements of loss and comprehensive loss for the year ended December 31, 2019 was as follows:

	As reported	Effect of Adoption of Topic 842 Higher / (Lower)	Balances Without the Adoption of Topic 842
Operating expenses for the year ended December 31, 2019	$ 180,845	$ 311	$ 180,534

See note 16 in these consolidated financial statements for additional disclosures.

Adoption of other pronouncements

In June 2018, the FASB issued ASU 2018–07, Compensation — Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting. The amendments in this ASU expand the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. This new guidance is effective for the Company in fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The Company adopted this standard as of January 1, 2019. Adoption of this new accounting standard did not have a significant impact on the Company's consolidated financial statements.

Recent accounting pronouncements not yet adopted

In August 2018, the FASB issued ASU 2018–13, Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement. The amendments in this ASU eliminate, add and modify certain disclosure requirements for fair value measurements as part of its disclosure framework project. The standard is effective for the Company in fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently assessing the impact the adoption of the standard will have on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018–15, Intangibles — Goodwill and Other – Internal Use Software (Subtopic 350–40). This ASU addresses customer's accounting for implementation costs incurred in a cloud computing arrangement that is a service contract and also adds certain disclosure requirements related to implementation costs incurred for internal-use software and cloud computing arrangements. The amendment aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). This ASU is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted . The amendments in this ASU can be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. The Company is evaluating the effect of adopting this new accounting guidance but does not expect adoption will have a material impact on the Company's consolidated financial statements.

The Company has reviewed other recent accounting pronouncements and concluded that they are either not applicable to the business, or that no material impact is expected on the consolidated financial statements as a result of future adoption.

4. Net Loss per Share

Net loss per share for the years ended December 31, 2019, 2018 and 2017 was as follows:

	Year Ended December 31,		
	2019	2018	2017
Numerator :			
Net loss attributable to common shareholders:	$ (145,437)	$ (36,556)	$ (10,406)
Deemed dividend due to beneficial conversion feature	—	—	(520)
Basic	$ (145,437)	$ (36,556)	$ (10,926)
Adjustment for change in fair value of ASC 815 liability classified stock options and warrant	—	—	(2,757)
Diluted	$ (145,437)	$ (36,556)	$ (13,683)
Denominator:			
Weighted-average common shares outstanding:			
Basic (*)	38,022,014	29,089,896	21,249,414
Adjustment for dilutive effect of liability classified stock options and warrants	—	—	71,795
Diluted	38,022,014	29,089,896	21,321,209
Net loss per common share – basic	$ (3.83)	$ (1.26)	$ (0.51)
Net loss per common share – diluted	$ (3.83)	$ (1.26)	$ (0.64)

(*): Weighted average number of common shares used in the basic earnings per share calculation for the year ended December 31, 2019 includes the pre-funded warrants issued in connection with the Company's June 2019 offering as the warrants are exercisable at any time and for nominal cash consideration.

5 . Short-term Investments

Short-term investments consist of guaranteed investment certificates ("GICs") and term deposits held at financial institutions purchased in accordance with the Company's treasury policy. These GICs and term deposits bear interest at 2%-3% per annum and have maturities of up to 12 months.

6. IPR&D and Goodwill

Acquired IPR&D

In-process research and development assets ("IPR&D") acquired in the Kairos Therapeutics Inc. ("Kairos") business combination are classified as indefinite-lived intangible assets and are not currently being amortized. The following table summarizes the carrying value of IPR&D, net of impairment:

	Acquired IPR&D	Accumulated Impairment	Net
Balance at December 31, 2016	$20,700	$ (768)	$19,932
Change during the period	—	(1,536)	(1,536)
Balance at December 31, 2017	$20,700	$ (2,304)	$18,396
Change during the period	—	—	—
Balance at December 31, 2018	$20,700	$ (2,304)	$18,396
Change during the period	—	(768)	(768)
Balance at December 31, 2019	$20,700	$ (3,072)	$17,628

For the year ended December 31, 2019, the Company recorded an impairment charge of $768 related to the fair value of IPR&D recognized in relation to collaboration efforts with VAR2 Pharmaceuticals ApS ("VAR2") as the parties jointly decided not to pursue opportunities for the co-development and collaboration for antibody-based therapies. The Company also recorded a corresponding decrease in deferred tax liability and increase in valuation allowance against deferred tax asset balances of $207.

For the year ended December 31, 2017, the Company recorded an impairment charge of $1,536 related to the fair value of IPR&D recognized in relation to the Research Collaboration Agreement with OBT ("OBT Technology Swap Agreement") as the Company chose not to advance the associated research and development projects within the research term which expired on February 11, 2017.

Goodwill

The Company performed its annual impairment test of goodwill as of December 31, 2019. As part of the evaluation of the recoverability of goodwill, the Company identified only one reporting unit to which the total carrying amount of goodwill has been assigned. As at December 31, 2019, the Company performed a qualitative assessment for its annual impairment test of goodwill after concluding that it was not more likely than not that the fair value of the reporting unit was less than its carrying value. Consequently, the quantitative impairment test was not required .

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7 . Property and Equipment

Property and equipment consist of the following:

	December 31, 2019	December 31, 2018
Computer hardware	$ 2,438	$ 1,439
Furniture and fixtures	1,248	747
Office equipment	729	535
Laboratory equipment	6,628	5,270
Leasehold improvements	6,374	3,377
Construction in progress	915	221
Property and equipment	$ 18,332	$ 11,589
Less accumulated depreciation	(7,232)	(5,105)
Property and equipment, net	$11,100	$ 6,484

During the year ended December 31, 2019, the Company entered into a new capital lease for office equipment of $12 (2018 – $10). Total assets under capital lease were $84 and $72 at December 31, 2019 and 2018, respectively; accumulated depreciation for these assets w as $70 and $56 at December 31, 2019 and 2018, respectively. As of December 31, 2019, the total future minimum lease payments for the capital leases we re $57 (2018 – $62).

Depreciation expense on property and equipment for the years ended December 31, 2019, 2018 and 2017 was $2,312, $1,880 and $1,681, respectively.

8 . Intangible Assets

Intangible assets consist of the following:

	December 31, 2019	December 31, 2018
Computer software and research license	$12,985	$ 5,429
Less accumulated amortization	(6,928)	(3,815)
Intangible assets, net	$ 6,057	$ 1,614

Amortization expense on intangible assets for the years ended December 31, 2019, 2018 and 2017 was $3,113, $1,750 and $1,058, respectively.

9 . Liabilities

Accounts payable and accrued liabilities consist of the following:

	December 31, 2019	December 31, 2018
Trade payables	$ 5,349	$ 2,599
Accrued research expenses	24,262	6,633
Employee compensation and vacation accruals	5,009	2,926
Accrued legal and professional fees	231	556
Other	840	689
Total	$35,691	$13,403

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Other long term liabilities consisted of the following:

	December 31, 2019	December 31, 2018
Liability for contingent consideration (note 18)	$ 978	$707
Lease inducements	—	197
Finance lease liability (note 1 6)	46	42
Total	$ 1,024	$946

10. Payment of long-term debt and exercise of liability classified warrants

Description of transaction:

On June 2, 2016, the Company entered into a Credit Agreement (the "Perceptive Debt") with Perceptive Credit Opportunities Fund L.P. and PCOF Phoenix II Fund L.P. (collectively, "Perceptive"). The total credit facility was for $15.0 million consisting of Tranche A and Tranche B term loans for $7.5 million each. The Tranche A term loan was made available to the Company on June 2, 2016, with total net proceeds received of $6,953, after deducting commissions, legal and other administrative costs. Under the Credit Agreement, the Company had the option to settle the loan earlier, subject to certain early payment premiums.

P ursuant to the terms of the Perceptive Debt, the Company also issued Warrant Certificates which entitled Perceptive Credit Opportunities Fund, L.P. to purchase up to 295,009 Redeemable Convertible Class A Preferred Shares of the Company at an exercise price of $11.69 per share, with an expiry term of five years (the "Perceptive Warrants"). These warrants were classified as liabilities and were recorded at their estimated fair value as they contained a down-round provision and because the shares underlying the warrants could have obligated the Company to transfer assets to the holders at a future date under certain circumstances, such as a deemed liquidation event. Changes in fair value we re recorded in the consolidated statements of loss and comprehensive loss. Immediately prior to the consummation of the IPO, in conjunction with the conversion of the Company's Redeemable Convertible Class A Preferred Shares into common shares (note 11 c), the Redeemable Convertible Class A Preferred Share Warrants were converted on a 1.349367-for-1 basis into common share warrants to purchase up to 398,076 common shares of the Company at an exercise price of $8.67 per share.

Early Repayment of the Perceptive Debt and exercise of warrants:

On June 6, 2017 (the "Repayment Date"), the Company exercised its option to repay the total outstanding debt ahead of the maturity date, pursuant to the terms of the Credit Agreement. On the Repayment Date, the Company paid $7,814 which consisted of the $7,500 outstanding principal balance, a $300 early repayment premium as well as $14 in legal fees. At the time of repayment, all liabilities and obligations of the Company and Perceptive terminated automatically. The repayment did not affect Perceptive's rights, in connection with the Perceptive Warrants which remained outstanding until exercised. From January 1 , 2017 to June 6 , 2017 , the Company recorded $ 360 in interest expense, $ 248 in accretion expense and $ 35 in amortization of debt issue costs.

	Year ended December 31, 2017
Long term debt at January 1, 2017	$ 4,810
Less: unamortized debt issue costs at January 1, 2017	(393)
Long term debt at January 1, 2017, net of deferred charges	$ 4,417
Accretion during the period up to the Repayment Date	248
Amortization of debt issue costs during the period up to the Repayment Date	35
Carrying value of long term debt on the Repayment Date, net of deferred charges	$ 4,700
Repayment, including repayment premium and expenses	(7,814)
Loss on debt extinguishment	$ (3,114)

On May 10, 2018, Perceptive exercised a portion of its warrants to purchase 178,076 common shares of the Company on a cashless basis, resulting in a net issuance of 79,481 common shares to Perceptive. On June 4, 2018, Perceptive exercised the remaining warrants to purchase 220,000 common shares of the Company on a cashless basis, resulting in a net issuance of 126,880 common shares to Perceptive. The fair value of the Perceptive warrants increased b y $3,565 during the period from January 1, 2018 leading up to the exercise of these warrants.

11. Shareholders' Equity

a. Equity Offerings

Initial Public Offering

The Company closed its initial public offering ("IPO") on May 3, 2017, pursuant to which the Company sold 4,894,467 common shares including the sale of 394,467 common shares to the underwriters upon their partial exercise of their over-allotment option to purchase additional shares on May 31, 2017.

The public offering price of the shares sold in the IPO was $13.00 per share. The Company received net proceeds of approximately $54.2 million, after underwriting discounts, commissions and offering expenses of $9.4 million . Immediately prior to the consummation of the IPO, all outstanding shares of redeemable convertible preferred stock were converted into 7,098,194 common shares (note 11 c) and the Redeemable Convertible Class A Preferred Shares Warrants were converted into common share warrants to purchase up to 398,076 common shares of the Company at an exercise price of $8.67 per share (note 10).

2018 Public Offering

On June 11, 2018, the Company closed an offering pursuant to which the Company sold 6,210,000 common shares including the sale of 810,000 common shares to the underwriters upon their full exercise of their over-allotment option at an offering price of $15.75 per share . The Company received net proceeds of approximately $ 90.8 million, after underwriting discounts, commissions and offering expenses of $7.1 million .

2019 Public Offering

On June 24, 2019, the Company closed an offering pursuant to which the Company sold 7,013,892 common shares including the sale of 1,458,336 common shares to the underwriters upon their full exercise of their over-allotment option at an offering price of $18.00 per common share and 4,166,690 Pre-Funded Warrants (note 11d) in lieu of common shares at $17.9999 per Pre-Funded Warrant . Net proceeds were approximately $188.0 million, after underwriting discounts, commissions and offering expenses of $13.2 million .

b. Authorized

On May 2 , 2017 , the Company's new Articles of Incorporation were issued under which the Company has an unlimited number of voting Common Shares and Preferred Shares without par value. Under the Company's former Articles of Incorporation dated December 21 , 2015 , the Company had 6,413,265 authorized Redeemable Convertible Class A Preferred Shares.

c . Preferred Shares and Redeemeable Convertible Class A Preferred Shares

As of December 31, 2019 and 2018, no preferred shares were issued or outstanding, respectively.

The rights and preferences of the unissued Preferred Shares are as follows:

Holders of Preferred Shares will be entitled to preference with respect to payment of dividends over the Common Shares and any other shares ranking junior to the Preferred Shares.

In the event of the liquidation, dissolution or winding-up of the Company, whether voluntary or involuntary, or any other distribution of the assets of the Company among its shareholders for the purpose of winding up its affairs, the holders of the Preferred Shares will be entitled to preference over the Common Shares and any other shares ranking junior to the Preferred Shares with respect to the repayment of capital paid up on and the payment of unpaid dividends accrued on the Preferred Shares.

The Preferred Shares may also be given such other preferences over the Common Shares and any other shares ranking junior to the Preferred Shares as may be fixed by directors' resolution as to the respective series authorized to be issued.

Prior to the IPO, the Company issued Redeemable Convertible Class A Preferred Shares ("Class A Preferred Shares"). The Company assessed the issued Class A Preferred Shares for any beneficial conversion features or embedded derivatives, including the conversion option, that would require bifurcation from the applicable series of preferred shares and receive separate accounting treatment. On the date of the issuance of preferred shares, the fair value of the common shares into which the Class A Preferred Shares were convertible was less than the effective conversion price of such shares and, as such, there was no intrinsic value of the conversion option on the commitment date. There was a contingent beneficial conversion feature that would have become applicable if an initial public offering was completed at an issue price in excess of the conversion price within one year of the date the preferred shares were issued. Prior to the IPO, the Company classified its Class A Preferred Shares outside of permanent equity as the redemption of such shares was not solely under the control of the Company.

Immediately prior to the consummation of the IPO, all outstanding Class A Preferred Shares were converted into 7,098,194 common shares on a 1-for-1.349367 basis. The IPO was completed at $13.00 per share issued which resulted in an adjustment to the conversion price and a beneficial conversion feature related to the Class A Preferred Shares as the fair value of the common shares at the commitment date exceeded the effective conversion price at the IPO date. As a result of conversion the Company issued 7,098,194 common shares in exchange for 5,260,404 Class A Preferred Shares. The beneficial conversion feature of $520 was recorded as an increase to additional paid-in capital and the resulting deemed dividend was reflected as an increase in accumulated deficit.

d . Pre-Funded Warrants

On June 24, 2019, the Company completed a public offe r ing of 7,013,892 common shares at $18.00 per share a nd issued P re- F unded W arrants at a price of $17.9999 per P re- F unded W arrant which granted holders of warrants the right to purchase up to 4,166,690 common shares of the Company, at an exercise price of $0.0001 per share (the "Exercise Price"). The Pre-Funded Warrants are exercisable by the holders at any time on or after the original issue date. The Pre-Funded Warrants do not expire unless they are exercised or settled in accordance with the Pre-Funded W arrant agreement.

As the Pre-Funded Warrants meet the condition for equity classification, proceeds from issuance of the Pre-Funded Warrants, net of any transaction costs, are recorded in additional paid-in capital. Upon exercise of the Pre-Funded Warrants, the historical costs recorded in additional paid-in capital along with the Exercise Price collected from holders will be recorded in common shares.

e . Stock-Based Compensation

Original Stock Option Plan:

On July 14, 2006, the shareholders approved an employee stock option plan (the "Original Plan"). The Original Plan provides for the granting of options to directors, officers, employees and consultants. Options to purchase common shares may be granted at an exercise price of each option equal to the last private issuance of common shares immediately preceding the date of the grant. The total number of options outstanding is not to exceed 20% of the issued common shares of the Company.

Options granted under the Original Plan are exercisable at various dates over their ten-year life. Common shares are issued from treasury when options are exercised.

Options issued to employees under the Original Plan vest over 4 years. Options issued to directors under the Original Plan vest over 3 years, and options issued to consultants and members of the Scientific Advisory Board under the Original Plan vest immediately upon issuance.

The exercise prices of the Company's stock options under the Original Plan are denominated in Canadian dollars. The U.S. dollar amounts have been translated using the period end rate or the average foreign exchange rate for the period, as applicable, and have been provided for information purposes. Upon the effectiveness of the Company's New Stock Option Plan described below, no further options were issuable under the Original Plan. However, all outstanding options granted under the Original Plan remain outstanding, subject to the terms of the Original Plan and the applicable grant documents, until such outstanding options are exercised or they terminate or expire by their terms.

New Stock Option Plan:

On April 10, 2017, the Company's shareholders approved a new stock option plan, which became effective immediately prior to the consummation of the IPO. This plan allowed for the grant of options to directors, officers, employees and consultants in U.S. or Canadian dollars, and also permitted the Company to grant incentive stock options ("ISOs"), within the meaning of Section 422 of the Internal Revenue Code, to its employees. On June 7, 2018, the Company's shareholders approved an amendment and restatement of this plan (this plan, as amended and restated, the "New Plan"), which includes an article that allows the Company to grant restricted shares, restricted share units ("RSU") and other share-based awards, in addition to stock options. All restricted share, RSU or other share-based award terms and conditions will be specified in future grant agreements. To date, no restricted shares, RSUs or other stock-based awards have been granted.

The maximum number of common shares reserved for issuance under the New Plan is 5,686,097, which includes 3,985,768 shares issuable upon exercise of stock options outstanding as of December 31, 2018. Beginning in

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2 019 and ending in 2028, this maximum number may be increased on the first day of each calendar year by up to 4.0% of the number of outstanding shares on the last day of the immediately preceding calendar year. ISOs may be granted with respect to a maximum fixed amount equal to 20% of the shares reserved for issuance under the New Plan as of June 7, 2018.

All options granted under the New Plan will have an exercise price determined and approved by the Board on the date of the grant, which shall not be less than the market price of the common shares at such time. For the purposes of the New Plan, the market price of a common share shall be the closing sale price of a share on the grant date reported by the stock exchange with the greatest trading volume or, if such day is not a trading day, the closing sale price reported for the immediately preceding trading day. The Company may convert a market price denominated in Canadian dollars into United States dollars and vice versa and such converted amount shall be the market price.

