Aeterna Zentaris Inc.
Form F-3/A
April 24, 2017

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As filed with the Securities and Exchange Commission on April 24, 2017

Registration No. 333-216853

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

AMENDMENT NO. 2
TO

FORM F-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AETERNA ZENTARIS INC.

(Exact name of Registrant as specified in its charter)

Not Applicable
(Translation of Registrant's name into English)

Canada	**Not Applicable**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

315 Sigma Drive, Suite 302D
Summerville, South Carolina 29486
(843) 900-3223

(Address and telephone number of Registrant's principal executive offices)

Aeterna Zentaris, Inc.,
315 Sigma Drive, Suite 302D
Summerville, South Carolina 29486
(843) 900-3211

(Name, address, and telephone number of agent for service)

Copies to:

Philip A. Theodore	**Elliot Shapiro, Esq.**	**Christopher Hilbert, Esq.**
Aeterna Zentaris Inc.	**Norton Rose Fulbright Canada LLP**	**Norton Rose Fulbright US LLP**
315 Sigma Drive, Suite 302D	**1 Place Ville Marie, Suite 2500**	**1301 Avenue of the Americas,**
Summerville, South Carolina 29486	**Montreal, Quebec**	**New York, New York 10019-6022,**
(843) 900-3211	**Canada, H3B 1R1**	**United States**
	(514) 847-4747	**(212) 318-3388**

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. o

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

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

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

If this Form is a registration statement pursuant to General Instruction I.C. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, please check the following box. o

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.C. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, please check the following box. o

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed Maximum Aggregate Offering Price(3)	Amount of Registration Fee(3)
Common Shares, without par or nominal value(1)	US$50,000,000	US$50,000,000	US$2,317.82
Share Purchase Rights(2)			
Total	US$50,000,000	US$50,000,000	US$2,317.82

(1) There are being registered under this Registration Statement such indeterminate number of Common Shares as shall have an aggregate initial offering price not to exceed US$50,000,000. Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement also covers an indeterminable number of additional Common Shares that may become issuable pursuant to terms designed to prevent dilution resulting from share splits, share dividends or similar events. Value attributable to such rights, if any, is reflected in the market price of the Common Shares. The proposed maximum initial offering price per security will be determined, from time to time, by the registrant in connection with the sale of the securities under this Registration Statement.

(2) All Common Shares of the registrant carry rights to purchase additional Common Shares pursuant to the Shareholder Rights Plan Agreement between the registrant and Computershare Trust Company of Canada. Such purchase rights are attached to and trade with the Common Shares. The value, if any, attributable to the purchase rights is reflected in the value of the Common Shares.

(3) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(o). Pursuant to Rule 415(a)(6) under the Securities Act, the Common Shares registered pursuant to this Registration Statement include $30,001,523 of unsold Common Shares previously registered on the registrant's Registration Statement on Form F-3 filed on March 14, 2014 and declared effective on March 28, 2014 (File No. 333-194547) (the "Prior Registration Statement"). The Prior Registration Statement registered Common Shares for a proposed maximum aggregate offering price of $50,000,000, of which $30,001,523 of Common Shares remain unsold. In connection with the filing of the Prior Registration Statement, the registrant paid a registration fee of $3,864.20 in respect of such unsold Common Shares. In accordance with Question 212.24 of the Securities and Exchange Commission, Division of Corporation Finance's Compliance and Disclosure Interpretations regarding Securities Act Rules, the registrant is not required to pay any additional fee with respect to the $30,001,523 of unsold Common Shares being included in this Registration Statement in reliance on Rule 415(a)(6), because such unsold Common Shares (and associated fees) are being moved from the Prior Registration Statement to this Registration Statement. Accordingly, the "Amount of Registration Fee" above reflects only the registration fee attributable to the $19,998,477 of new Common Shares registered on this Registration Statement (of which $2,239.81 was previously paid in connection with the initial filing of this Registration Statement on March 21, 2017). Pursuant to Rule 415(a)(6) of the Securities Act, the $3,864.20 registration fee previously paid by the registrant relating to the unsold Common Shares included on this Registration Statement will continue to be applied to such unsold Common Shares.