An option shall be exercisable during a period established by the Board which shall commence on the date of the grant and shall terminate not later than ten years after the date of the granting of the option. The New Plan provides that the exercise period shall automatically be extended if the date on which it is scheduled to terminate shall fall during a black-out period. In such cases, the extended exercise period shall terminate on the tenth business day after the last day of the black-out period, provided that the exercise period shall in no case be extended beyond the tenth anniversary of the date the option was granted. All options shall vest in accordance with the terms of their grant agreements.

The following table summarizes the Company's stock options granted in Canadian dollars under the Original Plan and the New Plan:

	Number of Options	Weighted-Average Exercise Price (C$)	Weighted-Average Exercise Price ($)	Weighted-Average Contractual Term (years)	Aggregate intrinsic value (C$)	Aggregate intrinsic value ($)
Outstanding, December 31, 2017	2,263,712	14.24	11.35	7.53	1,455	1,160
Granted	326,975	16.51	12.74			
Expired	(7,908)	16.22	12.52			
Exercised	(94,812)	8.81	6.80			
Forfeited	(41,977)	18.09	13.96			
Outstanding, December 31, 2018	2,445,990	14.66	10.74	6.99	14,421	10,571
Granted	358,800	22.92	17.14			
Expired	(1,047)	4.75	3.65			
Exercised	(403,553)	12.53	9.46			
Forfeited	(43,777)	18.42	13.91			
Outstanding, December 31, 2019	2,356,413	16.21	12.46	6.70	101,404	77,807
December 31, 2019						
Exercisable	1,623,284	14.49	11.12	5.89	72,648	55,743
Vested and expected to vest	2,317,044	16.15	12.39	6.67	99,860	76,622

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The following table summarizes the Company's stock options granted in U.S. dollars under the New Plan:

	Number of Options	Weighted-Average Exercise Price ($)	Weighted-Average Contractual Term (years)	Aggregate intrinsic value ($)
Outstanding, December 31, 2017	636,595	9.70	9.46	15
Granted	910,783	13.03		
Expired	—	—		
Exercised	—	—		
Forfeited	(7,600)	9.82		
Outstanding, December 31, 2018	1,539,778	11.67	9.02	4,876
Granted	1,501,750	19.89		
Expired	—	—		
Exercised	(126,108)	13.32		
Forfeited	(62,074)	14.91		
Outstanding, December 31, 2019	2,853,346	15.85	8.66	84,481
December 31, 2019				
Exercisable	712,423	11.21	7.66	24,403
Vested and expected to vest	2,738,378	15.79	8.60	81,255

The Company received cash proceeds of $5,498 (C$6,683) (2018: $682 (C$883), 2017: $965 (C$1,250)) from stock options exercised.

The stock options expire at various dates from June 30, 2020 to November 7, 2029.A summary of the non-vested stock option activity and related information of the Company's stock options granted in Canadian dollars is as follows:

	Number of options	Weighted-average grant date fair value (C$)	Weighted-average grant date fair value (US$)
Non-vested, December 31, 2018	899,079	10.25	7.51
Options granted	358,800	14.89	11.42
Options vested	(482,042)	28.06	21.53
Options forfeited and cancelled	(42,708)	16.43	12.60
Non-vested, December 31, 2019	733,129	16.03	12.30

A summary of the non-vested stock option activity and related information of the Company's stock options granted in U.S. dollars is as follows:

	Number of options	Weighted-average grant date fair value (US$)
Non-vested, December 31, 2018	1,254,428	7.31
Options granted	1,501,750	13.01
Options vested	(553,181)	7.43
Options forfeited and cancelled	(62,074)	9.63
Non-vested, December 31, 2019	2,140,923	11.21

The estimated fair value of options granted to officers, directors, employees and consultants is amortized over the vesting period. Stock-based compensation expense for equity classified instruments, as well as the financial statement impact of the periodic revaluation of liability classified equity instruments (note 2), is recorded in research and development expenses, general and administration expenses and finance expense (income) as follows:

	Year Ended December 31,		
	2019	2018	2017
Research and development expenses:			
Stock-based compensation for equity classified instruments	$ 5,939	$ 2,203	$ 913
Change in fair value of liability classified equity instruments	8,358	2,032	492
	$ 14,297	$4,235	$ 1,405
General and administrative expenses:			
Stock-based compensation for equity classified instruments	$ 6,737	$3,693	$1,852
Change in fair value of liability classified equity instruments	27,470	5,362	486
	$34,207	$9,055	$2,338
Finance expense (income):			
Stock-based compensation for equity classified instruments	$ —	$ 1	$ —
Change in fair value of liability classified equity instruments	166	150	(314)
	$ 166	$ 151	$ (314)

For the year ended December 31, 2019, stock -based compensation expense of $12,676 was recorded in additional paid-in capital and the remaining balance was recorded in the liability classified stock options and ESPP liability accounts (2018: $3,876 in additional paid-in capital and the remaining balance in liability classified stock options and ESPP liability accounts, 2017: $4,827 in additional paid-in capital and the remaining balance in liability classified stock options account).

The estimated fair value of stock options granted in Canadian dollars under the Original Plan and the New Plan was determined using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Year ended December 31,		
	2019	2018	2017
Dividend yield	0%	0%	0%
Expected volatility	73.59%	66.25%	66.25%
Risk-free interest rate	1.47%	2.18%	1.44%
Forfeiture rate	5.37%	5.37%	4.75%
Expected average life of options	6.05 years	5.91 years	5.90 years

The estimated fair value of stock options granted in U.S. dollars under the New Plan was determined using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Year ended December 31,		
	2019	2018	2017
Dividend yield	0%	0%	0%
Expected volatility	73.15%	66.78%	65.89%
Risk-free interest rate	2.23%	2.69%	1.84%
Forfeiture rate	5.37%	5.37%	4.75%
Expected average life of options	6.03 years	5.88 years	5.89 years

Expected Volatility — Volatility is a measure of the amount by which a financial variable such as a share price has fluctuated (historical volatility) or is expected to fluctuate (expected volatility) during a period. As the Company does not yet have sufficient history of its own volatility, the Company has identified several public entities of similar complexity and stage of development and calculates historical volatility using the volatility of these companies.

Risk-Free Interest Rate — This rate is from the Government of Canada and U.S. Federal Reserve marketable bonds for the month prior to each option grant during the year, having a term that most closely resembles the expected life of the option.

Expected Term — This is the period of time that the options granted are expected to remain unexercised. Options granted have a maximum term of ten years. The Company uses the simplified method to calculate the average expected term, which represents the average of the vesting period and the contractual term.

Share Fair Value — Options granted after the Company's IPO, are issued at the fair market value of the Company's stock at the date the grant is approved by the Board. Before the IPO, the Company granted stock options at exercise prices not less than the fair value of its common shares as determined by the Board, with input from management. Management estimated the fair value of its common shares based on a number of objective and subjective factors, including the most recently available valuation of common shares prepared by independent valuation specialists, external market considerations affecting the biotechnology industry and the historic prices at which the Company sold common shares.

The weighted-average Black-Scholes option pricing assumptions for liability classified stock options outstanding at December 31, 2019 and 2018 are as follows:

	December 31, 2019	December 31, 2018
Dividend yield	0%	0%
Expected volatility	76.09%	72.27%
Risk-free interest rate	1.68%	1.94%
Forfeiture rate	5.37%	5.37%
Expected average option term	3.38 years	3.59 years
Number of liability classified share options outstanding	1,249,365	1,437,163

The total intrinsic value of stock options exercised during the years ended December 31, 2019, 2018 and 2017 was $9,416, $2,388 and $1,550 respectively. At December 31, 2019, the unamortized compensation expense related to unvested options was $16,720. The remaining unamortized compensation expense as of December 31, 2019 will be recognized over a weighted-average period of 1.8 years.

f . Employee Stock Purchase Plan:

On April 10, 2017, the Company's shareholders approved an employee stock purchase plan ("ESPP ") which became effective immediately prior to the consummation of the Company's IPO. On June 7, 2018, certain amendments to the ESPP were approved by shareholders. Prior to these amendments, the ESPP allowed eligible employees to acquire common shares at a discounted purchase price of 85% of the market value of the Company's common shares on the purchase date. The ESPP, as amended, allows eligible employees to acquire common shares at a discounted purchase price of the lesser of (i) 85% of the market price of a common share on the first day of the applicable purchase period and (ii) 85% of the market price of a common share on the purchase date. The ESPP qualifies as an "employee stock purchase plan" within the meaning of Section 423 of the Code for employees who are United States taxpayers.

The Company currently holds offerings consisting of a single six-month purchase period commencing on January 1 and July 1 of each calendar year, with a single purchase date at the end of the purchase period on June 30 and December 31 of each calendar year.

Eligible employees are able to contribute up to 15% of their gross base earnings for purchases under the ESPP through regular payroll deductions. Purchases of shares under the ESPP are limited for each employee at $25 thousand worth of the Company's common shares (determined using the lesser of (i) the market price of a common share on the first day of the applicable purchase period and (ii) the market price of a common share on the purchase date) for each year such purchase right is outstanding.

As this plan is considered compensatory , the Company recognizes compensation expense on these awards based on their estimated grant date fair value using the Black-Scholes option pricing model. The Company recognizes compensation expense in the consolidated statements of loss and comprehensive loss on a straight-line basis over the requisite service period. For the year ended December 31, 2019, the Company recorded compensation expense of $326 (2018: $114) in research and development expense and general and administrative expense accounts. As of December 31, 2019, total amount contributed by the ESPP participants and not yet settled is $435 (December 31, 2018: $359).

12. Government Grants and Credits

	Year Ended December 31,		
	2019	2018	2017
SR&ED credits (expense), net	$ 110	$ (5)	$ 857
IRAP credits	—	—	218
Total	$ 110	$ (5)	$ 1,075

For the year ended December 31, 2019, the Company recognized refundable investment tax credits of $110 as a reduction of research and development expense. Although the Company has used its best judgment and understanding of the related income tax legislation in determining its claims, it is possible the amounts could increase or decrease materially in the future, as the Canada Revenue Agency and Revenu Québec reserve the right to review and audit the investment tax credit claims.

During the current year, the Company did not recognize any amounts under IRAP (the "Industrial Research Assistance Program"). The IRAP funding agreement contains contingency clauses which could require repayment of funding if certain conditions are not met. The Company is in compliance with these conditions.

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13. Research, Collaboration and Licensing Agreements

Revenue recognized from the Company's strategic partnerships is summarized as follows:

	Year ended December 31,		
	2019	2018	2017
Janssen:			
Recognition of upfront fee	$ —	$ —	$50,000
Merck:			
Milestone revenue	2,000	—	—
Lilly:			
Milestone revenue	8,000	2,000	—
BMS:			
Option exercise fee	7,500	4,000	—
Daiichi Sankyo:			
Technology access fee	—	18,000	—
Milestone revenue	—	—	1,000
Commercial license option fee	3,500		
LEO:			
Recognition of upfront fee	—	5,000	$ —
BeiGene:			
Recognition of upfront fee	3,530	23,530	$ —
Iconic:			
Milestone revenue	1,000	—	$ —
Research support payments and other payments	4,014	489	762
	$ 29,544	$53,019	$51,762

Contract Assets and Liabilities

As at December 31, 2019 and 2018, contract assets from research, collaboration and licensing agreements were $nil and $nil , respectively and contract liabilities were $ 32,941 and $36,471, respectively. Contract liabilities relate to deferred revenue from the BeiGene agreement described below.

<u>2019 Agreements:</u>

License Agreement with Iconic Therapeutics, Inc. ("Iconic")

On May 13, 2019, the Company entered into a license agreement with Iconic to develop and commercialize an antibody-drug conjugate (ICON-2) targeting tissue factor generated through the use of the Company's ZymeLink platform. Under the terms of this agreement, the Company granted Iconic a worldwide, royalty-bearing, antibody sequence-specific, exclusive license to develop and commercialize certain products. Iconic is responsible for the development, manufacturing, and commercialization of the products.

Pursuant to this agreement, the Company is eligible to receive development and commercial milestone payments and tiered royalties on worldwide net sales. From contract inception to December 31, 2019, the Company has received $1.0 million in milestone payments. This agreement also provides the Company with co-promotion rights with increased royalties for products generated from this collaboration. If Iconic sublicenses the program, in lieu of co-promotion rights, the Company will receive a share of the revenue Iconic receives from any partners as well as tiered royalties on worldwide net sales.

2018 and prior agreements:

Research and License Agreement with Merck Sharp & Dohme Research Ltd. ("Merck")

On August 22, 2011, the Company entered into a research and license agreement with Merck, which was amended and restated in December 2014, to develop and commercialize three bispecific antibodies generated through the use of the Company's Azymetric and EFECT platforms. Under the terms of the agreement, the Company granted Merck a worldwide, royalty-bearing antibody sequence pair exclusive license to research, develop and commercialize certain licensed products. The amendments did not impact the determination of units of accounting or the allocation of the arrangement consideration.

Over the life of the agreement, the Company is eligible to receive payments up to $190.75 million, for various license and milestone payments including an upfront payment. From contract inception to December 31, 2019, the Company has received an upfront payment of $1.25 million and research and development related payments totaling $5.5 million. The Company is eligible to receive additional payments for completion of investigational new drug ("IND") enabling studies of up to $4.0 million, development milestone payments of up to $66.0 million and commercial milestone payments of up to $114.0 million. In addition, the Company is eligible to receive tiered royalties in the low to mid-single digits on product sales. Merck will have exclusive worldwide commercialization rights to products derived from the agreement. The events and conditions resulting in payments for research, development and commercial milestones solely depend on Merck's performance.

These milestone payments were received upon the achievement of certain development activities during the course of the research program and were recorded as revenue upon achievement of the milestone as the Company had no remaining performance obligations under the arrangement. No additional milestone payments or royalties have been received to date.

Licensing and Collaboration Agreement with Eli Lilly and Company ("Lilly")

On December 17, 2013, the Company entered into a Licensing and Collaboration Agreement with Lilly to develop novel bispecific antibody therapeutics using the Company's proprietary Azymetric platform. The Company will apply its Azymetric platform in combination with Lilly's proprietary targets to create novel bispecific antibodies which Lilly will have the right to develop and commercialize worldwide.

The Company is eligible to receive up to $52.0 million for various license and milestone payments. From contract inception to December 31, 2019, the Company has received an upfront payment of $1.0 million and research and development related payments of $3.0 million. The Company is eligible to receive additional development milestone payments of up to $8.0 million and commercial milestone payments of up to $40.0 million. In addition, the Company is eligible to receive tiered royalties in the low to mid-single digits on product sales. Over the life of the agreement, the Company will receive funding for internal and external research costs incurred on behalf of Lilly on the project. Lilly will have exclusive worldwide commercialization rights to products derived from the collaboration. The Company determined that other than the research milestone, the events and conditions resulting in payments for development and commercial milestones solely depend on Lilly's performance.

Lilly was a related party during 2018 but was not considered to be a related party as of December 31, 2018 and thereafter.

Licensing and Collaboration Agreement with Lilly

On October 22, 2014, the Company entered into a second Licensing and Collaboration Agreement with Lilly to develop novel bispecific antibody therapeutics using the Company's proprietary Azymetric platform. This agreement did not alter or amend the initial agreement entered into on December 17, 2013. Under the terms of this agreement Lilly was granted a worldwide, royalty-bearing antibody sequence pair-specific license to research, develop and commercialize certain licensed products. Each of the two agreements with Lilly were negotiated independently and the deliverables covered by the respective contracts are unrelated to one another as they cover different product candidates. Accordingly, the second Licensing and Collaboration Agreement with Lilly has been accounted for as a new arrangement.

The Company is eligible to receive up to $125.0 million in various license and milestone payments. From contract inception to December 31, 2019, the Company has received research and development related payments totaling $10.0 million. The Company is eligible to receive additional development milestone payments of up to $20.0 million and commercial milestone payments of up to $95.0 million. In addition, the Company is eligible to receive tiered royalties in the low to mid-single digits on product sales. Lilly will have exclusive worldwide commercialization rights to products derived from the collaboration. No license, research, development and commercial milestones or royalty payments have been received to date. The Company determined that other than the research milestone, the events and conditions resulting in payments for development and commercial milestones solely depend on Lilly's performance.

Licensing and Collaboration Agreement with Celgene Corporation & Celgene Alpine Investment Co. LLC (formerly "Celgene" and now a Bristol-Myers Squibb company, "BMS")

On December 23, 2014, the Company entered into an agreement with Celgene (now"BMS") to develop novel bispecific antibody therapeutics using the Company's proprietary Azymetric platform. The Company will apply its Azymetric platform in combination with BMS ' s proprietary targets to create novel bispecific antibodies for which BMS has an option to develop and commercialize a certain number of products ("Commercial License Option").

Upon the execution of the Agreement, the Company received an upfront payment of $8.0 million and an expansion fee of $4.0 million. BMS has the right to exercise options on up to ten programs and if BMS opts in on a program, the Company is eligible to receive up to $164.0 million per product candidate (up to $1.64 billion for all ten programs), comprised of a commercial license option payment of $7.5 million , development milestone payments of up to $101.5 million and commercial milestone payments of up to $55.0 million . From contract inception to December 31, 2019, BMS has exercised one commercial license option and the Company has received a total of $7.5 million in product candidate-specific payments. After conclusion of BMS's research period, BMS will be solely responsible for the research, development, manufacturing and commercialization of the products. In addition, the Company is eligible to receive tiered royalties calculated upon the global net sales of the resulting products. BMS will have exclusive worldwide commercialization rights to products derived from the agreement if BMS elects to exercise a Commercial License Option for each product. The Company determined that, the events and conditions resulting in payments for research, development and commercial milestones solely depend on BMS's performance.

Collaboration and License Agreement with GlaxoSmithKline Intellectual Property Development Ltd. ("GSK")

On December 1, 2015, the Company entered into a Collaboration and License Agreement with GSK for the research, development, and commercialization of novel Fc-engineered monoclonal and bispecific antibody therapeutics, which have been optimized for specific therapeutic effects. The Company and GSK will collaborate to further develop the Company's Effector Function Enhancement and Control Technology ("EFECT") platform through the design, engineering, and testing of novel engineered Fc domains tailored to induce specific antibody-mediated immune responses.

At the conclusion of the research collaboration, both GSK and the Company will have the right to develop and commercialize monoclonal and bispecific antibody candidates that incorporate the Company's optimized immune-modulating Fc domains.