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

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

SUBJECT TO COMPLETION, DATED APRIL 24, 2017

PROSPECTUS

US$50,000,000

Common Shares
Common Share Purchase Rights

Aeterna Zentaris Inc. ("Aeterna Zentaris", "we", "us" or the "Company") may from time to time during the period that this prospectus (the "Prospectus"), including any amendments hereto, remains valid, offer, sell, and issue under this Prospectus common shares (the "Common Shares") having an aggregate initial offering price of US$50,000,000 in one or more at-the-market or similar transactions in such amounts and, if applicable, with such terms, as we may determine in light of prevailing market conditions at the time of sale. Each Common Share offered under this Prospectus and the applicable prospectus supplement to this Prospectus (each, a "Prospectus Supplement") has associated with it one right to purchase a Common Share under our Shareholder Rights Plan. See "Description of Share Capital Shareholder Rights Plan".

The specific terms of any offering of Common Shares will be set out in the applicable Prospectus Supplement, including, where applicable, the number of Common Shares offered, the manner of determination of the public offering price, the currency in which the Common Shares will be issued and any other specific terms applicable thereto.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

Investing in the Common Shares involves a high degree of risk. See "Risk Factors".

Our Common Shares are listed on both the NASDAQ Capital Market ("NASDAQ") and on the Toronto Stock Exchange ("TSX") under the symbol "AEZS". On April 21, 2017, the last reported sales price of our Common Shares on NASDAQ was $2.95 per share and on TSX was C$3.95 per share.

The Common Shares may be sold through agents designated by us from time to time in transactions only in the U.S. that are "at-the-market" or similar offerings. In addition, we may sell securities directly to one or more purchasers in the U.S. without the involvement of agents, underwriters or dealers. We may also sell the securities directly to institutional investors or others in the U.S. who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The Common Shares will generally be offered at prevailing market prices at the time of sale. The Prospectus Supplement will set out the names of any agents or any such direct institutional investors in or purchasers of our Common Shares involved in the sale or re-sale of our Common Shares and the plan of distribution for such Common Shares, including the manner of determination of the public offering price and the compensation of any such agents and/or such other amounts payable to any direct institutional investors in and purchasers of our Common Shares. See "Plan of Distribution".

The aggregate market value of our Common Shares held by non-affiliates pursuant to General Instruction I.B.5 of Form F-3 is $44,253,774, which was calculated based on 14,333,659 of our Common Shares outstanding and held by non-affiliates as of the date of this Prospectus and a price of $3.10 per share, the closing price of our Common Shares on NASDAQ on March 9, 2017. We have sold 2,304,962 Common Shares pursuant to General Instruction I.B.5 of Form F-3 during the twelve calendar month period that ends on and includes the date of this Prospectus and the aggregate value of the Common Shares sold was $7,781,283.

The date of this Prospectus is , 2017

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ABOUT THIS PROSPECTUS

This Prospectus is a part of a registration statement that we have filed with the Securities and Exchange Commission ("SEC") utilizing a "shelf" registration process. Under this shelf registration process, we may sell Common Shares in one or more at-the-market offerings for a maximum aggregate offering price of $50,000,000. This Prospectus provides you with a general description of the Common Shares that we may offer. Each time we sell Common Shares, we will provide a Prospectus Supplement that will contain specific information about the terms of that offering. The Prospectus Supplement may also add, update or change information contained in this Prospectus. If there is any inconsistency between the information in this Prospectus and the applicable Prospectus Supplement, you should rely on the information in the Prospectus Supplement. Before investing in our Common Shares, you should read both this Prospectus and any applicable Prospectus Supplement together with the additional information described under the heading "Where You Can Find More Information".

The financial statements included in or incorporated by reference into this Prospectus have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. Our consolidated financial statements are subject to Canadian generally accepted auditing standards and auditor independence standards, in addition to the standards of the Public Company Accounting Oversight Board (United States) and the SEC independence standards, and thus may not be comparable to financial statements of United States ("U.S.") companies.

You should rely only on the information contained in this Prospectus. We have not authorized anyone to provide you with information different from that contained in this Prospectus. The information contained in this Prospectus is accurate only as of the date of this Prospectus, regardless of the time of delivery of this Prospectus or of any sale of our Common Shares.

Unless otherwise stated, currency amounts in this Prospectus are stated in United States dollars, or "$" or "US$".

In this Prospectus and in any Prospectus Supplement, unless otherwise indicated, references to "we", "us", "our", "Aeterna Zentaris" or the "Company" are to Aeterna Zentaris Inc., a Canadian corporation, and its consolidated subsidiaries, unless it is clear that such terms refer only to Aeterna Zentaris Inc. excluding its subsidiaries.

OUR BUSINESS

Overview. We are a specialty biopharmaceutical company engaged in developing and commercializing novel treatments in oncology, endocrinology and women's health. We are engaged in drug development activities and in the promotion of products for others. We recently completed two Phase 3 studies of two internally developed compounds. The focus of our business development efforts is the acquisition or license of products that are relevant to our therapeutic areas of focus. We also intend to license out certain commercial rights of internally developed products to licensees in non-U.S. territories where such out-licensing would enable us to ensure development, registration and launch of our product candidates. Our goal is to become a growth-oriented specialty biopharmaceutical company by pursuing successful development and commercialization of our product portfolio and by achieving successful commercial presence and growth, while consistently delivering value to our shareholders, employees and the medical providers and patients who will benefit from our products.

Our Strategy. Our primary business strategy is to finalize the development and to pursue registration of our principal product candidates Zoptrex (zoptarelin doxorubicin) and Macrilen (macimorelin) in oncology and endocrinology, respectively and to commercialize oncology, endocrinology and women's health products that we may acquire, in-license or promote. The registration of Zoptrex and Macrilen are subject to the concurrence of the U.S. Food and Drug

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Administration (the "FDA") that top-line clinical trial data results have met FDA requirements. Following the conclusion of our meeting with the FDA on March 29, 2017, at which we discussed the Macrilen clinical trial data results, we announced that we intend to file a new drug application (an "NDA") seeking approval of Macrilen for the evaluation of adult growth hormone deficiency ("AGHD").

Drug Development. Our drug development efforts are currently focused on two compounds, Zoptrex and Macrilen as well as on an LHRH-disorazol Z conjugate (AEZS-138), which is in pre-clinical development in oncology and is available for partnering. We made the decision to focus our efforts in pre-clinical development on one compound following a review of our portfolio, during which we concluded that we lack the resources to pursue other earlier-stage opportunities. As a result of this decision, we discontinued drug discovery efforts, including basic research activities in medicinal chemistry and biology and our high-throughput-screening operations, which resulted in a reduction of our research and development staff by approximately 29 personnel during 2014.

Zoptrex represents a new targeting concept in oncology using a hybrid molecule composed of a synthetic peptide carrier, zoptarelin, and a well-known chemotherapy agent, doxorubicin, resulting in a cytotoxic conjugate. Zoptarelin is a luteinizing hormone-releasing hormone ("LHRH") agonist, a modified natural hormone with affinity for the LHRH receptor. Most chemotherapeutic agents, including doxorubicin, are toxic to normally growing, healthy cells as well as to tumor cells that grow uncontrolled. Therefore, a method for targeting such drugs specifically to cancerous tissue offers a potential benefit for patients with tumors, and particularly patients with advanced or metastatic tumors. Zoptrex is our proposed tradename for zoptarelin doxorubicin. The proposed tradename is subject to approval by the FDA.