Under the terms of the agreement, GSK will have the right to develop a minimum of four products across multiple disease areas, and the Company will be eligible to receive up to $1.1 billion, including research, development, and commercial milestones of up to $110.0 million for each product. In addition, the Company is eligible to receive tiered sales royalties. Under the terms of the agreement, each party is liable for their own internal and external research costs incurred in the project. Furthermore, the Company will have the right to develop up to four products with the intellectual property arising from the collaboration without any royalty or milestone payment to GSK. The Company determined that, the events and conditions resulting in payments for research, development and commercial milestones solely depend on GSK's performance.

No development or commercial milestone payments or royalties have been received to date.

Platform Technology Transfer and License Agreement with GSK

On April 21, 2016, the Company entered into a Platform Technology Transfer and License Agreement with GSK for the research, development, and commercialization of novel bispecific antibodies enabled using the Company's Azymetric platform. Each of the two agreements with GSK were negotiated independently and the deliverables covered by the respective contracts utilize different therapeutic platforms and are unrelated to one another. Accordingly, the Platform Technology and License Agreement with GSK has been accounted for as a new arrangement. In May 2019, this agreement was expanded to provide GSK access to the Company's unique heavy-light chain pairing technology under the Azymetric platform. This may include bispecific antibodies incorporating new engineered Fc regions generated under the 2015 GSK agreement.

The Company is eligible to receive up to $1.1 billion in milestone and other payments. From contract inception to December 31, 2019, the Company has received an upfront technology access fee payment of $6.0 million . The Company is also eligible to receive research milestone payments of up to $37.5 million , development milestone payments of up to $183.5 million and commercial milestone payments of up to $867.0 million . In addition, the Company is entitled to receive tiered royalties on potential sales. The Company determined that, the events and conditions resulting in payments for research, development and commercial milestones solely depend on GSK's performance.

No research, development or commercial milestone payments or royalties have been received to date.

Collaboration and Cross License Agreement with Daiichi Sankyo, Co., Ltd. ("Daiichi Sankyo")

On September 26, 2016, the Company entered into a Collaboration and Cross License Agreement with Daiichi Sankyo for the research, development, and commercialization of novel bispecific antibodies enabled using the Company's Azymetric and EFECT platforms. Additionally, the Company will license immuno-oncology antibodies from Daiichi Sankyo, with the right to research, develop and commercialize multiple products globally in exchange for royalties on product sales. Under the agreement, Daiichi Sankyo will have the option to develop and commercialize a single bispecific immuno-oncology therapeutic.

The Company is also eligible to $149.9 million in milestone and other payments. From contract inception to December 31, 2019, the Company has received an upfront technology access fee payment of $2.0 million and research and commercial option related payments totaling $4.5 million. The Company is also eligible to receive additional development milestone payments of up to $63.4 million, and commercial milestone payments of up to $80.0 million. In addition, the Company is eligible to receive tiered royalties ranging from the low single digits up to 10% on product sales. The Company also has non-exclusive rights to develop and commercialize up to three products using Daiichi Sankyo's proprietary immune-oncology antibodies, with royalties in the low single digits to be paid to Daiichi Sankyo on sales of such products. Daiichi Sankyo is solely responsible for the research, development, manufacturing and commercialization of the products. Under the non-exclusive immuno-oncology antibody license to Zymeworks, Zymeworks is solely responsible for all research, development and commercialization of the resulting products.

Second License Agreement with Daiichi Sankyo

In May 2018, the Company entered into a second license agreement with Daiichi Sankyo to research, develop and commercialize two bispecific antibodies generated through the use of the Company's Azymetric and EFECT platforms. Under the terms of the agreement, the Company granted Daiichi Sankyo a worldwide, royalty-bearing, antibody sequence pair-specific, exclusive license to research, develop and commercialize certain products. Under the agreement, Daiichi Sankyo will be solely responsible for the research, development, manufacturing and commercialization of the products.

The Company is also eligible to receive up to $484.7 million in various milestone and other payments. From contract inception to December 31, 2019, the Company received an upfront technology access fee payment of $18.0 million. The Company is also eligible to receive development milestone payments totaling up to $126.7 million and commercial milestone payments of up to $340.0 million . In addition, the Company is eligible to receive tiered royalties ranging from the low single digits up to 10% on product sales, with the royalty term being, on a product-by-product and country-by-country basis, either (i) for as long as there is Zymeworks platform patent coverage on products, or (ii) for 10 years beginning from the first commercial sale, whichever period is longer. If there is no Zymeworks patent coverage on products, royalty rates may be reduced.

No development or commercial milestone payments or royalties have been received to date.

Collaboration and License Agreement with Janssen Biotech, Inc. ("Janssen")

On November 13, 2017, the Company entered into a Collaboration and License Agreement with Janssen to research, develop and commercialize up to six bispecific antibodies generated through the use of the Azymetric and EFECT platforms. Under the terms of the agreement, the Company granted Janssen a worldwide, royalty-bearing, antibody sequence pair-specific exclusive license to research, develop and commercialize certain products. Janssen also has the option to develop two additional bispecific antibodies under this agreement subject to a future option payment. Under the agreement, Janssen will be solely responsible for the research, development, manufacturing and commercialization of the products.

The Company is eligible to $1.45 billion in various license and milestone payments. From contract inception to December 31, 2019, the Company has received an upfront payment of $50.0 million. The Company is also eligible to receive development milestone payments of up to $282.0 million and commercial milestone payments of up to $1.12 billion. In addition, Company is eligible to receive tiered royalties in the mid-single digits on product sales, with the royalty term being, on a product-by-product and country-by-country basis, either (i) for as long as there is Zymeworks platform patent coverage on products, or (ii) for 10 years, beginning from the first commercial sale, whichever period is longer. If there is no Zymeworks patent coverage on products, royalty rates may be potentially reduced. Janssen has the right, prior to the first dosing of a patient in a Phase 3 clinical trial for a product, to buy down the royalty relating to such product by one percentage point with a payment of $10.0 million. The Company determined that, the events and conditions resulting in payments for research, development and commercial milestones solely depend on Janssen's performance.

Research and License Agreement with LEO Pharma A/S ("LEO")

On October 23, 2018, the Company entered into a collaboration agreement with LEO. The Company granted LEO a worldwide, royalty-bearing, antibody sequence pair-specific exclusive license to research, develop and commercialize two bispecific antibodies, generated through the use of the Company's Azymetric and EFECT platforms, for dermatologic indications. The Company will retain rights to develop antibodies resulting from this collaboration in all other therapeutic areas. The Company and LEO are jointly responsible for certain research activities, with the Company's cost to be fully reimbursed by LEO. Each party is solely responsible for the development, manufacturing, and commercialization of their own products.

Pursuant to this agreement, the Company received an upfront payment of $5.0 million in 2018 . In addition, (i) for the first therapeutic candidate, the Company is eligible to receive preclinical and development milestone payments of up to $74.0 million and commercial milestone payments of up to $157.0 million together with tiered royalties on future sales of up to 20% in the United States and up to high single digits elsewhere, and (ii) for the second therapeutic candidate, the Company is eligible to receive preclinical and development milestone payments of up to $86.5 million and commercial milestone payments of up to $157.0 million together with tiered royalties on future sales of up to low double digits globally. For products developed by the Comp any outside of dermatology, LEO is eligible to receive commercial milestone payments and up to single-digit royalties on future sales .

No development or commercial milestone payments or royalties have been received to date.

Collaboration and License Agreements with BeiGene, Ltd. ("BeiGene")

On November 26, 2018, the Company entered into three concurrent agreements with BeiGene whereby the Company granted BeiGene royalty-bearing exclusive licenses for the research, development and commercialization of its bispecific therapeutic candidates, ZW25 ("ZW25 Agreement") and ZW49 ("ZW49 Agreement") in Asia (excluding Japan but including the People's Republic of China, South Korea and other countries), Australia and New Zealand. In addition, the Company also granted BeiGene a worldwide, royalty-bearing, antibody sequence pair-specific license to research, develop and commercialize globally three bispecific antibodies generated through the use of the Company's Azymetric and EFECT platforms.

Pursuant to these agreements, t he Company received an upfront payment of $60.0 million in 2018 for the totality of the rights described. The Company considered the fair value of performance obligations based on the Company's best estimate of their relative stand-alone selling prices, and allocated $40.0 million of transaction price to the License and Collaboration Agreements for ZW25 and ZW49 while $20.0 million has been allocated to the Company's performance obligations under the Research and Licensing Agreement for Azymetric and EFECT Platforms.

License and Collaboration Agreements for ZW25 and ZW49

The Company is also eligible to receive development and commercial milestone payments of up to $390 million, together with tiered royalties from high single digits and up to 20% on future sales of the products. No development or commercial milestone payments or royalties have been received to date. Under the agreements, the Company and BeiGene are collaborating on certain global clinical studies and both the Companys and BeiGene will be independently conducting clinical studies in their own respective territories. Each of the Company and BeiGene are responsible for all the development and commercialization costs in their own territories.

In relation to the ZW25 Agreement, the Company identified the following promised goods and services at the inception of the BeiGene agreement that are material: development and commercial licenses, initial transfer of the Company's technologies and relevant know-how, continuing technology transfer, participation in the Joint Steering Committee ("JSC") and other sub-committees, manufacturing technology transfer, provision of development supply, provision of commercial supply, and transfer of future rights related to the development and commercial license. The Company concluded that the licenses and initial technology transfer are distinct together while the continuing technology transfer and the Company's participation to the JSC and other sub-committees' activities together are distinct. Remaining deliverables were individually determined to be distinct.

Development and commercial licenses as well as initial transfer of technologies and relevant know-how were considered as a single performance obligation. The consideration of $7.1 million allocated to these performance obligations was recognized as revenue over a two-month period during which the delivery of the license and transfer of the relevant technology occurred. Deliverables of continuing technology transfer and participation in the JSC and other sub-committees together were considered as a single performance obligation and the consideration allocated to this performance obligation will be recognized as revenue over time as these performance obligations are completed. Remaining deliverables are considered individually distinct and the revenue will be recognized as delivery or transfer of future rights to BeiGene occurs.

In relation to the ZW49 Agreement, the Company identified the following promised goods and services at the inception of the BeiGene agreement that are material: development and commercial licenses, initial transfer of the Company's technologies and relevant know-how, continuing technology transfer, participation in the JSC and other sub-committees, manufacturing technology transfer, provision of development supply, provision of commercial supply, and transfer of future rights related to the development and commercial license. The Company concluded that the licenses and initial technology transfer together are distinct together while the continuing technology transfer and the Company's participation to the JSC and other sub-committees' activities together are distinct. Manufacturing technology transfer, provisions of development supply and commercial supply were individually determined to be distinct.

Development and commercial licenses as well as initial transfer of technologies and relevant know-how were considered as a single performance obligation while continuing technology transfer and participation in the JSC and other sub-committees together were considered as a single performance obligation. Remaining deliverables were considered individually distinct. No performance obligations were completed by the Company as of December 31, 2019 as the initial transfer of technologies and relevant know-how is not going to start until the completion of the Company's Phase-1 clinical studies for ZW49. Accordingly, no revenue was recognized from the ZW49 Agreement to date.

As of December 31 , 2019 , the Company recorded $ 32,941 of the upfront fees from the ZW 25 and ZW 49 agreements as deferred revenue on the Company's consolidated balance sheet (December 31, 2018 : $ 36,471). Amounts not expected to be recognized as revenue within the next twelve months of the consolidated balance sheet date are classified as long-term deferred revenue.

Research and Licensing Agreement for Azymetric and EFECT Platforms

For the development and commercialization licenses of up to three bispecific antibody therapeutics using the Company's Azymetric and EFECT platforms, the Company received an upfront payment of $20.0 million. The Company is also eligible to receive development and commercial milestone payments of up to $702.0 million. In addition, the Company is eligible to receive tiered royalties in the mid-single digits on product sales. No development or commercial milestone payments or royalties have been received to date. BeiGene is solely responsible for the research, development, manufacturing, and commercialization of the products.

14. Other expense, net

Other expenses consist of the following:

	Year ended December 31,		
	2019	2018	2017
Foreign exchange (loss) gain	$ (567)	$ 72	$ 97
Change in fair value of warrant liabilities (note 10)	—	(3,565)	2,450
Loss on debt extinguishment (note 10)	—	—	(3,114)
Accretion expense	—	—	(248)
Other	(173)	(166)	(422)
	$(740)	$(3,659)	$(1,237)

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15. Income Taxes

a. Income tax (expense) recovery is comprised of the following:

	Year Ended December 31,		
	2019	2018	2017
Current income tax expense	$ (1,373)	$ (2,188)	$ (429)
Deferred income tax recovery (expense)	1,955	17	(15)
Income tax recovery (expense)	$ 582	$ (2,171)	$ (444)

Current income tax expense for the years ended December 31, 2019, 2018 and 2017 arose from the operations of Zymeworks Biopharmaceuticals Inc., the Company's wholly owned subsidiary in the United States, and from the withholding taxes paid by the Company abroad in 2019, 2018 and 2017.

b. Income tax expense (recovery) varies from the amounts that would be computed by applying the expected Canadian income tax rate of 27% (2018: 27%, 2017: 26%) to loss before income taxes as shown in the following tables:

	Year Ended December 31,		
	2019	2018	2017
Computed taxes at Canadian tax rate	$ 39,453	$ 9,284	$ 2,587
Non-deductible expenses	(13,020)	(4,311)	(259)
Difference between domestic and foreign tax rate	104	14	11
Effect of change in tax rates	(10)	(2)	860
Adjustments to prior year	(39)	(543)	313
Change in valuation allowance	(29,057)	(9,340)	(8,510)
Share issuance costs in equity	3,578	1,906	2,547
Change in recognition and measurement of tax positions	(2,391)	(672)	—
Changes due to SR&ED	2,200	1,668	1,973
Other	(236)	(175)	34
Income tax recovery (expen se)	$ 582	$ (2,171)	$ (444)

c. Deferred income tax assets and liabilities result from the temporary differences between the amounts of assets and liabilities recognized for financial statement and income tax purposes. The significant components of the deferred income tax assets and liabilities are as follows:

	December 31, 2019	December 31, 2018
Deferred tax assets:		
Non-capital losses carried forward	$ 33,016	$ 6,680
Deferred revenue	8,894	9,848
Share issue costs	5,473	3,428
Property and equipment	1,731	1,167
Research and development deductions and credits	21,813	20,749
Contingent consideration	264	191
Stock options	1,242	220
Operating lease liability	1,540	—
Other	348	314
	$ 74,321	$ 42,597
Deferred tax liabilities:		
Property and equipment	(583)	(54)
IPR&D	(4,760)	(4,967)
Operating lease right-of-use assets	(1,016)	—
Other	(408)	(132)
	$ (6,767)	$ (5,153)
	67,554	37,444
Less: valuation allowance	(66,744)	(37,360)
Net deferred tax assets (liabilities)	$ 810	$ 84
Deferred tax asset	$ 1,218	$ 198
Deferred tax liability	(408)	(114)
Net deferred tax assets (liability)	$ 810	$ 84

The realization of deferred income tax assets is dependent upon the generation of sufficient taxable income during future periods in which the temporary differences are expected to reverse. The valuation allowance is reviewed on a quarterly basis and if the assessment of the "more likely than not" criterion changes, the valuation allowance is adjusted accordingly.

d. At December 31, 2019, the Company has net operating losses carried forward for tax purposes in Canada, which are available to reduce taxable income of future years of approximately $122.3 million (December 31, 2018: $24.7 million) expiring commencing 2035 through 2039.

At December 31, 2019, the Company also has unclaimed tax deductions for scientific research and experimental development expenditures of approximately $58.2 million (December 31, 2018: $50.3 million), with no expiry. At December 31, 2019, the Company has approximately $8.1 million (December 31, 2018: $9.0 million) of investment tax credits available to offset Canadian federal and provincial taxes payable expiring commencing in 2029 through 2039.

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e. The investment tax credits and non-capital losses for income tax purposes expire as follows:

Expiry date	Investment tax credits	Non-capital losses
2029	1,078	—
2030	—	—
2031	—	—
2032	—	—
2033	—	—
2034	230	—
2035	1,068	3,961
2036	878	24,578
2037	1,587	10,625
2038	1,485	—
2039	1,749	83,117
	$ 8,075	$ 122,281

f. A reconciliation of total unrecognized tax benefits for the years ended December 31, 2019, 2018, and 2017 are as follows:

	Year Ended December 31,		
	2019	2018	2017
Balance, beginning of year	$ 672	$ —	$ —
Increases related to prior year tax positions	—	142	—
Increases related to current year tax positions	2,391	530	—
Balance, end of year	$ 3,063	$ 672	$ —

Included in the balance of unrecognized tax benefits at December 31, 2019 and 2018 are potential benefits of $nil that, if recognized, would affect the effective tax rate on income from continuing operations. Recognition of these potential benefits would result in a deferred tax asset in the form of net operating loss carry-forward, which would be subject to a valuation allowance based on conditions existing at the reporting date.

The Company recognizes interest expense and penalties related to unrecognized tax benefits within the provision for income tax expense on the consolidated statements of loss and comprehensive loss.

The Company currently files income tax returns in Canada and the U . S . , the jurisdiction s in which the Company believes that it is subject to tax. Further, while the statute of limitations in each jurisdiction where an income tax return has been filed generally limits the examination period, as a result of loss carry-forwards, the limitation period for examination generally does not expire until several years after the loss carry-forwards are utilized. Other than routine audits by tax authorities for tax credits and tax refunds that the Company has claimed, management is not aware of any other material income tax examination currently in progress by any taxing jurisdiction. Tax years ranging from 2006 to 2019 remain subject to Canadian income tax examinations. Tax years ranging from 2016 to 2019 remain subject to U.S. income tax examinations.

16. Leases

The Company leases separate office and laboratory space in Vancouver, British Columbia, with terms of each

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lease expiring in August 2021. The Company entered into a lease on January 25, 2019 in Vancouver to serve as the Company's future head office, including both office and laboratory space. The commencement date of this lease depends upon completion of construction of the building and is currently estimated to be no later than September 1, 2021. This lease has an initial term of ten years, with two five-year extension options. In addition, the Company leases office space in Seattle, Washington which expires in February 2022. On February 25, 2019, the Company entered into a new lease for office space in Seattle. The commencement date of this lease was July 30, 2019 for a portion of the space and is April 1, 2020, subject to adjustment related to ongoing construction, for the remaining portion of the space. The expiration date of the lease is September 30, 2025. None of the optional extension periods have been included in the determination of the right-of-use asset or the lease liability for operating leases as the Company did not consider it reasonably certain that the Company would exercise any such options.

The balance sheet classification of the Company's lease liabilities was as follows:

	December 31, 2019	December 31, 2018
Operating lease liabilities:		
Current portion	$ 1,282	$ —
Long-term portion	5,599	—
Total operating lease liabilities	6,881	$ —
Finance lease liabilities:		
Current portion included in other current liabilities	10	15
Long-term portion included in other long-term liabilities	46	42
Total finance lease liabilities	56	57
Total lease liabilities	$ 6,937	$ 57

Lease payments for the year ended December 31, 2019 were $1.6 million and have been included in net cash provided by operating activities in the consolidated statement of cash flows.

As of December 31, 2019, the future minimum lease payments of the Company's operating lease liabilities were as follows:

	Operating leases
Within 1 year	$ 1,438
1 to 2 years	2,076
2 to 3 years	1,007
3 to 4 years	991
4 to 5 years	1,019
Thereafter	781
Total operating lease payments	7,312
Less:	
Imputed interest	(431)
Operating lease liabilities	$ 6,881

As of December 31, 2019, the weighted average remaining lease term is 4.3 years and the discount rate used to determine the operating lease liability was 4.6% for leases in Canadian dollar s and 2.9% for leases in U.S. dollar s .

During the year ended December 31, 2019, the Company incurred total operating lease expenses of $2,845, which included lease expenses associated with fixed lease payments of $2,639, and variable payments associated with c ommon area maintenance and similar expenses of $251.

The Company also leases office equipment under finance lease agreements. As of December 31, 2019, the future minimum lease payments of the Company’s finance lease liabilities were as follows:

		Finance leases
Within 1 year	$	31
1 to 2 years		16
2 to 3 years		6
3 to 4 years		3
4 to 5 years		1
Thereafter		—
Total finance lease payments		57
Less:		
Imputed interest		(1)
Finance lease liabilities	$	56

17. Financial Instruments

The Company evaluates financial assets and liabilities subject to fair value measurements on a recurring basis to determine the appropriate level of classification each reporting period. This determination requires the Company to make subjective judgments as to the significance of inputs used in determining fair value and where such inputs lie within the fair value hierarchy.

Fair Value Measurements

The Company measures certain financial instruments and other items at fair value.

To determine fair value, the Company uses a fair value hierarchy that prioritizes the inputs, assumptions and valuation techniques used to measure fair value. The three levels of the fair value hierarchy are as follows:

- Level 1 inputs are unadjusted quoted market prices for identical instruments available in active markets.
- Level 2 inputs are inputs other than Level 1 prices, such as prices for similar asset or liability that are observable either directly or indirectly. If the asset or liability has a contractual term, the input must be observable for substantially the full term. An example includes quoted market prices for similar assets or liabilities in active markets.
- Level 3 inputs are unobservable inputs for the asset or liability and will reflect management’s assessment about market assumptions that would be used to price the asset or liability.

Assets and liabilities are classified based on the lowest level of input that is significant to the fair value measurements. Changes in the observability of valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy.

The Company’s financial instruments consist of cash and cash equivalents, short-term investments, amounts receivable, accounts payable and accrued liabilities, finance and operating lease obligations, liability classified stock options and other long-term liabilities.

The carrying values of cash and cash equivalents, short-term investments, amounts receivable and accounts payable and accrued liabilities approximate their fair values due to the immediate or short-term maturity of these financial instruments. As quoted prices for the liability classified stock options are not readily available, the Company has use s a Black-Scholes pricing model to estimate fair value, which utilizes level 3 inputs as defined above. Other long-term liabilities for contingent consideration related to business acquisitions are recorded at fair value on the acquisition date and are adjusted quarterly for changes in fair value. Changes in the fair value of contingent consideration liabilities can result from changes in anticipated milestone payments and changes in assumed discount periods and rates. These inputs are unobservable in the market and therefore categorized as level 3 inputs as defined above.

The following tables present information about the Company's liabilities that are measured at fair value on a recurring basis, and indicate the fair value hierarchy of the valuation techniques used to determine such fair value:

	December 31, 2019	Level 1	Level 2	Level 3
Liabilities				
Liability classified stock options	$ 45,569	$ —	$ —	$45,569
Liability for contingent consideration	978	—	—	978
Total	$ 46,547	$ —	$ —	$46,547

	December 31, 2018	Level 1	Level 2	Level 3
Liabilities				
Liability classified stock options	$ 12,603	$ —	$ —	$12,603
Liability for contingent consideration	707	—	—	707
Total	$ 13,310	$ —	$ —	$13,310

The following table presents the changes in fair value of the Company's liability for contingent consideration:

	Liability at the beginning of the period	Increase (decrease) in fair value of liability for contingent consideration	Liability at end of the period
Year ended December 31, 2019	$ 707	$ 271	$ 978
Year ended December 31, 2018	$ 470	$ 237	$ 707

The following table presents the changes in fair value of the Company's warrant liabilities:

	Liability at the beginning of the period	Reclassification to liability from equity	Increase (decrease) in fair value of warrant liabilities	Exercise of warrants	Liability at end of the period
Year ended December 31, 2019	$ —	$ —	$ —	$ —	$ —
Year ended December 31, 2018	$ 1,348	$ —	$ 3,565	$ (4,913)	$ —

The following table presents the changes in fair value of liability classified stock options:

	Liability at beginning of the period	Reclassification to liabilities from equity	Increase (decrease) in fair value of liability classified stock options	Exercise of options	Unrealized foreign currency loss (gain)	Liability at end of the period
Year ended December 31, 2019	$ 12,603	$ 119	$ 35,994	$ (3,804)	$ 657	$ 45,569
Year ended December 31, 2018	$ 3,945	$ —	$ 9,451	$ (142)	$ (651)	$ 12,603

The change in fair value of liability classified stock options for the period is presented within research and development expenses and general and administrative expenses.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist primarily of cash and cash equivalents, short-term investments and accounts receivable. Cash and cash equivalents and short-term investments are invested in accordance with the Company's Treasury Policy with the primary objective being the preservation of capital and maintenance of liquidity. The Treasury Policy includes guidelines on the quality of financial instruments and defines allowable investments that the Company believes minimizes the exposure to concentration of credit risk. The Company limits its exposure to credit loss by placing its cash and cash equivalents and short-term investments with high credit quality financial institutions.

The Company does not currently maintain a provision for bad debts on accounts receivable. At December 31, 2019, the maximum exposure to credit risk for accounts receivable was $2.2 million (December 31, 2018: $0.4 million) and all account receivables are due within the next 12 months.

Liquidity Risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company's short-term cash requirements are primarily to settle its financial liabilities, which consist primarily of accounts payable and accrued liabilities falling due within 45 days and current portion of lease obligations falling due within the next 12 months, with medium term requirements to invest in property and equipment and research and development. The Company's principal sources of liquidity to settle its financial liabilities are cash, cash equivalents and short-term investment, collection of accounts receivable relating to research collaboration and license agreements and additional public equity offerings as required. The Company believes that these principal sources of liquidity are sufficient to fund its operations for at least the next 12 months.

Foreign Currency Risk

The Company incurs certain operating expenses in currencies other than the U.S. dollar and accordingly is subject to foreign exchange risk due to fluctuations in exchange rates. The Company does not use derivative instruments to hedge exposure to foreign exchange risk due to the low volume of transactions denominated in foreign currencies.

The operating results and financial position of the Company are reported in U.S. dollars in the Company's consolidated financial statements. The fluctuation of the U.S. dollar relative to the Canadian dollar and other foreign currencies will have an impact on the reported balances for net assets, net loss and shareholders' equity in the Company's consolidated financial statements.

18. Commitments and Contingencies

The Company has entered into research collaboration agreements with strategic partners in the ordinary course of operations that may include contractual milestone payments related to the achievement of pre-specified research, development, regulatory and commercialization events and indemnification provisions, which are common in such agreements. Pursuant to the agreements, the Company is obligated to make research and development and regulatory milestone payments upon the occurrence of certain events and royalty payments based on net sales. The maximum amount of potential future indemnification is unlimited, however, the Company currently holds commercial and product liability insurance that limits the Company's liability and may enable it to recover a portion of any future amounts paid. Historically, the Company has not made any indemnification payments under such agreements and believes that the fair value of these indemnification obligations is minimal. Accordingly, the Company has not recognized any liabilities relating to indemnification obligations for any period presented in the consolidated financial statements.

In connection with the Kairos acquisition, the Company may be required to make future payments to CDRD Ventures Inc. ("CVI") upon the direct achievement of certain development milestones for products incorporating certain Kairos intellectual property, as well as royalty payments on the net sales of such products. For out-licensed products and technologies incorporating certain Kairos intellectual property, the Company may be required to pay CVI a mid-single digit percentage of the future revenue as a result of a revenue sharing agreement. As of December 31, 2019, the contingent consideration had an estimated fair value of approximately $978, which has been recorded within Other long-term liabilities (December 31, 2018: $707). The contingent consideration was calculated using a probability weighted assessment of the likelihood of the milestones being met, a probability adjusted discount rate that reflects the stage of the development and time to complete the development. Contingent consideration is a financial liability and measured at its fair value at each reporting period, with any changes in fair value from the previous reporting period recorded in the statement of loss and comprehensive loss.

In August 2016 , the Company entered into a license agreement with Innovative Targeting Solutions Inc., ("ITS"), to use ITS' protein engineering technology for the development and commercialization of antibody and protein therapeutics. Pursuant to the agreement, the Company agreed to pay an aggregate of $ 12.0 million in annual licensing fees to ITS over a five-year period , the full outstanding amount of which was paid in the period ended December 31 , 2019 in accordance with the prepayment terms thereunder. As a result, as of December 31 , 2019 , th e Company ha d no further licensing fee payment obligations under the agreement. Licensing fees paid to ITS are recorded as intangible assets and are amortized over their estimated useful lives. The Company may also be required to make payments to ITS upon the achievement of certain development and commercial milestones, as well as royalty payments on net sales. No liabilities have been recorded for any amounts payable as of December 31 , 2019 .

Contingencies

From time to time, the Company may be subject to various legal proceedings and claims related to matters arising in the ordinary course of business. The Company does not believe it is currently subject to any material matters where there is at least a reasonable possibility that a material loss may be incurred.

19 . Subsequent event

On January 27 , 2020, the Company closed a public offering pursuant to which the Company sold 4,924,729 common shares , including the sale of 900,000 common shares to the underwriters upon their full exercise of their over-allotment option , at $46.50 per common share and 1,075,271 pre-funded warrants in lieu of common shares at $46.4999 per pre-funded warrant. Net proceeds were approximately $ 301.0 million, after underwriting discounts, commissions and offering expenses.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of end of the period covered by this Annual Report on Form 10-K, our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the design and operating effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Any such information is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on our evaluation of our disclosure controls and procedures as of December 31, 2019, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were, in design and operation, effective at the reasonable assurance level.

Management's Annual Report on Internal Control over Financial Reporting

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, is responsible for establishing and maintaining adequate internal control over our financial reporting, defined in Rule 13a-15(f) and Rule 15d-15(f) of the Exchange Act.

The effectiveness of any system of internal control over financial reporting, including ours, is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting, including ours, no matter how well designed and operated, can only provide reasonable, not absolute, assurances. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate. Management has assessed the effectiveness of our internal control over financial reporting as at December 31, 2019. In making its assessment, management used the criteria set forth in the internal control – integrated framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 COSO framework) to evaluate the effectiveness of our internal control over financial reporting. Based on this evaluation, management has concluded that our internal control over financial reporting was effective as of December 31, 2019.

Attestation Report of Independent Registered Public Accounting Firm

The effectiveness of our internal control over financial reporting as of December 31, 2019 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report included elsewhere in this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10. of Form 10-K is incorporated by reference to our proxy statement for the 2020 annual meeting of shareholders (the “2020 Proxy Statement”), to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 11. Executive Compensation

The information required by Item 11. of Form 10-K is incorporated by reference to our 2020 Proxy Statement, to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters

The information required by Item 12. of Form 10-K is incorporated by reference to our 2020 Proxy Statement, to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 13. Certain Relationships and Related Transactions and Director Independence

The information required by Item 13. of Form 10-K is incorporated by reference to our 2020 Proxy Statement, to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

Item 14. Principal Accounting Fees and Services

The information required by Item 14. of Form 10-K is incorporated by reference to our 2020 Proxy Statement, to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2019.

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PART IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Financial Statements—The financial statements included in Item 8 are filed as part of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedules—All schedules have been omitted because they are not applicable or required, or the information required to be set forth therein is included in the consolidated Financial Statements or notes thereto included in Item 8 of this Annual Report on Form 10-K.

(a)(3) Exhibits—The exhibits required by Item 601 of Regulation S-K are listed in paragraph (b) below.

(b) Exhibits—The exhibits listed on the Exhibit Index below are filed herewith or are incorporated by reference to exhibits previously filed with the SEC.

EXHIBITS INDEX

Exhibit No.	Description
3.1	Form of Notice of Articles of the Registrant (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 17, 2017).
3.2	Form of Articles of the Registrant (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 17, 2017).
4.1	Specimen common share certificate (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 24, 2017).
4.2	Description of Capital Stock
4.3	Form of Pre-Funded Warrant to purchase common shares (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed with the SEC on June 20, 2019).
10.1#	Employment Agreement, dated December 13, 2007, by and between the Registrant and Dr. Ali Tehrani, as amended January 1, 2014 (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.2#	Amended and Restated Employment Agreement, dated January 17, 2017, by and between the Registrant and Dr. Ali Tehrani (incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.3#	Employment Agreement, dated January 25, 2007, by and between the Registrant and Neil Klompas, as amended October 23, 2007 and January 1, 2014 (incorporated by reference to Exhibit 10.3 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.4#	Amended and Restated Employment Agreement, dated January 17, 2017, by and between the Registrant and Neil Klompas (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).

Exhibit No.	Description
10.5#	Employment Agreement, dated June 1, 2016, by and between the Registrant and Diana Hausman (incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.6#	Amended and Restated Employment Agreement, dated January 18, 2017, by and between the Registrant and Diana Hausman (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.7#	Form of Indemnity Agreement between the Registrant and its officers and directors (incorporated by reference to Exhibit 10.13 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 17, 2017).
10.8#	Second Amended and Restated Employee Stock Option Plan and forms of agreements thereunder (incorporated by reference to Exhibit 10.14 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 17, 2017).
10.9#	Amended and Restated Stock Option and Equity Compensation Plan (incorporated by reference to Schedule "A" to Exhibit 99.1 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on May 16, 2018).
10.10†	Amended and Restated Research and License Agreement, effective as of December 3, 2014, by and between the Registrant and Merck Sharp & Dohme Research GmbH (incorporated by reference to Exhibit 10.16 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.11†	Licensing and Collaboration Agreement, effective as of December 17, 2013, by and between the Registrant and Eli Lilly and Company (incorporated by reference to Exhibit 10.17 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.12†	First Amendment to Licensing and Collaboration Agreement, effective as of May 30, 2014, by and between the Registrant and Eli Lilly and Company, as amended February 25, 2014 and June 16, 2014 (incorporated by reference to Exhibit 10.18 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.13†	Licensing and Collaboration Agreement, effective as of October 22, 2014, by and between the Registrant and Eli Lilly and Company (incorporated by reference to Exhibit 10.19 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.14†	First Amendment to Licensing and Collaboration Agreement, effective as of June 4, 2015, by and between the Registrant and Eli Lilly and Company (incorporated by reference to Exhibit 10.20 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.15†	Second Amendment to Licensing and Collaboration Agreement, effective as of January 24, 2017, by and between the Registrant and Eli Lilly and Company (incorporated by reference to Exhibit 10.21 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.16†	Collaboration Agreement, effective as of December 23, 2014, by and among the Registrant, Celgene Corporation and Celgene Alpine Investment Co. LLC (incorporated by reference to Exhibit 10.22 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).

Exhibit No.	Description
10.17†	Collaboration and License Agreement, effective as of December 1, 2015, by and between the Registrant and GlaxoSmithKline Intellectual Property Development Limited (incorporated by reference to Exhibit 10.23 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.18†	Platform Technology Transfer and License Agreement, effective as of April 21, 2016, by and between the Registrant and GlaxoSmithKline Intellectual Property Development Limited (incorporated by reference to Exhibit 10.24 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.19†	Collaboration and Cross License Agreement, effective as of September 26, 2016, by and between the Registrant and Daiichi Sankyo Co., Ltd (incorporated by reference to Exhibit 10.25 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.20	Lease of Office Space Agreement dated as of April 6, 2015, by and between Poplar Properties Ltd. and Zymeworks Inc. and the Amendment thereto dated August 28, 2015 (incorporated by reference to Exhibit 10.26 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
10.21#	Amended and Restated Employee Stock Purchase Plan (incorporated by reference to Schedule "B" to Exhibit 99.1 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on May 16, 2018).
10.22†	First Amendment to Collaboration Agreement, effective as of May 29, 2017, by and between the Registrant, Celgene Corporation and Celgene Alpine Investment Co. LLC (incorporated by reference to Exhibit 99.1 to a Report of Foreign Private Issuer on Form 6-K (File No. 001-38068), originally furnished to the SEC on July 18, 2017 and deemed filed under the Exchange Act).
10.23†	Collaboration and License Agreement, effective as of November 13, 2017, by and between the Registrant and Janssen Biotech, Inc., (incorporated by reference to Exhibit 99.1 to a Report of Foreign Private Issuer on Form 6-K (File No. 001-38068), originally furnished to the SEC on November 24, 2017 and deemed filed under the Exchange Act).
10.24†	License Agreement, effective as of May 14, 2018, by and between the Registrant and Daiichi Sankyo Company, Limited (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on May 18, 2018).
10.25†	Research and License Agreement, effective as of October 23, 2018, by and between the Registrant and LEO Pharma A/S (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on October 26, 2018).
10.26†	License and Collaboration Agreement, effective as of November 26, 2018, by and between the Registrant and BeiGene Ltd. (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on December 6, 2018).
10.27†	License and Collaboration Agreement, effective as of November 26, 2018, by and between the Registrant and BeiGene Ltd. (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on December 6, 2018).
10.28†	Research and License Agreement, effective as of November 26, 2018, by and between the Registrant and BeiGene Ltd. (incorporated by reference to Exhibit 99.3 to the Company's Current Report on Form 8-K (File No. 001-38068), originally filed with the SEC on December 6, 2018).
10.29	Indenture of Lease dated as of January 25, 2019, by and between 5th & Main Partnership and Zymeworks Inc. (incorporated by reference to Exhibit 10.29 to the Company's 2018 Annual Report on Form 10-K (File No. 001-38068), originally filed with the SEC on March 6, 2019).