Zoptrex is the first intravenous drug in advanced clinical development that is considered to direct the chemotherapy agent specifically to LHRH-receptor expressing tumors, which then could result in a more targeted treatment with less damage to healthy tissue. This design is believed to allow for the specific binding and selective uptake of the cytotoxic conjugate by LHRH receptor-positive tumors. Potential benefits of this targeted approach include better efficacy and a more favorable safety profile with lower incidence and severity of side effects as compared to doxorubicin. In addition, the targeted approach may enable treatment of LHRH receptor-positive cancers that have become resistant to doxorubicin.

We are conducting a pivotal Phase 3 clinical study of Zoptrex in women with locally advanced, recurrent or metastatic endometrial cancer who have progressed and who have received one chemotherapeutic regimen with platinum and taxane (either as adjuvant or first-line treatment). The clinical study is known as the "ZoptEC" study (zoptarelin doxorubicin in endometrial cancer). ZoptEC is a fully-recruited (over 500 patients), open-label, randomized-controlled study, comparing the efficacy and safety of Zoptrex to doxorubicin alone. Patients were centrally randomized in a 1:1 ratio and received either Zoptrex (267 mg/m2) or doxorubicin (60 mg/m2) intravenously, every three weeks and for up to nine cycles. Response was evaluated every three cycles during treatment and thereafter every 12 weeks until progression.

We are conducting ZoptEC under a Special Protocol Assessment ("SPA") with the FDA. The SPA agreement states that the proposed trial protocol design, clinical endpoints and planned analyzes are acceptable to the FDA to support a regulatory submission. Final marketing approval depends on the results of efficacy, the adverse event profile and an evaluation of the benefit/risk of treatment demonstrated in ZoptEC. The primary efficacy endpoint of the ZoptEC trial is improvement in median Overall Survival ("OS"). Secondary endpoints include progression-free survival, objective response rate and clinical benefit rate.

The ZoptEC study was designed to permit the final analysis of the data from the study to occur following the deaths of 384 patients. On January 30, 2017, we announced the occurrence of the

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384th death, representing the clinical endpoint of the study. We expect clinical database lock and reporting of top-line results to occur by early May 2017. If the results of the ZoptEC study warrant doing so, we expect to file an NDA in the United States for Zoptrex in the third quarter of 2017. We are now moving forward with our planning to commercialize Zoptrex , looking toward commercial launch of the product in 2018, assuming positive Phase 3 results and that the NDA is granted.

We have licensed the development, commercialization and certain other rights to Zoptrex to: (i) Sinopharm A-Think Pharmaceuticals Co., Ltd. for the People's Republic of China, including Hong Kong and Macau; (ii) Cyntec Co., Ltd., an affiliate of Orient EuroPharma Co., Ltd., for Taiwan and nine countries in southeast Asia; (iii) Rafa Laboratories Ltd for Israel and the Palestinian territories; (iv) and to Specialised Therapeutics Asia Pte Ltd for Australia and New Zealand.

Macrilen (macimorelin acetate) is a novel orally available peptidomimetic ghrelin receptor agonist that stimulates the secretion of growth hormone by binding to the ghrelin receptor (GHSR-1a) and that has potential uses in both endocrinology and oncology indications. Macrilen has been granted orphan-drug designation by the FDA for use in evaluating growth hormone deficiency ("GHD"). If approved by the FDA, Macrilen would be the first orally administered drug indicated for the evaluation of AGHD. Macrilen is our proposed proprietary trade name for macimorelin, being subject to approval by the FDA. On December 16, 2016 we were advised by the European Medicines Agency ("EMA") that Macrilen was rejected as a proposed invented name for macimorelin because of its similarity to the names of other medicines. We intend to appeal this decision.

On January 4, 2017, we announced that, based on an analysis of top-line data, the confirmatory Phase 3 clinical trial of Macrilen failed to achieve one of its co-primary endpoints. Under the study protocol, the evaluation of AGHD with Macrilen would be considered successful, if the lower bound of the two-sided 95% confidence interval for the primary efficacy variables was 75% or higher for "percent negative agreement" with the insulin tolerance test (the "ITT"), and 70% or higher for the "percent positive agreement" with the ITT. While the estimated percent negative agreement met the success criteria, the estimated percent positive agreement did not reach the criteria for a successful outcome. Therefore, the results did not meet the pre-defined equivalence criteria which required success for both the percent negative agreement and the percent positive agreement.

On February 13, 2017, we announced that, after reviewing the raw data on which the top-line data were based, we had concluded that Macrilen had demonstrated performance supportive of achieving FDA registration and that we intended to pursue registration. The announcement set forth the facts on which our conclusion was based.

On March 7, 2017, we announced that the Pediatric Committee of the EMA agreed to the Company's Pediatric Investigation Plan ("PIP") for Macrilen and agreed that the Company may defer conducting the PIP until after it files a Marketing Authorization Application ("MAA") seeking marketing authorization for the use of Macrilen for the evaluation of adult growth hormone deficiency. The decision will permit the Company to file an MAA substantially earlier than if it were required to complete the PIP before filing.

On March 30, 2017, we announced that, following our meeting with the FDA on March 29, 2017, we intend to file an NDA seeking approval of Macrilen for the evaluation of AGHD. The announcement also indicated that during our meeting with the FDA, the FDA stated that the clinical studies performed with respect to Macrilen address the prior deficiencies mentioned in the November 2014 complete response letter and that this conclusion paves the way for re-submission by us of an NDA for Macrilen , which we expect to file in the third

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quarter of 2017. While indicating that the conclusions regarding the performance of Macrilen are review issues subject to an examination of the complete data set, the FDA indicated that the summary data submitted by us prior to the meeting appear to support the propositions advanced by us. Most importantly, the FDA specified the additional statistical analysis of existing data that would be required to further support our conclusions. We expect that we can provide those data in a compelling fashion and demonstrate that Macrilen is a robust, repeatable test, demonstrating adequate sensitivity and specificity and that the performance of the product would be improved by utilizing a more appropriate cut-off point.

Commercial Operations. Our commercial operations consist of a full-time sales force and a sales-management staff. We currently have 13 sales representatives in the United States, who provide services solely for us pursuant to our agreement with a contract-sales organization. Our sales force is managed by two Regional Sales Managers and a National Sales Director and is led by our Senior Vice President and Chief Commercial Officer. Our sales force is currently promoting two products:

Saizen® [somatropin (rDNA origin) for injection] is a prescription medicine indicated for the treatment of growth hormone deficiency in children and adults. We promote Saizen® pursuant to our promotional services agreement (the "EMD Serono Agreement") with EMD Serono Inc. ("EMD Serono"), which we entered into in May 2015 and amended as of December 31, 2016. The EMD Serono Agreement, as amended, provides that we will promote Saizen® in specific agreed-upon US territories to adult and pediatric endocrinologists in exchange for a sales commission that is based upon new patient starts ("NPS") of the product. The EMD Serono Agreement has a five-year term that began in May 2015, which is not subject to a specified extension period, and is subject to customary termination provisions. Both parties to the EMD Serono Agreement have the right to terminate the EMD Serono Agreement for convenience at any time after October 31, 2017, by giving three months' advance written notice to the other party.