Exhibit No.	Description
10.30#	Employment Agreement effective September 17, 2018, by and between the Registrant and Anthony Polverino (incorporated by reference to Exhibit 10.30 to the Company's 2018 Annual Report on Form 10-K (File No. 001-38068), originally filed with the SEC on March 6, 2019).
10.31*	License Agreement between Zymeworks Inc. and Iconic Therapeutics, Inc., dated May 13, 2019 (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2019).
10.32*	First Amendment to Platform Technology Transfer and License Agreement between Zymeworks Inc. and GlaxoSmithKline Intellectual Property Development Limited, dated May 15, 2019 (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed with the SEC on May 17, 2019).
10.33#	Employment Agreement effective October 14, 2019, by and between the Registrant and Kathryn O'Driscoll.
10.34	Open Market Sale Agreement[SM], dated November 5, 2019, between Zymeworks Inc. and Jefferies LLC (incorporated by reference to Exhibit 1.1 to the Company's Current Report on Form 8-K filed with the SEC on November 6, 2019).
21.1	Subsidiaries of the Registrant (incorporated by reference to Exhibit 21.1 to the Company's Registration Statement on Form F-1 (File No. 333-217100), originally filed with the SEC on April 3, 2017).
23.1	Consent of KPMG LLP, an Independent Registered Public Accounting Firm.
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
32.1	Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
99.1†	Side Letter Agreement effective as of September 25, 2018, by and between the Registrant and Daiichi Sankyo Co., Ltd. (incorporated by reference to Exhibit 99.1 to the Company's 2018 Annual Report on Form 10-K (File No. 001-38068), originally filed with the SEC on March 6, 2019).
99.2†	Side Letter Agreement effective as of January 11, 2019, by and between the Registrant and GlaxoSmithKline Intellectual Property Development Limited (incorporated by reference to Exhibit 99.2 to the Company's 2018 Annual Report on Form 10-K (File No. 001-38068), originally filed with the SEC on March 6, 2019).
99.3†	First Amendment to the Collaboration and License Agreement, effective as of January 14, 2019, by and between the Registrant and Janssen Biotech, Inc. (incorporated by reference to Exhibit 99.3 to the Company's 2018 Annual Report on Form 10-K (File No. 001-38068), originally filed with the SEC on March 6, 2019).
99.4*	First Amendment to Collaboration and License Agreement, effective as of April 30, 2019, by and between the Registrant and GlaxoSmithKline Intellectual Property Development Limited.
99.5*	Side Letter Agreement effective as of September 30, 2019, by and between Registrant and GlaxoSmithKline Intellectual Property Development Limited.

Exhibit No.	Description
99.6*	Side Letter Agreement effective as of February 20, 2020, by and between Registrant and GlaxoSmithKline Intellectual Property Development Limited.
99.7*	Amendment No. 1 to License Agreement effective as of February 26, 2020, by and between Zymeworks Inc. and Iconic Therapeutics, Inc.
101	The following materials from the Registrant's Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Inline XBRL (Inline eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as at December 31, 2019 and 2018, (ii) Consolidated Statements of Loss and Comprehensive Loss for the years ended December 31, 2019, 2018 and 2017, (iii) Consolidated Statements of Changes in Redeemable Convertible Preferred Shares and Shareholders' Equity for the years ended December 31, 2019, 2018 and 2017, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2019, 2018 and 2017 and (vi) Notes to Consolidated Financial Statements.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

† Registrant has omitted portions of the referenced exhibit pursuant to a request for confidential treatment under Rule 246-2 promulgated under the Securities Exchange Act.

* Certain portions of this exhibit (indicated by "[…***…]") have been omitted as Zymeworks has determined (i) the omitted information is not material and (ii) the omitted information would likely cause harm to Zymeworks if publicly disclosed.

# Indicates management contract or compensatory plan.

Item 16. Form 10-K Summary

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: March 2, 2020

ZYMEWORKS INC.

By: /s/ Ali Tehrani
Name: Ali Tehrani
Title: President and Chief Executive Officer and Director (Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Ali Tehrani Ali Tehrani	President and Chief Executive Officer and Director (Principal Executive Officer)	March 2, 2020
/s/ Neil Klompas Neil Klompas	Executive Vice President, Business Operations and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 2, 2020
/s/ Troy M. Cox Troy M. Cox	Director	March 2, 2020
/s/ Kenneth Hillan Kenneth Hillan	Director	March 2, 2020
/s/ Susan Mahony Susan Mahony	Director	March 2, 2020
/s/ Hollings C. Renton Hollings C. Renton	Director	March 2, 2020
/s/ Natalie Sacks Natalie Sacks	Director	March 2, 2020
/s/ Lota Zoth Lota Zoth	Director	March 2, 2020

Description of Capital Stock

General

The following description of the common shares, no par value (the “common shares”) of Zymeworks Inc. (the “Company,” “we,” “us,” and “our”) summarizes material rights of our common shares, as contained in our notice of articles and articles and any amendments thereto. This summary is not a complete description of the share rights associated with our common shares. For more detailed information, please see the forms of our BCBCA notice of articles and articles, which are filed as exhibits to this Annual Report on Form 10-K.

Share Capital

The Company’s authorized share capital consists of an unlimited number of common shares and an unlimited number of preferred shares. Our common shares are listed on the NYSE under the symbol “ZYME.”

Common Shares

The shareholders of the Company are entitled to one vote for each common share on all matters to be voted on by the shareholders. Our articles provide for a classified (or staggered) board of directors consisting of three classes of directors, with directors serving staggered three-year terms. Shareholders of the Company are not entitled to cumulative voting in the election of directors. Each common share is equal to every other common share and all common shares participate equally on liquidation, dissolution or winding up of our Company, whether voluntary or involuntary, or any other distribution of our assets among our shareholders for the purpose of winding up our affairs after the Company has paid out its liabilities. There are no limitations on the right of nonresident or foreign owners of the common shares to hold or vote the common shares. The shareholders are entitled to receive pro rata such dividends as may be declared by our board of directors out of funds legally available for such purpose and to receive pro rata the remaining property of the Company upon dissolution. No shares have been issued subject to call or assessment. There are no pre-emptive or conversion rights, and no provisions for redemption, retraction, purchase or cancellation, surrender, sinking fund or purchase fund. Provisions as to the creation, modification, amendment or variation of such rights or such provisions are contained in the BCBCA and the articles of the Company. Generally speaking, substantive changes to our share capital require the approval of the shareholders by special resolution (at least two-thirds of the votes cast).

Dividend Policy

The Company has neither declared nor paid dividends on its common shares. The Company has no present intention of paying dividends on its common shares, as it anticipates that all available funds will be invested to finance the growth of its business.

Advance Notice Policy

Our articles include an advance notice policy (the “Advance Notice Policy”). The Advance Notice Policy provides that any shareholder seeking to nominate a candidate for election as a director (a “Nominating Shareholder”) at any annual meeting of the shareholders, or at any special meeting of shareholders if one of the purposes for which the special meeting was called was the election of directors, must give timely notice thereof in proper written form to our Corporate Secretary.

To be timely, a Nominating Shareholder's notice must be made: (i) in the case of an annual meeting of shareholders (including an annual and special meeting), not less than 30 days prior to the date of the annual meeting of shareholders, provided, however, that in the event that the annual meeting of shareholders is to be held on a date that is less than 50 days after the date on which the first public announcement of the meeting was made, notice by the Nominating Shareholder may be made not later than the close of business on the 10th day following the date of such first public announcement; and (ii) in the case of a special meeting of shareholders (which is not also an annual meeting) called for the purpose of electing directors (whether or not called for other purposes as well), not later than the close of business on the 15th day following the day on which the first public announcement of the date of the special meeting of shareholders was made. The articles also prescribe the proper written form for a Nominating Shareholder's notice.

The chair of the meeting shall have the power and duty to determine whether a nomination was made in accordance with the notice procedures set forth in the articles and, if any proposed nomination is not in compliance with such provisions, the discretion to declare that such defective nomination will be disregarded.

Notwithstanding the foregoing, the Board of Directors may, in their sole discretion, waive any requirement in the Advance Notice Policy.

EMPLOYMENT AGREEMENT

THIS AGREEMENT is made and effective as of **October 14th, 2019** (the "Effective Date").

BETWEEN:

Ms. Kathryn O'Driscoll, having a residence at […***…][1].

(the "Employee")

AND:

ZYMEWORKS BIOPHARMACEUTIALS INC., a corporation registered in the State of Washington and having its principal place of business at 350-2400 3rd Avenue, Seattle, WA, 98121, USA

(the "Company")

WHEREAS

A. The Company is a protein engineering company engaged in the business of researching, developing and commercializing proteins for pharmaceutical applications;

B. The Employee has experience in human resources, and/or related skills and expertise and wishes to contribute such experiences to the development and growth of the Company's business; and

C. The Company has agreed to offer employment to the Employee, and the employee has agreed to accept employment with the Company on the terms and conditions set out in this Agreement and Appendices hereto.

NOW THEREFORE THIS AGREEMENT WITNESSES that for and in consideration of the premises and mutual covenants and agreements hereinafter contained, the parties hereto covenant and agree as follows:

ARTICLE 1 – GENERAL

1.1 Definitions. Unless otherwise defined, all capitalized terms used in this Agreement will have the meanings given below:

(a) "Business" means the business of researching, developing and commercializing therapeutic proteins, antibodies, and any other research, development and manufacturing work considered, planned or undertaken by the Company during the Employee's employment;

1 Personal Information – Contact Information.

(b) “Confidential Information” means trade secrets and other information, in whatever form or media, in the possession or control of the Company, which is owned by the Company or by one of its clients or suppliers or a third party with whom the Company has a business relationship (collectively, the “Associates”), and which is not generally known to the public and has been specifically identified as confidential or proprietary by the Company, or its nature is such that it would generally be considered confidential in the industry in which the Company or its Associates operate, or which the Company is obligated to treat as confidential or proprietary. Confidential Information includes, without limitation, the following:

(i) the products and confidential or proprietary facts, data, techniques, materials and other information related to the business of the Company, including all related development or experimental work or research, related documentation owned or marketed by the Company and related formulas, algorithms, patent applications, concepts, designs, flowcharts, ideas, programming techniques, specifications and software programs (including source code listings), methods, processes, inventions, sources, drawings, computer models, prototypes and patterns;

(ii) information regarding the Company’s business operations, methods and practices, including market strategies, product pricing, margins and hourly rates for staff and information regarding the financial, legal and corporate affairs of the Company;

(iii) the names of the Company’s Associates and the nature of the Company’s relationships with such Associates; and

(iv) technical and business information of, or regarding, the Company’s Associates.

(c) “Developments” means all inventions, ideas, concepts, designs, improvements, discoveries, modifications, computer software, and other results which are or have been conceived of, developed by, written, or reduced to practice by the Employee, alone or jointly with others (including, where applicable, all modifications, derivatives, progeny, models, specifications, source code, design documents, creations, scripts, artwork, text, graphics, photos and pictures) at any time;

(d) “Excluded Developments” means any Development that the Employee establishes:

(i) was developed entirely on the Employee’s own time;

(ii) was developed without the use of any equipment, supplies, facilities, services or trade secret information of the Company;

(iii) does not relate directly to the Business or affairs of the Company or to the actual or demonstrably anticipated research or development of the Company; and

(iv) does not result from any work performed by the Employee for the Company.

(e) “Prior Developments” means any Development that the Employee establishes was developed prior to the Employee performing such services for the Company and precedes the Employee’s initial engagement with the Company.

1.2 Sections and Headings. The division of this Agreement into Articles and Sections and the insertion of headings are for the convenience of reference only and do not affect the construction or interpretation of this Agreement. The terms “hereof”, “hereunder” and similar expressions refer to this Agreement and not to any particular Article, Section or other portion hereof and include any agreement supplemental hereto. Unless something in the subject matter or context is inconsistent therewith, references herein to Articles and Sections are to Articles and Sections of this Agreement.

ARTICLE 2 – EMPLOYMENT

2.1 Services.

On the Effective Date, the Employee will commence employment with the Company in the position of Chief People Officer on the terms and conditions set out in this Agreement.

2.2 Qualifications.

(a) The Employee acknowledges that the falsification or misrepresentation of qualifications, including but not limited to education, skills, prior experience, depth and/or breadth of knowledge, references or similar matters, used to secure the position of Chief People Officer, represents a breach of this contract.

(b) Employment Duties. Subject to the direction and control of the senior management of the Company (“Management”), the Employee will perform the duties set out in Appendix “A” to this Agreement and any other duties that may be reasonably assigned to him/her by Management from time to time. Management may alter the duties Employee is expected to perform for the Company at any time with or without notice.

2.3 Throughout the term of this Agreement, the Employee will:

(a) diligently, honestly and faithfully serve the Company and will use all reasonable efforts to promote and advance the interests and goodwill of the Company;

(b) conduct him/herself in adherence to Zymeworks' Corporate Policies and Procedures;

(c) devote him/herself in a full-time capacity to the business and affairs of the Company;

(d) adhere to all applicable policies of the Company as in effect and as amended from time to time;

(e) exercise the degree, diligence and skill that a reasonably prudent Chief People Officer would exercise in comparable circumstances;

(f) refrain from engaging in any activity which will in any manner, directly or indirectly, compete with the trade or business of the Company except in accordance with Sections 2.4 and 2.6 herein and as outlined under the Conflict of Interest guidelines in the Zymeworks' Corporate Policies and Procedures; and

(g) not acquire, directly or indirectly, any interest that constitutes 5% or more of the voting rights attached to the outstanding shares of any corporation or 5% or more of the equity or assets in any firm, partnership or association, the business and operations of which in any manner, directly or indirectly, compete with the trade or business of the Company.

2.4 The Employee will disclose to Management all potential conflicts of interest and activities which could reasonably be seen to compete, indirectly or directly, with the trade or business of the Company. Management will determine, in its sole discretion, whether the activity in question constitutes a conflict of interest or competition with the Company. To the extent that Management, acting reasonably, determines a conflict of interest or competition exists, the Employee will discontinue such activity forthwith or within such longer period as Management agrees. The Employee will immediately certify in writing to the Company that he/she has discontinued such activity and that he/she has, as required by Management, cancelled any contracts or sold or otherwise disposed of any interest or assets over the 5% threshold described in 2.3(g) herein acquired by the Employee by virtue of engaging in the impugned activity, or where no market exists to enable such sale or disposition, by transfer of the Employee's beneficial interest into blind trust or other fiduciary arrangements over which the Employee has no control or direction, or other action that is acceptable to the Board.

2.5 The Employee will not be employed by another company or provide consulting or other services to other companies or commercial entities while employed by the Company, without the expressed written permission of the Company. By seeking and accepting employment with the Company, the Employee recognizes that the Employee is employed by the Company for the expressed benefit of advancing the scientific, development and business objectives of the Company and that concurrent employment outside the Company detracts from those objectives.

2.6 Notwithstanding Sections 2.3, 2.4 and 6.2, the Employee is not restricted from nor is required to obtain the consent of the Company to make investments in any company which is involved in pharmaceuticals or biotechnology with securities listed for trading on any Canadian or U.S. stock exchange, quotation system or the over-the-counter market.

2.7 For the purposes of Sections 2.3 2.4 and 2.6 herein, “Employee” includes any entity or company owned or controlled by the Employee.

ARTICLE 3 – COMPENSATION

3.1 Base Salary. As compensation for all services rendered under this Agreement, the Company will pay to the Employee and the Employee will accept from the Company a base salary of $350,000 (USD) per annum. The base salary will be paid semi-monthly, in arrears, in equal instalments, less statutory and other authorized deductions.

3.2 Stock Options. The Employee shall be granted 100,000 options to acquire shares of common stock of Zymeworks Inc. (the “Shares”), provided the Employee is employed by the Company on the grant date (the “Options”). The exercise price of the Options will be set in accordance with the terms of the Company’s Stock Option Plan on the grant date. The Options will vest and become exercisable in accordance with the terms of the Zymeworks Inc. Amended and Restated Stock Option and Equity Compensation Plan, a copy of which is attached hereto in Appendix “C”.

3.3 Incentive Plans. The Employee shall be entitled to participate in certain incentive programs for the Company’s Employees, including, without limiting the generality of the foregoing, share option plans, share purchase plans, profit-sharing or bonus plans (collectively, the “Incentive Plans”). Such Participation shall be on the terms and conditions of such Incentive Plans as at the date hereof or as may from time to time be amended or implemented by the Company in its sole discretion. A copy of the Company’s Amended and Restated Employee Share Purchase Plan is hereto attached in Appendix “C”.

3.4 Bonus. The Employee's target annual bonus will be 40% of base salary. Due to the proximity of the Effective Date to December 31, 2019, annual bonus eligibility will start in 2020.

3.5 Performance and Salary Review. Management will review the Employee's performance, base salary and equity participation level under the terms of any Incentive Plans annually beginning in December 2020, or as otherwise approved by the Compensation Committee, with interim reviews, coaching and feedback throughout the year to support the employee in his/her career development objectives and the achievement of personal, deparmental and corporate goals. The timing of performance and salary reviews as at the date hereof, or as may from time to time be amended by the Company in its sole discretion.

3.6 Expenses. The Company will reimburse the Employee for all ordinary and necessary expenses incurred by the Employee in the performance of the Employee's duties under this Agreement. Reimbursement of such expenses will be made in accordance with the Company's policies.

3.7 Professional Fees. The Company will reimburse the Employee for annual registration and/or licensing fees required to maintain the Employee's status as a member in good standing with the appropriate professional bodies required to continue effective employment, and which were held by the Employee as of the effective date. The Company will reimburse reasonable costs incurred by the Employee to complete the minimum annual continuing professional development requirements required to maintain such status.

3.8 Vacation. The Employee will be eligible for Twenty (20) days' paid vacation per calendar year, earned pro rata at a rate of 1.66 days per completed month of service. In accordance with the Company's human resources policies. Vacation time in excess of ten (10) days not taken during the year in which it is earned may not be carried forward into the subsequent year without the written pre-approval of Management. Unused vacation time will not be paid out at the end of the fiscal year. Upon termination, vacation not taken in the calendar year will be paid out according to the Employees' annual salary rate pro rated to the number of days' vacation not taken.

3.9 Benefits. The Employee will be eligible to participate in all benefit plans generally available to Employees of the Company, subject to meeting applicable eligibility requirements of such plans.