APIFINY® is the only cancer-specific, non-PSA blood test for the evaluation of the risk of prostate cancer. The test was developed by Armune BioScience, Inc. ("Armune"), a medical diagnostics company that develops and commercializes unique proprietary technology exclusively licensed from the University of Michigan for diagnostic and prognostic tests for cancer. We entered into a co-marketing agreement with Armune in November 2015 (the "Armune Agreement"), which was amended effective as of June 1, 2016, pursuant to which we have the exclusive right to promote APIFINY® throughout the entire United States. We receive a commission for each test performed resulting from our targeted promotion without regard to a baseline. The Armune Agreement, as amended, has a three-year term that renews automatically for successive one-year periods, unless either party terminates it by giving not less than 60 days' advance written notice to the other, which either party may do at any time with or without cause.

Our sales force will also be available for the launch of our own potential product candidates (i.e., Zoptrex and Macrilen) in the U.S., in the event the products may ultimately be approved for sale in the U.S.

We also continue to pursue opportunities to in-license or acquire additional commercial products that are relevant to our therapeutic areas of focus. Our preference is to in-license or acquire additional commercial products because we wish to control all aspects of the commercialization of the products and to record the sales revenue from the products.

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Corporate Information

We were incorporated on September 12, 1990 under the *Canada Business Corporations Act* (the "CBCA") and continue to be governed by the CBCA. Our registered address is 1 Place Ville Marie, Suite 2500, Montreal, Quebec, Canada, H3B 1R1, c/o Norton Rose Fulbright Canada LLP. Our corporate head office is located at 315 Sigma Drive, Suite 302D, Summerville, South Carolina, USA, 29486; our telephone number is (843) 900-3223 and our website is www.aezsinc.com. None of the documents or information found on our website shall be deemed to be included in or incorporated by reference into this Prospectus, unless such document is specifically incorporated herein by reference.

We currently have three wholly owned direct and indirect subsidiaries, Aeterna Zentaris GmbH ("AEZS Germany"), based in Frankfurt, Germany, Zentaris IVF GmbH, a direct wholly owned subsidiary of AEZS Germany, based in Frankfurt, Germany, and Aeterna Zentaris, Inc., an entity incorporated in the State of Delaware based in the Charleston, South Carolina area in the U.S.

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RISK FACTORS

Investing in our Common Shares involves a high degree of risk. Before making an investment decision, you should carefully consider the risks described in the applicable Prospectus Supplement, together with all of the other information incorporated by reference into this Prospectus, including those described in our most recent Annual Report on Form 20-F and subsequent consolidated financial statements and corresponding management's discussion and analysis filed with the Canadian securities regulatory authorities and our Reports on Form 6-K furnished to the SEC including our unaudited interim consolidated financial statements and corresponding management's discussion and analysis.

SPECIAL NOTE ON FORWARD-LOOKING STATEMENTS

This Prospectus and the documents incorporated herein by reference contain forward-looking statements concerning the business, operations, financial performance and condition of the Company. When used in this Prospectus and the documents incorporated herein by reference, words such as "may", "will", "should", "could", "expects", "plans", "seeks", "anticipates", "intends", "believes", "estimates", "predicts", "potential" or "continue" or the negative of these terms and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain such words. These forward-looking statements are based on current expectations and are naturally subject to uncertainty and changes in circumstances that may cause actual results to differ materially from those expressed or implied by such forward-looking statements. Such statements, based as they are on the current expectations of management, inherently involve numerous risks and uncertainties, known and unknown, many of which are beyond our control.

More detailed information about these and other factors is referenced under "Risk Factors" in this Prospectus as well as in other documents incorporated herein by reference. Many of these factors are beyond our control. Future events may vary substantially from what we currently foresee. You should not place undue reliance, if any, on such forward-looking statements. The Company disavows and is under no obligation to update or alter such forward-looking statements whether as a result of new information, future events or otherwise, other than as required by applicable securities legislation.

DESCRIPTION OF SHARE CAPITAL

Our authorized share capital structure consists of an unlimited number of shares of the following classes (all classes are without nominal or par value): Common Shares; and first preferred shares (the "First Preferred Shares") and second preferred shares (the "Second Preferred Shares" and, together with the First Preferred Shares, the "Preferred Shares"), each issuable in series. As of the date of this Prospectus, there are 14,333,659 Common Shares issued and outstanding. No Preferred Shares have been issued to date.