3.10 Sick Leave. The Employee will be entitled to take up to ten (10) days paid sick leave per calendar year, earned pro rata at a rate of 0.83 days per month of service; however, employees may use Sick Leave on a pro-rata basis following the completion of their first 40 hours of service. Unused sick days will not be paid out or carried forward into the subsequent year. For employees based in Seattle, Sick Leave may be used for any purpose authorized by the Seattle Paid Sick and Safe Time ("PSST") ordinance. This benefit is intended to comply with the PSST ordinance and should be interpreted in accordance with its requirements.

ARTICLE 4 – TERM AND TERMINATION

4.1 Term. This Agreement will commence on the Effective Date and will terminate on the effective date of termination by either the Employee or the Company in accordance with Section 4.2 of this Agreement.

4.2 Termination.

(a) *Termination for Cause*. The Company may terminate the employment of the Employee for cause at any time, without notice, damages or compensation of any kind.

(b) *Termination Without Cause*. The Company may terminate the employment of the Employee without cause at any time by providing written notice or payment in lieu of notice to the Employee as follows:

(i) twelve (12) months of notice or the equivalent of twelve (12) months of base salary and benefits continuation as at that date, or any combination thereof, if termination of employment occurs during the first three years of employment measured from the Start Date; and

(ii) commencing in the fourth year of employment measured from the Start Date, an additional one (1) month of notice or the equivalent of one (1) month of base salary and benefits continuation as at that date, or any combination thereof, for each additional completed year of service, up to a total maximum of eighteen (18) months.

(c) *Resignation*. The Employee may terminate his/her employment with the Company by giving prior written notice to Management of not less than thirty (30) days or such shorter period as the Employee and Management may agree. The Company may choose to waive all or part of the notice period and pay to the Employee the base salary to be earned during the balance of the notice period in full and adequate compensation to the Employee with respect to any claim relating to the Employee's employment, and the Employee waives any right that he/she may have to claim further payment, compensation or damages from the Company.

(d) *Termination following Change of Control*. Notwithstanding any other provision in this Agreement, if within twelve (12) months following a Change of Control of the Company (as defined below), the Employee's employment is terminated by the Company without cause, the Employee shall receive as severance eighteen

(18) months of base salary and benefits continuation as at that date, and full vesting acceleration of all unvested stock options or other equity grants made to the Employee as at that date. For all purposes of this Agreement, “Change of Control” means:

(i) the acquisition, directly or indirectly, by any person or group of persons acting jointly or in concert, as such terms are defined in the Securities Act, British Columbia, of common shares of the Company which, when added to all other common shares of the Company at the time held directly or indirectly by such person or persons acting jointly or in concert constitutes for the first time in the aggregate 40% of more of the outstanding common shares of the Company and such shareholding exceeds the collective shareholding of the current directors of the Company, excluding any directors acting in concert with the acquiring party; or

(ii) the removal, by extraordinary resolution of the shareholders of the Company, of more than 51% of the then incumbent Board of the Company, or the election of a majority of Board members to the Company’s board who were not nominees of the Company’s incumbent board at the time immediately preceding such election; or

(iii) consummation of a sale of all or substantially all of the assets of the Company; or

(iv) the consummation of a reorganization, plan of arrangement, merger, or other transaction which has substantially the same effect as to above.

Payment under section 4.2(d) herein will be in lieu of and not in addition payment under section 4.2(b).

4.3 Stock Options on Termination. Except as provided by section 4.2(d), the vesting and exercise of any stock options granted to the Employee in the event the Employee’s employment with the Company or this Agreement is terminated, for any reason, shall be governed by the terms of the Stock Option Plan and any applicable stock option agreement in effect between the Company and the Employee at the time of termination.

4.4 Benefits Continuation and No Mitigation. The Employee shall not be required to mitigate the amount of any payments provided for in this section by seeking other employment or otherwise, nor shall the amount of any payment provided for in this section be reduced by any compensation earned by the Employee as the result of employment by another employer after the date of termination, or otherwise. Notwithstanding the forgoing, the Employee is required to report to the Company if he/she obtains replacement benefits coverage through new employment during any period of benefits continuation contemplated by this Article 4 and benefits coverage by the Company will cease effective the date the Employee receives such new coverage and the Employee will not be entitled to any payment in respect of benefits coverage from the Company in respect of any notice period or severance payment contemplated in this Article 4.

4.5 No Additional Payments. Payment of severance, in accordance with 4.2(b) or 4.2(d) above, to the Employee by the Company will be full and adequate compensation to the Employee with respect to any claim relating to the Employee's employment or termination or manner of termination of the Employee's employment, and the Employee waives any right that he/she may have to claim further payment, compensation or damages from the Company.

4.6 Condition to Payment. Payment of any amount of severance under this Agreement in excess of any minimum required by the *Employment Standards Act* is conditional upon execution by the Employee of a release of all claims, satisfactory to the Company.

4.7 Survival. Upon a termination of this Agreement for any reason, the Employee will continue to be bound by the provisions of Article 4, Article 5, Article 6, Article 7, and Article 9.

ARTICLE 5 – CONFIDENTIALITY

5.1 Confidential Information.

(a) *Ownership of Confidential Information*—The Employee acknowledges that the Confidential Information is and will be the sole and exclusive property of the Company. The Employee acknowledges that the Employee has not, and will not, acquire any right, title or interest in or to any of the Confidential Information.

(b) *Non Disclosure, Use and Reproduction of Confidential Information*—The Employee will keep all the Confidential Information strictly confidential, and will not, either directly or indirectly, either during or subsequent to employment with the Company, disclose, allow access to, transmit, transfer, use or reproduce any of the Confidential Information in any manner except as required to perform the duties of the Employee for the Company and in accordance with all procedures established by the Company for the protection of the Confidential Information. Without limiting the foregoing, the Employee:

(i) will ensure that all the Confidential Information and all copies thereof, are clearly marked, or otherwise identified as confidential to the Company and proprietary to the person or entity that first provided the Confidential Information, and are stored in a secure place while in the Employee's possession, custody, charge or control;

(ii) will not, either directly or indirectly, disclose, allow access to, transmit or transfer any of the Confidential Information to any person other than to an employee, officer, or director of the Company but only upon a "need to know" basis, without the prior written authorization of Management; and

(iii) will not, except as required by the Employee's position, use any of the Confidential Information to create, maintain or market any product or service which is competitive with any product or service produced, marketed, licensed, sold or otherwise dealt in by the Company, or assist any other person to do so.

(c) *Legally Required Disclosure*—Notwithstanding the foregoing, to the extent the Employee is required by law to disclose any Confidential Information, the Employee will be permitted to do so, provided that notice of this requirement is delivered to the Company in a timely manner, so that the Company may contest such potential disclosure.

(d) *Return of Materials, Equipment and Confidential Information*—Upon request by the Company, and in any event when the Employee leaves the employ of the Company, the Employee will immediately return to the Company all the Confidential Information and all other materials, computer programs, documents, memoranda, notes, papers, reports, lists, manuals, specifications, designs, devices, drawings, notebooks, correspondence, equipment, keys, pass cards, and property, and all copies thereof, in any medium, in the Employee's possession, charge, control or custody, which are owned by, or relate in any way to the Business or affairs of the Company.

(e) *Exceptions* - The non-disclosure obligations of Employee under this Agreement shall not apply to Confidential Information which the Employee can establish:

(i) is, or becomes, readily available to the public other than through a breach of this Agreement;

(ii) is disclosed, lawfully and not in breach of any contractual or other legal obligation, to Employee by a third party; or

(iii) through written records, was known to Employee, prior to the date of first disclosure of the Confidential Information to Employee by the Company

5.2 <u>Ownership of Developments</u>

(a) *Acknowledgment of Company Ownership*—The Employee acknowledges that the Company will be the exclusive owner of all the Developments made during the term of the Employee's employment by the Company except Excluded Developments and to all intellectual property rights in and to such Developments.

The Employee hereby assigns all right, title and interest in and to such Developments and their associated intellectual property rights throughout the world and universe to the Company, including without limitation, all trade secrets, patent rights, copyrights, mask works, industrial designs and any other intellectual property rights in and to each such Development, effective at the time each is created. Further, the Employee irrevocably waives all moral rights the Employee may have in such Developments.

(b) *Excluded Developments* and Prior Developments—The Company acknowledges that it will not own any Excluded Developments or Prior Developments.

(c) *Disclosure of Developments*—To avoid any disputes over the ownership of Developments, the Employee will provide the Company with a general written description of any of the Developments the Employee believes the Company does not own because they are Excluded Developments or Prior Developments. Thereafter, the Employee agrees to make full and prompt disclosure to the Company of all Developments, including, without limitation, Excluded Developments, made during the term of the Employee's employment with the Company. The Company will hold any information it receives regarding Excluded Developments and Prior Developments in confidence.

(d) *Further Acts*—The Employee agrees to cooperate fully with the Company both during and after the Employee's employment by the Company, with respect to (i) signing further documents and doing such acts and other things reasonably requested by the Company to confirm the Company's ownership of the Developments other than Excluded Developments and Prior Developments, the transfer of ownership of such Developments to the Company, and the waiver of the Employee's moral rights therein, and (ii) obtaining or enforcing patent, copyright, trade secret or other protection for such Developments; provided that the Company pays all the Employee's expenses in doing so, and reasonable compensation if such acts are required after the Employee leaves the employment by the Company.

(e) *Employee-owned Inventions*—The Employee hereby covenants and agrees with the Company that, unless the Company agrees in writing otherwise, the Employee will not use or incorporate any Excluded Development or Prior Development in its work product, services, or other deliverables the Employee provides to the Company. If the Employee uses or incorporates any Excluded Development or Prior Development with the Company's permission, as provided above, the Employee (i) represents and warrants that he or she owns all proprietary interest in such Excluded Development or Prior Development and (ii) grants to the Company, at no charge, a non-exclusive, irrevocable, perpetual, worldwide license to use, distribute, transmit, broadcast, sub-license, produce, reproduce, perform, publish, practice, make, and modify such Excluded Development or Prior Development.

(f) *Prior Employer Information*—The Employee hereby covenants and agrees with the Company that during the Employee's employment by the Company, the Employee will not improperly use or disclose any confidential or proprietary information of any former employer, partner, principal, co-venturer, customer, or independent contractor of the Employee and that the Employee will not bring onto the Company's premises any unpublished documents or any property belonging to any such persons or entities unless such persons or entities have given their consent. In addition, the Employee will not violate any non-disclosure, non-compete or proprietary rights agreement the Employee has signed with any person or entity prior to the Employee's execution of this Agreement, or knowingly infringe the intellectual property rights of any third party while employed by the Company.

(g) *Protection of Computer Systems and Software*—The Employee agrees to take all necessary precautions to protect the computer systems and software of the Company, including, without limitation, complying with the obligations set out in the Company's policies.

ARTICLE 6 – RESTRICTIVE COVENANTS

6.1 Non-solicitation by the Employee. The Employee agrees that at any time, while employed by the Company and for a period of one (1) year thereafter the Employee will not, without the prior written consent of the Company induce or attempt to influence, directly or indirectly, an employee of the Company to leave the employ of the Company.

6.2 Non-competition. The Employee agrees that while employed by the Company and for a period of six (6) months thereafter, the Employee will not, without the prior written consent of the Company, directly or indirectly, anywhere in Canada, the United States or any country within the European Union, provide any professional services to any person or entity that can be reasonably viewed as a competitor to the Business of the Company, while the Employee was employed by the Company, which relate to therapeutic antibody modeling, design, modification and commercialization for industrial and pharmaceutical applications.

6.3 Reasonableness of Non-competition and Non-solicitation Obligations. The Employee confirms that the obligations in Sections 6.1 and 6.2 are fair and reasonable given that, among other reasons:

(a) the sustained contact the Employee will have with the clients of the Company will expose the Employee to the Confidential Information regarding the particular requirements of these clients and the Company's unique methods of satisfying the needs of these clients, all of which the Employee agrees not to act upon to the detriment of the Company; and/or

(b) the Employee will be performing important development work on the products or services owned, developed or marketed by the Company;

and the Employee agrees that the obligations in Sections 6.1 and 6.2, together with the Employee's other obligations under this Agreement, are reasonably necessary for the protection of the Company's good will, trade secrets and proprietary interests and that given the Employee's general knowledge and experience they would not prevent the Employee from being gainfully employed if the employment relationship between the Employee and the Company were to end. The Employee further confirms that the geographic scope of the obligation in Section 6.2 is reasonable given the nature of the market for the products and business of the Company. The Employee also agrees that the obligations in Sections 6.1 and 6.2 are in addition to the confidentiality and non-disclosure obligations provided for in this Agreement and acknowledges that the Company would not have entered into this Agreement but for the protections provided to the Company by all of the aforementioned obligations.

6.4 Conflict of Interest. The Employee recognizes that the Employee is employed by the Company in a position of responsibility and trust and agrees that during the Employee's employment with the Company, the Employee will not engage in any activity or otherwise put the Employee in a position which conflicts with the Company's interests. Without limiting this general statement, the Employee agrees that during the Employee's employment with the Company, the Employee will not knowingly lend money to, guarantee the debts or obligations of or permit the name of the Employee or any part thereof to be used or employed by any corporation or firm which directly or indirectly is engaged in or concerned with or interested in any Business in competition with the Business of the Company unless the Employee receives prior written authorization from the Company.

6.5 Acknowledgments. In the event the Employee breaches any covenant contained herein, the one (1) year periods provided for in Sections 6.1 and 6.2 will be extended for a period of three (3) months from the date any such breach is cured. In the event it is necessary for the either party to retain legal counsel to enforce any of the terms and conditions of this Agreement, the prevailing party will pay the other parties' reasonable legal fees, court costs and other related expenses.

ARTICLE 7 – ENFORCEMENT

7.1 Consent to Personal Jurisdiction. This Agreement will be governed by the laws of the State of Washington without regards to Washington's conflicts of law rules that may result in the application of the laws of any jurisdiction other than Washington. To the extent that any lawsuit is permitted under this Agreement, Employee expressly consents to the personal and exclusive jurisdiction and venue of the State and Federal Courts located in Washington for any lawsuit filed against me by the Company. In the event of a breach or threatened breach by the Employee of any of the provisions of Article 5 or Article 6 of this Agreement, nothing in this Agreement precludes the Company from applying to a court of competent jurisdiction to seek injunctive relief or otherwise protect or enforce its intellectual property rights, or enforce the Employee's fiduciary, non-competition, non-solicitation, confidentiality or any other post-employment obligations.

ARTICLE 8

8.1 Severability and Limitation. All agreements and covenants contained herein are severable and, in the event any of them will be held to be invalid by any competent court, this Agreement will be interpreted as if such invalid agreements or covenants were not contained herein. Should any court or other legally constituted authority determine that for any such agreement or covenant to be effective that it must be modified to limit its duration or scope, the parties hereto will consider such agreement or covenant to be amended or modified with respect to duration and scope so as to comply with the orders of any such court or other legally constituted authority or to be enforceable under the laws of the State of Washington, and as to all other portions of such agreement or covenants they will remain in full force and effect as originally written.

ARTICLE 9 – ARBITRATION

9.1 Arbitration and Equitable Relief. IN CONSIDERATION OF EMPLOYEE'S EMPLOYMENT WITH THE COMPANY, ITS PROMISE TO ARBITRATE ALL EMPLOYMENT-RELATED DISPUTES, AND EMPLOYEE'S RECEIPT OF THE COMPENSATION, PAY RAISES, AND OTHER BENEFITS PAID TO EMPLOYEE BY THE COMPANY, AT PRESENT AND IN THE FUTURE, EMPLOYEE AGREES THAT ANY AND ALL CONTROVERSIES, CLAIMS, OR DISPUTES WITH ANYONE (INCLUDING THE COMPANY AND ANY EMPLOYEE, OFFICER, DIRECTOR, SHAREHOLDER, OR BENEFIT PLAN OF THE COMPANY, IN THEIR CAPACITY AS SUCH OR OTHERWISE), ARISING OUT OF, RELATING TO, OR RESULTING FROMEMPLOYEE'S EMPLOYMENT WITH THE COMPANY OR THE TERMINATION OF EMPLOYEE'S EMPLOYMENT WITH THE COMPANY, INCLUDING ANY BREACH OF THIS AGREEMENT, SHALL BE SUBJECT TO BINDING ARBITRATION UNDER THE ARBITRATION PROVISIONS SET FORTH IN THE WASHINGTON UNIFORM ARBITRATION ACT (THE "**ACT**"), AND PURSUANT TO WASHINGTON LAW, AND SHALL BE BROUGHT IN EMPLOYEE'S INDIVIDUAL CAPACITY, AND NOT AS A PLAINTIFF OR CLASS MEMBER IN ANY PURPORTED CLASS OR REPRESENTATIVE PROCEEDING. THE FEDERAL ARBITRATION ACT SHALL CONTINUE TO APPLY WITH FULL FORCE AND EFFECT NOTWITHSTANDING THE APPLICATION OF PROCEDURAL RULES SET FORTH IN THE ACT. DISPUTES THAT EMPLOYEE AGREES TO ARBITRATE, AND THEREBY AGREES TO WAIVE ANY RIGHT TO A TRIAL BY JURY, INCLUDE ANY STATUTORY CLAIMS UNDER LOCAL, STATE, OR

FEDERAL LAW, INCLUDING, BUT NOT LIMITED TO, CLAIMS UNDER TITLE VII OF THE CIVIL RIGHTS ACT OF 1964, THE AMERICANS WITH DISABILITIES ACT OF 1990, THE AGE DISCRIMINATION IN EMPLOYMENT ACT OF 1967, THE OLDER WORKERS BENEFIT PROTECTION ACT, THE SARBANES-OXLEY ACT, THE WORKER ADJUSTMENT AND RETRAINING NOTIFICATION ACT, THE CALIFORNIA FAIR EMPLOYMENT AND HOUSING ACT, THE FAMILY AND MEDICAL LEAVE ACT, ANY AND ALL CLAIMS UNDER THE REVISED CODE OF WASHINGTON OR ANY OTHER WASHINGTON STATE LABOR LAW, CLAIMS OF HARASSMENT, DISCRIMINATION, AND WRONGFUL TERMINATION, AND ANY STATUTORY OR COMMON LAW CLAIMS. NOTWITHSTANDING THE FOREGOING, EMPLOYEE UNDERSTANDS THAT NOTHING IN THIS AGREEMENT CONSTITUTES A WAIVER OF EMPLOYEE’S RIGHTS UNDER SECTION 7 OF THE NATIONAL LABOR RELATIONS ACT. EMPLOYEE FURTHER UNDERSTAND THAT THIS AGREEMENT TO ARBITRATE ALSO APPLIES TO ANY DISPUTES THAT THE COMPANY MAY HAVE WITH EMPLOYEE.

9.2 Procedure. EMPLOYEE AGREES THAT ANY ARBITRATION WILL BE ADMINISTERED BY JUDICIAL ARBITRATION & MEDIATION SERVICES, INC. (“**JAMS**”), PURSUANT TO ITS EMPLOYMENT ARBITRATION RULES & PROCEDURES (THE “**JAMS RULES**”), WHICH ARE AVAILABLE AT http://www.jamsadr.com/rules-employment-arbitration/ AND FROM HUMAN RESOURCES. EMPLOYEE AGREES THAT THE ARBITRATOR SHALL HAVE THE POWER TO DECIDE ANY MOTIONS BROUGHT BY ANY PARTY TO THE ARBITRATION, INCLUDING MOTIONS FOR SUMMARY JUDGMENT AND/OR ADJUDICATION, AND MOTIONS TO DISMISS AND DEMURRERS, APPLYING THE STANDARDS SET FORTH UNDER THE ACT AND WASHINGTON LAW. EMPLOYEE AGREES THAT THE ARBITRATOR SHALL ISSUE A WRITTEN DECISION ON THE MERITS. EMPLOYEE ALSO AGREES THAT THE ARBITRATOR SHALL HAVE THE POWER TO AWARD ANY REMEDIES AVAILABLE UNDER APPLICABLE LAW, AND THAT THE ARBITRATOR SHALL AWARD ATTORNEYS’ FEES AND COSTS TO THE PREVAILING PARTY, WHERE PROVIDED BY APPLICABLE LAW. EMPLOYEE AGREES THAT THE DECREE OR AWARD RENDERED BY THE ARBITRATOR MAY BE ENTERED AS A FINAL AND BINDING JUDGMENT IN ANY COURT HAVING JURISDICTION THEREOF. EMPLOYEE UNDERSTANDS THAT THE COMPANY WILL PAY FOR ANY ADMINISTRATIVE OR HEARING FEES CHARGED BY THE ARBITRATOR OR JAMS EXCEPT THAT EMPLOYEE SHALL PAY ANY FILING FEES ASSOCIATED WITH ANY ARBITRATION THAT EMPLOYEE INITIATES, BUT ONLY SO MUCH OF THE FILING FEES AS EMPLOYEE WOULD HAVE INSTEAD PAID HAD EMPLOYEE FILED A COMPLAINT IN A COURT OF LAW. EMPLOYEE AGREES THAT THE ARBITRATOR SHALL ADMINISTER AND CONDUCT ANY ARBITRATION IN ACCORDANCE WITH WASHINGTON LAW AND THAT THE ARBITRATOR SHALL APPLY SUBSTANTIVE AND PROCEDURAL WASHINGTON LAW TO ANY DISPUTE OR CLAIM, WITHOUT REFERENCE TO RULES OF

CONFLICT OF LAW. TO THE EXTENT THAT THE JAMS RULES CONFLICT WITH WASHINGTON LAW, WASHINGTON LAW SHALL TAKE PRECEDENCE. EMPLOYEE AGREES THAT ANY ARBITRATION UNDER THIS AGREEMENT SHALL BE CONDUCTED IN KING COUNTY, WASHINGTON.

9.3 Remedy. EXCEPT AS PROVIDED BY THE ACT AND THIS AGREEMENT, ARBITRATION SHALL BE THE SOLE, EXCLUSIVE, AND FINAL REMEDY FOR ANY DISPUTE BETWEEN EMPLOYEE AND THE COMPANY. ACCORDINGLY, EXCEPT AS PROVIDED FOR BY THE ACT AND THIS AGREEMENT, NEITHER EMPLOYEE NOR THE COMPANY WILL BE PERMITTED TO PURSUE COURT ACTION REGARDING CLAIMS THAT ARE SUBJECT TO ARBITRATION.

9.4 Administrative Relief. EMPLOYEE UNDERSTANDS THAT THIS AGREEMENT DOES NOT PROHIBIT EMPLOYEE FROM PURSUING AN ADMINISTRATIVE CLAIM WITH A LOCAL, STATE, OR FEDERAL ADMINISTRATIVE BODY OR GOVERNMENT AGENCY THAT IS AUTHORIZED TO ENFORCE OR ADMINISTER LAWS RELATED TO EMPLOYMENT, INCLUDING, BUT NOT LIMITED TO, THE DEPARTMENT OF FAIR EMPLOYMENT AND HOUSING, THE EQUAL EMPLOYMENT OPPORTUNITY COMMISSION, THE NATIONAL LABOR RELATIONS BOARD, OR THE WORKERS' COMPENSATION BOARD. THIS AGREEMENT DOES, HOWEVER, PRECLUDE EMPLOYEE FROM PURSUING COURT ACTION REGARDING ANY SUCH CLAIM, EXCEPT AS PERMITTED BY LAW.

9.5 Voluntary Nature of Agreement. EMPLOYEE ACKNOWLEDGES AND AGREE THAT EMPLOYEE IS EXECUTING THIS AGREEMENT VOLUNTARILY AND WITHOUT ANY DURESS OR UNDUE INFLUENCE BY THE COMPANY OR ANYONE ELSE. EMPLOYEE FURTHER ACKNOWLEDGE AND AGREES THAT EMPLOYEE HAS CAREFULLY READ THIS AGREEMENT AND THAT EMPLOYEE HAS ASKED ANY QUESTIONS NEEDED FOR EMPLOYEE TO UNDERSTAND THE TERMS, CONSEQUENCES, AND BINDING EFFECT OF THIS AGREEMENT AND FULLY UNDERSTAND IT, INCLUDING THAT ***EMPLOYEE IS WAIVING EMPLOYEE'S RIGHT TO A JURY TRIAL***. FINALLY, EMPLOYEE AGREES THAT EMPLOYEE HAS BEEN PROVIDED AN OPPORTUNITY TO SEEK THE ADVICE OF AN ATTORNEY OF EMPLOYEE'S CHOICE BEFORE SIGNING THIS AGREEMENT.

ARTICLE 10 – GENERAL

10.1 Notices. Any notices to be given hereunder by either party to the other party may be effected in writing, either by personal delivery or by mail if sent certified, postage prepaid, with return receipt requested. Mailed notices will be addressed to the parties at the address set out on the first page of this Agreement, or as otherwise specified from time to time. Notice will be effective upon delivery.

10.2 Independent Legal Advice. The Employee specifically confirms that he/she has been advised to retain his/her own independent legal advice prior to entering into this Agreement.

10.3 Construction. The parties acknowledge that each party and its respective counsel have had the opportunity to independently review and negotiate the terms and conditions of this Agreement, and that the normal rule of construction to the effect that any ambiguities are to be construed against the drafting party will not be employed in the interpretation of this Agreement or any exhibits or amendments hereto.

10.4 Assignment. The Employee cannot assign his/her interest in this Agreement.

10.5 Benefit of Agreement. This Agreement will ensure to the benefit of and be binding upon the respective heirs, executors, administrators, successors and permitted assigns of the parties hereto.

10.6 Entire Agreement. The Appendices to this Agreement, together with the terms and conditions contained within this Agreement constitute the entire agreement between the parties hereto with respect to the subject matter hereof and cancels and supersedes any prior employment agreements, understandings and arrangements between the parties hereto with respect thereto. There are no representations, warranties, terms, conditions, undertakings or collateral agreements, express, implied or statutory, between the parties other than as expressly set forth in this Agreement.

10.7 Amendments and Waivers. No amendment to this Agreement will be valid or binding unless set forth in writing and duly executed by all of the parties hereto. No waiver of any breach of any provision of this Agreement will be effective or binding unless made in writing and signed by the party purporting to give the same and, unless otherwise provided in the written waiver, will be limited to the specific breach waived.

10.8 Governing Law. This Agreement will be governed by and construed, enforced and interpreted exclusively in accordance with the laws of the State of Washington.

IN WITNESS WHEREOF the parties have executed this Agreement as of the date first above written.

ZYMEWORKS, INC.

By: /s/ Neil Klompas
Neil A. Klompas, CPA, CA
EVP Business Operations and Chief Financial Officer

SIGNED, SEALED AND DELIVERED by **Employee**:	WITNESSED by:
/s/ Kathy O'Driscoll	/s/ Jennifer Delfino
Signature	Signature
	Jennifer Delfino
	Print Name
November 8, 2019	1385 West 8th Avenue, Vancouver, BC V6H 3V9
Date	Address
	Executive Assistant
	Occupation

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Zymeworks Inc.

We consent to the incorporation by reference in the registration statement (No. 333-225556) on Form S-8 and (No. 333-234517) on Form S-3ASR of Zymeworks Inc. of our reports dated March 2, 2020, with respect to the consolidated balance sheets of Zymeworks Inc. as of December 31, 2019 and 2018, the related consolidated statements of loss and comprehensive loss, changes in redeemable convertible preferred shares and shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes and the effectiveness of internal control over financial reporting as of December 31, 2019, which reports appear in the December 31, 2019 annual report on Form 10-K of Zymeworks Inc.

Our report on the consolidated financial statements refers to changes to accounting policies in 2019 due to the adoption of ASC 842 - *Leases*, and in 2018 due to the adoption of ASC 606 – *Revenue from Contracts with Customers*.

/s/ KPMG LLP

Chartered Professional Accountants

Vancouver, Canada
March 2, 2020

Exhibit 31.1

CERTIFICATION
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Ali Tehrani, certify that:

1. I have reviewed this Annual Report on Form 10-K of Zymeworks Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 2, 2020

/s/ Ali Tehrani
Chief Executive Officer

Exhibit 31.2

CERTIFICATION
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Neil Klompas, certify that:

1. I have reviewed this Annual Report on Form 10-K of Zymeworks Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 2, 2020

/s/ Neil Klompas
Chief Financial Officer

Exhibit 32.1

SECTION 906 CERTIFICATION

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code) in connection with the Annual Report on Form 10-K of Zymeworks Inc. for the annual period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officer hereby certifies, to such officer's knowledge, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Zymeworks Inc.

/s/ Ali Tehrani

Name: Ali Tehrani
Title: Chief Executive Officer
Date: March 2, 2020

This certification accompanies the Report pursuant to §906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed "filed" by the Company for purposes of §18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section.

Exhibit 32.2

SECTION 906 CERTIFICATION

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code) in connection with the Annual Report on Form 10-K of Zymeworks Inc. for the annual period ended December 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned officer hereby certifies, to such officer’s knowledge, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Zymeworks Inc.

/s/ Neil Klompas

Name: Neil Klompas
Title: Chief Financial Officer
Date: March 2, 2020

This certification accompanies the Report pursuant to §906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed “filed” by the Company for purposes of §18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO ZYMEWORKS INC. IF PUBLICLY DISCLOSED. INFORMATION THAT HAS BEEN OMITTED HAS BEEN NOTED IN THIS DOCUMENT WITH A PLACEHOLDER IDENTIFIED BY THE MARK "[…*…]".**

Execution Version

FIRST AMENDMENT TO COLLABORATION AND LICENSE AGREEMENT

This First Amendment (the "**Amendment**") to that certain Collaboration and License Agreement, dated December 1, 2015, (the "**Agreement**") by and between **GLAXOSMITHKLINE INTELLECTUAL PROPERTY DEVELOPMENT LIMITED**, a corporation organized and existing under the laws of England and Wales, with its registered office located at 980 Great West Road, Brentford, Middlesex, TW8 9GS, United Kingdom ("**GSK**") and **ZYMEWORKS INC.**, a corporation organized and existing under the laws of British Columbia, having an address at 540-1385 West 8th Avenue, Vancouver, BC, Canada V6H 3V9 ("**Zymeworks**"), is entered into as of April 30, 2019 (the "**First Amendment Effective Date**"). Zymeworks and GSK are each referred to individually as a "**Party**" and together as the "**Parties.**"

BACKGROUND

A. GSK and Zymeworks entered into the Agreement, pursuant to which the Parties are collaborating to generate and develop certain Zymeworks Modifications and Zymeworks Modified Scaffolds (each, as defined in the Agreement).

B. GSK and Zymeworks now desire to amend the Agreement, all as set forth herein.

NOW THEREFORE, in consideration of the mutual covenants and agreements contained herein, the sufficiency of which is acknowledged by both Parties, the Parties agree as follows:

AGREEMENT

1. **Definitions**. Unless otherwise defined in this Amendment, initially capitalized terms used herein shall have the meanings given to them in the Agreement.

2. **Section 2.1.2. For Antibodies and GSK Products**. Section 2.1.2 of the Agreement shall be deleted in its entirety and replaced with the following:

   "Subject to the terms and conditions of this Agreement, Zymeworks shall grant, and hereby grants, to GSK a worldwide, sublicensable (in accordance with Section 2.1.3) and transferable (solely in connection with a permitted assignment of this Agreement in accordance with Section 14.1) license under the Zymeworks Project Arising IP to (a) research, develop, make, use, and import GSK Antibodies intended for incorporation into GSK Products, (b) research, develop, make, use, sell, offer to sell and import any GSK Product in the Field in the Territory. The foregoing licenses set forth in this Section 2.1.2 shall be exclusive with respect to Zymeworks' rights in all Project Arising IP other than the Zymeworks Modified Scaffold IP, with respect to which it shall be non-exclusive. For clarity, GSK would have the right to use the Zymeworks Modification and Zymeworks Modified Scaffolds solely for purposes of performing the Research Collaboration; researching and developing GSK Antibodies to be incorporated in any GSK Product; and researching, developing and commercializing such GSK Products, in each case in accordance with this Agreement. In addition, Zymeworks shall grant, and hereby grants, to GSK a non-exclusive license under the Zymeworks Background Technology to research, develop, make, use, sell and import the Zymeworks Modifications and Zymeworks Modified Scaffolds for inclusion in the GSK Products in the Field in the Territory. In addition, Zymeworks shall grant, and hereby grants, to GSK a perpetual and irrevocable (except in the event of termination of this Agreement by Zymeworks in accordance with Sections 10.2.3, 10.3 or 10.4) royalty-free, fully paid-up, non-exclusive license under the Zymeworks Project Arising IP to research, develop, make, use, sell and import the […***…][1] for inclusion in products in the Field in the Territory (the "[…***…][2] **License**")."

3. **<u>Section 2.1.3. Sublicenses</u>**. The following sentence shall be added at the end of Section 2.1.3 of the Agreement:

"GSK's right to grant or authorize sublicenses under the […***…][3] License shall apply solely with respect to GSK Products or other products developed by or on behalf of GSK or its Affiliates, and not with respect to any product that is not a GSK Product, developed independently of GSK by a Third Party."

4. **<u>Section 2.2.2. For Zymeworks Products and Third Party Products</u>.** The following sentence shall be added at the end of Section 2.2.2 of the Agreement:

"Further, GSK hereby grants to Zymeworks a royalty-free, fully paid-up, non-exclusive license under the GSK Project Arising IP specifically relating to the […***…][4] (including uses thereof, as well as antibodies or compositions comprising the same) to research, develop, make, use, sell and import the […***…][5] for inclusion in products in the Field in the Territory."

5. **<u>Section 3.1.3(a). Research Collaboration Plan</u>**. Section 3.1.3(a) is hereby deleted in its entirety and replaced with the following:

"Zymeworks shall engineer the Fc region of any number of Antibody(ies) using the Zymeworks Technology to generate […***…][6] mutually agreed by the Parties in the Research Collaboration Plan, meeting mutually established criteria set forth in the Research Collaboration Plan (the "**Zymeworks Modifications**"). Zymeworks Modifications may either be: (i) […***…][7] (each, a […***…][8]); or (ii) […***…][9] (each, a […***…][10]). Each resulting Antibody scaffold

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1 Competitive Information – Discovery Information.
2 Competitive Information – Discovery Information.
3 Competitive Information – Discovery Information.
4 Competitive Information – Discovery Information.
5 Competitive Information – Discovery Information.
6 Competitive Information – Discovery Information.
7 Competitive Information – Discovery Information.
8 Competitive Information – Discovery Information.
9 Competitive Information – Discovery Information.
10 Competitive Information – Discovery Information.

incorporating any […***…][11] that result directly from the Research Collaboration may be referred to herein as a "**Zymeworks Modified Scaffold**" and may include a […***…][12]. For clarity, Zymeworks Modified Scaffolds do not include any scaffold that comprises solely the Zymeworks Background Technology (and does not incorporate any Project Arising IP), and do not include any scaffold that incorporates solely […***…][13] in the absence of […***…][14]. Zymeworks Modified Scaffolds may include a […***…][15] in addition to a […***…][16]."

6. **Section 3.7.1. Zymeworks Modification Exclusivities**. Section 3.7.1 of the Agreement is hereby deleted in its entirety and replaced with the following:

"[...***...][17] **Exclusivities**. Subject to Section 3.7.3, (a) Zymeworks shall not, and shall not grant rights to any Person to, at any time during the Term for a GSK Product (i) develop or commercialize any antibody or product incorporating a [...***...][18] that is [...***...][19] or (ii) grant to any Third Party any rights or license under the Zymeworks Project Arising IP to, develop or commercialize any antibody [...***...][20]; and (b) GSK shall not, and shall not grant rights to any Person to, at any time during the Term (i) develop or commercialize any antibody or product incorporating a [...***...][21] or (ii) grant to any Third Party any rights or license under the GSK Project Arising IP to develop or commercialize any antibody or product incorporating [...***...][22]. For clarity, in the event that [...***...][23], nothing in this Section 3.7.1 shall prevent either Party from developing and commercializing, itself or with or through any Affiliate or Third Party, Antibodies and Products Directed To such Target within the scope of its rights hereunder. Further, nothing in this Agreement shall prevent Zymeworks from using or granting rights to use the [...***...][24] for any purpose, other than for purposes of developing or commercializing GSK Products."

7. **Sections 7.3.1 and 7.3.9. Enforcement and Defense Notice; Defense of Infringement Claims**. The reference to Zymeworks Modifications in Sections 7.3.1 and 7.3.9 of the Agreement are hereby replaced with references to [...***...][25].