Common Shares

The holders of the Common Shares are entitled to one vote for each Common Share held by them at all meetings of shareholders, except meetings at which only shareholders of a specified class of shares are entitled to vote. In addition, the holders are entitled to receive dividends if, as and when declared by the Company's Board of Directors on the Common Shares. Finally, the holders of the Common Shares are entitled to receive the remaining property of the Company upon any liquidation, dissolution or winding-up of the affairs of the Company, whether voluntary or involuntary. Shareholders have no liability to further capital calls as all issued and outstanding shares are fully paid and non-assessable.

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Preferred Shares

The Preferred Shares are issuable in series with rights and privileges specific to each class. The holders of Preferred Shares are not entitled to receive notice of or to attend or vote at meetings of shareholders. The holders of First Preferred Shares are entitled to preference and priority to any participation of holders of Second Preferred Shares, Common Shares or shares of any other class of shares of the share capital of the Company ranking junior to the First Preferred Shares with respect to dividends and, in the event of the liquidation of the Company, the distribution of its property upon its dissolution or winding-up, or the distribution of all or part of its assets among the shareholders, to an amount equal to the value of the consideration paid in respect of such shares outstanding, as credited to the issued and paid-up share capital of the Company, on an equal basis, in proportion to the amount of their respective claims in regard to such shares held by them. The holders of Second Preferred Shares are entitled to preference and priority to any participation of holders of Common Shares or shares of any other class of shares of the share capital of the Company ranking junior to the Second Preferred Shares with respect to dividends and, in the event of the liquidation of the Company, the distribution of its property upon its dissolution or winding-up, or the distribution of all or part of its assets among the shareholders, to an amount equal to the value of the consideration paid in respect of such shares outstanding, as credited to the issued and paid-up share capital of the Company, on an equal basis, in proportion to the amount of their respective claims in regard to such shares held by them.

Our Board of Directors may, from time to time, provide for additional series of Preferred Shares to be created and issued, but the issuance of any Preferred Shares is subject to the general duties of the directors under the *Canada Business Corporations Act* to act honestly and in good faith with a view to the best interests of the Company and to exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances.

Shareholder Rights Plan

Our Board of Directors adopted a shareholder rights plan on March 29, 2016 (the "Rights Plan"). Computershare Trust Company of Canada acts as rights agent under the Rights Plan. Our shareholders approved, ratified and confirmed the Rights Plan at our Annual Meeting of Shareholders on May 10, 2016. The fundamental objectives of the Rights Plan are to provide adequate time for our Board and shareholders to assess an unsolicited take-over bid for us, to provide the Board with sufficient time to explore and develop alternatives for maximizing shareholder value if a take-over bid is made, and to provide shareholders with an equal opportunity to participate in a take-over bid. The Rights Plan encourages a potential acquiror who makes a take-over bid to proceed either by way of a "Permitted Bid", which requires a take-over bid to satisfy certain minimum standards designed to promote fairness, or with the concurrence of our Board. If a take-over bid fails to meet these minimum standards and the Rights Plan is not waived by the Board, the Rights Plan provides that holders of Common Shares, other than the acquiror, will be able to purchase additional Common Shares at a significant discount to market, thus exposing the person acquiring Common Shares to substantial dilution of its holdings.

Pursuant to the terms of the Rights Plan, one right was issued in respect of each Common Share outstanding at 5:01 p.m. on March 29, 2016 (the "Record Time"). In addition, we will issue one right for each additional Common Share issued after the Record Time, and prior to the earlier of the "Separation Time" (as defined in the Rights Plan) and the Expiration Time (as defined in the Rights Plan). The rights have an initial exercise price equal to the Market Price (as defined in the Rights Plan) of the Common Shares as determined at the Separation Time, multiplied by five, subject to certain anti-dilution adjustments (the "Exercise Price"), and they are not exercisable until the Separation Time. Upon the occurrence of a Flip-in Event (as defined in the Rights Plan), each right will entitle the holder thereof, other than an Acquiring Person (as defined in the Rights Plan) or any other person whose rights are or become void pursuant to the provisions of the Rights Plan, to

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purchase from us, effective at the close of business on the eighth trading day after the Stock Acquisition Date (as defined below), upon payment to us of the Exercise Price, Common Shares having an aggregate Market Price equal to twice the Exercise Price on the date of consummation or occurrence of such Flip-in Event, subject to certain anti-dilution adjustments.

The Rights Plan is described in detail in Item 10.B. of our most recent Annual Report on Form 20-F.

USE OF PROCEEDS

Unless otherwise specified in a Prospectus Supplement, the net proceeds resulting from the issuance of Common Shares will be used for the general corporate purposes of Aeterna Zentaris, which may include the funding of the preparation and submission of NDAs for Zoptrex , if the results of our recently completed clinical trial of such product warrants doing so, and Macrilen , the potential in-licensing or acquisition of new commercial products or other corporate and business development activities, and the potential expansion of existing product candidates into other indications. All expenses relating to an offering of Common Shares and any compensation paid to underwriters, dealers or agents, as the case may be, will be paid out of our general funds or from the proceeds of any offering under this Prospectus or a Prospectus Supplement. The use of proceeds will be specified in the Prospectus Supplement relating to a particular offering of Common Shares, as required by applicable securities legislation.

PLAN OF DISTRIBUTION

Sales through Agents

The Common Shares may be sold to one or more purchasers through one or more agents pursuant to one or more sales agreements to be entered into between us and any such agents. The sales, if any, of Common Shares under the applicable sales agreement and Prospectus Supplement will be made in the U.S. only and will only be made by way of "at-the-market" offerings. The Common Shares may be sold from time to time in one or more transactions at prevailing market prices at the time of sale. The prices at which the Common Shares may be offered may vary as between purchasers and during the period of distribution. Any agent's overall compensation will vary depending on the gross proceeds from the sale of such Common Shares.

A Prospectus Supplement will identify each agent engaged by us in connection with the offering and sale of a particular issue of Common Shares, and will also set forth the terms of the offering, including the manner of determination of the public offering price, the proceeds to us and any compensation payable to the agents.

Under the sales agreements which may be entered into by Aeterna Zentaris, agents who participate in the distribution of the Common Shares may be entitled to indemnification by us against certain liabilities, including liabilities arising out of any misrepresentation in this Prospectus and the applicable Prospectus Supplement and the documents incorporated by reference herein, other than liabilities arising out of any misrepresentation made by agents who participate in the offering of the Common Shares.

Direct Sales

In addition, we may sell securities directly to one or more purchasers without the involvement of agents, underwriters or dealers. We may also sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The sales, if any, of Common Shares to any such direct institutional

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investors or purchasers under the applicable agreement and Prospectus Supplement will be made in the U.S. only and will generally only be made by way of "at-the-market" or similar offerings.

CERTAIN INCOME TAX CONSIDERATIONS

The applicable Prospectus Supplement will describe certain Canadian federal income tax consequences to an investor acquiring any Common Shares offered thereunder, including, for investors who are non-residents of Canada, whether the payments of dividends (or any other amounts) on the Common Shares, if any, will be subject to Canadian non-resident withholding tax.

The applicable Prospectus Supplement may also describe certain U.S. federal income tax consequences of the acquisition, ownership and disposition of any Common Shares offered thereunder by an initial investor who is a U.S. person (within the meaning of the U.S. Internal Revenue Code of 1986, as amended).

LEGAL MATTERS

Unless otherwise specified in the Prospectus Supplement relating to any offering of Common Shares, certain legal matters