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11 Competitive Information – Discovery Information.
12 Competitive Information – Discovery Information.
13 Competitive Information – Discovery Information.
14 Competitive Information – Discovery Information.
15 Competitive Information – Discovery Information.
16 Competitive Information – Discovery Information.
17 Competitive Information – Discovery Information.
18 Competitive Information – Discovery Information.
19 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
20 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
21 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
22 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
23 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
24 Competitive Information – Discovery Information.
25 Competitive Information – Discovery Information.

8. **<u>Section 11.2. Survival</u>**. The phrase "Section 2.1.2 (solely with respect to the [...***...][26] License where such [...***...][27] License has not been revoked by Zymeworks as the result of a termination by Zymeworks of this Agreement in accordance with Sections 10.2.3, 10.3 or 10.4) immediately after the phrase in the second sentence "…Article 1; Section 3.3,…."

9. **<u>No Other Modifications</u>**. Except as specifically set forth in this Amendment, the terms and conditions of the Agreement shall remain in full force and effect. No waiver of the performance of any obligation under this Amendment shall be effective unless it has been given in writing and signed by the Party giving such waiver. No provision of this Amendment may be amended or modified other than by a written document signed by authorized representatives of each Party.

   THIS AMENDMENT AND THE AGREEMENT AS AMENDED BY THIS AMENDMENT SET FORTH THE ENTIRE AGREEMENT AND UNDERSTANDING OF GSK AND ZYMEWORKS WITH RESPECT TO THE SUBJECT MATTER HEREOF, AND SUPERCEDES ALL PRIOR DISCUSSIONS, AGREEMENTS AND WRITINGS IN RELATION THERETO.

10. **<u>Miscellaneous</u>**. This Amendment may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This Amendment shall be governed by and construed in accordance with the laws of the State of Delaware and the patent laws of the United States, without reference to any rules of conflict of laws.

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26 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.

27 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO ZYMEWORKS INC. IF PUBLICLY DISCLOSED. INFORMATION THAT HAS BEEN OMITTED HAS BEEN NOTED IN THIS DOCUMENT WITH A PLACEHOLDER IDENTIFIED BY THE MARK "[…*…]".**

IN WITNESS WHEREOF, the Parties intending to be bound have caused this Amendment to be executed by their duly authorized representatives.

ZYMEWORKS INC.

By: /s/ Neil Klompas
Name: Neil Klompas
Title: Chief Financial Officer
Date: May 3, 2019

GLAXOSMITHKLINE INTELLECTUAL PROPERTY DEVELOPMENT LIMITED

By: /s/ Paul Williamson
Name: Paul Williamson

Authorized Signatory for and on behalf of
Edinburgh Pharmaceutical Industries Limited
Corporate Director

GLAXOSMITHKLINE INTELLECTUAL PROPERTY DEVELOPMENT LIMITED

By: /s/ Paul Money
Name: Paul Money

Authorized Signatory for and on behalf of
Glaxo Group Limited
Corporate Director

Exhibit 99.5

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO ZYMEWORKS INC. IF PUBLICLY DISCLOSED. INFORMATION THAT HAS BEEN OMITTED HAS BEEN NOTED IN THIS DOCUMENT WITH A PLACEHOLDER IDENTIFIED BY THE MARK "[…*…]".**

September 30, 2019

[…***…][1]
Medicines Research Centre
Gunnels Wood Road
Stevenage, Hertfordshire SG1 2NY
United Kingdom

VIA EMAIL

Attention: […***…][2]

RE: SECOND EXTENSION OF RESEARCH COLLABORATION TERM

Dear […***…][3],

Reference is hereby made to the Collaboration and License Agreement between GlaxoSmithKline Intellectual Property Development Limited ("GSK") and Zymeworks Inc. ("Zymeworks") dated effected December 1, 2015, as amended pursuant to the letter agreement dated January 11, 2019 and pursuant to the First Amendment to Collaboration And License Agreement dated effective April 30, 2019 (the "Agreement"). Unless otherwise defined herein, all capitalized terms have the meanings ascribed to them in the Agreement.

This letter sets out GSK and Zymeworks' agreement to extend conclusion of the Research Collaboration Term under the Agreement to the earlier of (a) […***…][4] or (b) the date on which the […***…][5], unless earlier terminated in accordance with Section 10.2, 10.3 or 10.4 of the Agreement.

Except as specifically set out herein, the terms and conditions of the Agreement remain in full force and effect.

If the foregoing accurately reflects your understanding, please indicate your agreement in the space provided below and return a fully executed copy of this letter to Zymeworks.

Sincerely,

Zymeworks Inc.

By: /s/ Neil Klompas
Neil A. Klompas
Executive Vice President,
Business Operations and
Chief Financial Officer

1 Personal Information – Contact Information.
2 Personal Information – Contact Information.
3 Personal Information – Contact Information.
4 Competitive Information – Commercially Sensitive Terms.
5 Competitive Information – Commercially Sensitive Terms.

Acknowledged and agreed:

GlaxoSmithKline Intellectual Property Development Limited

By: /s/ Paul Williamson
Authorized Signatory

For and on behalf of Edinburgh Pharmaceutical Industries Limited
Corporate Director

GlaxoSmithKline Intellectual Property Development Limited

By: /s/ John Sadler
Authorized Signatory

For and on behalf of Glaxo Group Limited
Corporate Director

cc: […***…][6]

6 Personal Information – Contact Information

Exhibit 99.6

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO ZYMEWORKS INC. IF PUBLICLY DISCLOSED. INFORMATION THAT HAS BEEN OMITTED HAS BEEN NOTED IN THIS DOCUMENT WITH A PLACEHOLDER IDENTIFIED BY THE MARK "[…*…]".**

February 20, 2020

[…***…][1]
Medicines Research Centre
Gunnels Wood Road
Stevenage, Hertfordshire SG1 2NY
United Kingdom

VIA EMAIL

Attention: […***…][2]

RE: EXTENSION OF […*…][3] DEADLINE**

Dear […***…][4],

Reference is hereby made to the Collaboration and License Agreement between GlaxoSmithKline Intellectual Property Development Limited ("GSK") and Zymeworks Inc. ("Zymeworks") dated effected December 1, 2015, as amended pursuant to the letter agreement dated January 11, 2019, pursuant to the First Amendment to Collaboration And License Agreement dated effective April 30, 2019, and pursuant to the letter agreement dated September 30, 2019 (the "Agreement"). Unless otherwise defined herein, all capitalized terms have the meanings ascribed to them in the Agreement.

Whereas, the Research Collaboration Term expires on […***…][5], and Section 3.4.1 of the Agreement requires the Parties to enter into a written agreement […***…][6] prior to the expiry of the Research Collaboration Term and in any event no later than […***…][7] prior to the […***…]. Both Parties remain committed to entering into […***…][8] prior to expiry of the Research Collaboration Term, but were unable to enter into […***…][9] prior to the […***…][10].

This letter sets out GSK and Zymeworks' agreement to extend the deadline under Section 3.4.1 of the Agreement by which Zymeworks and GSK must enter into […***…][11] until expiry of the Research Collaboration Term. Each Party waives the other Party's failure to enter into […***…][12] prior to the […***…][13].

Except as specifically set out herein, the terms and conditions of the Agreement remain in full force and effect.

If the foregoing accurately reflects your understanding, please indicate your agreement in the space provided below and return a fully executed copy of this letter to Zymeworks.

1 Personal Information – Contact Information.
2 Personal Information – Contact Information.
3 Competitive Information – Commercially Sensitive Terms.
4 Personal Information – Contact Information.
5 Competitive Information – Commercially Sensitive Terms.
6 Competitive Information – Commercially Sensitive Terms.
7 Competitive Information – Commercially Sensitive Terms.
8 Competitive Information – Commercially Sensitive Terms.
9 Competitive Information – Commercially Sensitive Terms.
10 Competitive Information – Commercially Sensitive Terms.
11 Competitive Information – Commercially Sensitive Terms.
12 Competitive Information – Commercially Sensitive Terms.
13 Competitive Information – Commercially Sensitive Terms.

Sincerely,

Zymeworks Inc.

By: /s/ Neil Klompas
Neil A. Klompas
Executive Vice President, Business
Operations and Chief Financial Officer

Acknowledged and agreed:

GlaxoSmithKline Intellectual Property Development Limited

By: /s/ Stephen Martin
Name: Stephen Martin
Title: VP BioPharm Discovery
Date: February 20, 2020

cc: […***…][14]

14 Personal Information – Contact Information.

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD LIKELY CAUSE COMPETITIVE HARM TO ZYMEWORKS INC. IF PUBLICLY DISCLOSED. INFORMATION THAT HAS BEEN OMITTED HAS BEEN NOTED IN THIS DOCUMENT WITH A PLACEHOLDER IDENTIFIED BY THE MARK "[…*…]".**

AMENDMENT NO. 1
TO
LICENSE AGREEMENT

THIS AMENDMENT NO. 1 TO LICENSE AGREEMENT (the "**Amendment**") is entered by and between Zymeworks Inc., a corporation organized and existing under the laws of British Columbia, having a place of business at 540-1385 West 8th Avenue, Vancouver, BC, Canada V6H 3V9 ("**Zymeworks**"), and Iconic Therapeutics, Inc., a Delaware corporation, having an address 442 Littlefield Avenue, South San Francisco, California 94080 USA ("**ICONIC**"), with effect as of the last date set forth under the signatures of the Parties below (the "**Amendment Effective Date**"). Zymeworks and ICONIC may be referred to herein individually as a "**Party**" and collectively as the "**Parties**."

WHEREAS, Zymeworks and ICONIC are parties to that certain License and Agreement dated effective May 13, 2019 (the "**Agreement**"); and

WHEREAS, ICONIC and Zymeworks wish to amend the Agreement on the terms and conditions set forth in this Amendment.

NOW, THEREFORE, in consideration of the foregoing recitals, the covenants and agreements of the Parties contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereto, intending to be legally bound, hereby agree as follows:

1. Amendments. ICONIC and Zymeworks hereby amend the Agreement as follows:

    (a) Section 3.4.4. The following is added after the second sentence in Section 3.4.4 of the Agreement:

    "In the case of clause (i) the terms attached hereto as Exhibit 3.4.4 shall also apply."

    (b) Exhibit 3.4.4. Exhibit 3.4.4, in the form attached hereto, is hereby attached to and forms part of the Agreement.

2. Miscellaneous. Capitalized terms that are used but not otherwise defined in this Amendment shall have the meaning attributed to them in the Agreement. This Amendment is hereby incorporated into the Agreement by this reference. Except as expressly amended by this Amendment, all of the terms and conditions of the Agreement shall remain in full force and effect. This Amendment may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Scanned and electronic signatures shall be legally binding and shall have the same effect as original signatures.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed on their behalf by their duly authorized representatives with effect as of the Amendment Effective Date.

ZYMEWORKS INC.

By: /s/ Neil Klompas
(Signature)

Name: Neil Klompas

Title: Chief Financial Officer

Date: February 26, 2020

ICONIC THERAPEUTICS, INC.

By: /s/ William Greene
(Signature)

Name: William Greene

Title: CEO

Date: February 20, 2020

Exhibit 3.4.4

Zymeworks shall […***…][1] under the following terms and conditions:

1. Work Order. ICONIC shall submit to Zymeworks a work order substantially in the format of the template attached as Appendix A to this Exhibit 3.4.4 at least 5 days prior to the requested delivery date, specifying (a) the quantity of the Lead Linker-Cytotoxin ordered for delivery; (b) the requested delivery date for that order; (c) the requested address of the delivery location; and (d) any special shipping instructions (each a "**Work Order**"). A Work Order hereunder shall not be effective unless and until signed by the Parties and delivered to both Parties.

2. Delivery Terms. Zymeworks shall deliver the quantities of the Lead Linker-Cytotoxin set forth in each Work Order EXW (Incoterms 2010) the Facilities designated in such Work Order. Unless otherwise provided in the […***…][2], each shipment of the Lead Linker-Cytotoxin supplied hereunder shall be accompanied by […***…][3]. […***…][4]. Unless otherwise provided in the […***…][5], Zymeworks will provide shipping documentation in each shipment of the Lead Linker-Cytotoxin that will specify the following: (a) the Lead Linker-Cytotoxin name, (b) batch number(s), (c) quantity packed per batch number, (d) Work Order number, (e) seal numbers, and (f) number of pallets, containers, dimensions and weight of pallets and containers, and quantity of the Lead Linker-Cytotoxin per container for each batch.

3. Storage of the Lead Linker-Cytotoxin. ICONIC agrees to store (and, to the extent applicable, cause its vendors, depots and sites to store) all the Lead Linker-Cytotoxin supplied by Zymeworks to ICONIC in a secured GMP-compliant area, in accordance with the storage requirements provided to ICONIC by Zymeworks.

4. Responsibility of ICONIC. Except as set forth in the […***…][6] provided, that, […***…][7].

5. Responsibilities of Zymeworks. Zymeworks shall ensure that all Lead Linker-Cytotoxin manufactured directly by Zymeworks pursuant to this Agreement shall have been manufactured in accordance with Applicable Laws, including cGMP (as defined in the Quality Agreement) and shall conform with the Specifications (as defined in the Quality Agreement). To the extent […***…][8]. In the event […***…][9]. Within […***…][10] of delivery to ICONIC, ICONIC may reject any Lead Linker-Cytotoxin that was not manufactured in accordance with Applicable Laws, including cGMP […***…][11] or does not conform with the Specifications […***…][12], and […***…][13].

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1 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
2 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
3 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
4 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
5 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
6 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
7 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
8 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
9 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
10 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
11 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
12 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.
13 Competitive Information – Discovery Information and Other Commercially Sensitive Terms.

6. No Debarment. Zymeworks represents and warrants to ICONIC as of the Amendment Effective Date, neither it nor any of its Affiliates is or has been: (a) debarred by the FDA under 21 U.S.C. § 335a, or to its knowledge, threatened with debarment by a pending proceeding, action, or investigation; (b) excluded from participation in any federal health care program, including Medicare and Medicaid, the U.S. Department of Defense Military Health System, and the U.S. Department of Veterans Affairs, pursuant to the Department of Health and Human Services Office of Inspector General's exclusion authority under 42 U.S.C. § 1320a-7(a), as implemented by 42 C.F.R. Part 1001 et seq., or the subject of an exclusion proceeding; or (c) otherwise disqualified under 21 C.F.R. Part 58, subpart K or 21 C.F.R. § 312.7 or any other similar federal or state law.

7. Packaging, Labelling, and Subsequent Distribution for Clinical Use. Following the delivery of each shipment of the Lead Linker-Cytotoxin hereunder, ICONIC will label, store and ship such the Lead Linker-Cytotoxin in compliance with applicable cGMPs and in accordance with all other Applicable Laws.

The terms and conditions set forth in Sections 1 – 7 of this Exhibit 3.4.4 shall only apply to the first order of Lead Linker-Cytotoxin manufactured and supplied under the License Agreement, as evidenced by a Work Order. Any additional orders of Lead Linker-Cytotoxin under the Agreement shall be subject to the terms and conditions of a mutually agreeable supply agreement which the Parties agree to negotiate in good faith if any such additional orders are required.

Appendix A to Exhibit 3.4.4

WORK ORDER NO. [___]

This **Work Order No. [___]** effective as of the [___] day of [_________], 20[___] (the "**Work Order Effective Date**") describes the Lead Linker-Cytotoxin, the manufacture and supply of which is to be arranged by **Zymeworks Inc.** ("**Zymeworks**") for **Iconic Therapeutics, Inc.** ("**ICONIC**") and is issued pursuant to the **License Agreement** dated effective May 13, 2019 (the "**Agreement**").

Iconic Programs:

Compound: Lead Linker-Cytotoxin

A. Description of the Lead Linker-Cytotoxin, and the quantity thereof, to be manufactured/supplied:

[____]

Specifications pertaining to the Lead Linker-Cytotoxin (as applicable) shall be as set forth in Appendix I hereto.

B. Schedule

The manufacture and supply of the Lead Linker-Cytotoxin is expected to commence on or about [insert date].

C. Dependencies

The following is a list of ICONIC's responsibilities and other requirements necessary to complete this effort. Zymeworks has used this information in establishing the Work Order and Supply Price. In the event an item identified below does not occur in the manner or time frame shown, such circumstances shall constitute a change that may require an adjustment to the Work Order and Supply Price.

ICONIC Responsibilities:

[____]

D. Report Deliverables

Along with each delivery of the Lead Linker-Cytotoxin, Zymeworks shall deliver to ICONIC the documents prescribed in the Quality Agreement.

E. Supply Price

TOTAL SUPPLY PRICE:

USD $[____________]

The total compensation due Zymeworks under this Work Order will not exceed [WRITTEN AMOUNT (numerical amount)]. Upon execution of this Work Order, ICONIC will issue a purchase order. All invoices must include the corresponding ICONIC purchase order number and the name and title of the ICONIC representative receiving a copy of the invoice below before payment will be made. All amounts due under this Statement of Work will be invoiced in United States Dollars to the attention of [ICONIC INVOICING EMAIL ADDRESS], with a copy to [NAME, TITLE AND EMAIL ADDRESS OF RESPONSIBLE ICONIC EMPLOYEE] as follows: [INVOICE SCHEDULE]. All pass through costs must be approved in advance in writing by [NAME, TITLE AND EMAIL ADDRESS OF RESPONSIBLE ICONIC EMPLOYEE] and will not include any administrative or other additional charges. Amounts due for pass through costs will be invoiced in the billing cycle first following the date they are incurred and invoices will indicate which costs are pass through costs. Payment shall be due within 30 days of an undisputed invoice and will be made in accordance with the License Agreement.

F. ICONIC's Designated Carrier of the Lead Linker-Cytotoxin:

ICONIC Carrier Name: [____]

Facility Name and Address: [______________________________________]

G. Packaging and Labeling (specific instructions/requirements):

[____]

The terms and conditions of the Agreement will apply to this Work Order. A portable document format (".pdf") copy of this Work Order, including the signature pages, will be deemed an original.

[WORK ORDER SIGNATURE ON NEXT PAGE]

IN WITNESS, WHEREOF, this **Work Order No. [___]** has been executed by the Parties hereto through their duly authorized officers as of the Work Order Effective Date set forth above.

Iconic Therapeutics, Inc.	**Zymeworks Inc.**
By: ______________________	By: ______________________
Name: ______________________	Name: ______________________
Title: ______________________	Title: ______________________
Date: ______________________	Date: ______________________

APPENDIX 1 to WORK ORDER NO. [___]

Lead Linker-Cytotoxin Specifications

Lead Linker-Cytotoxin Specifications:

Testing Methods: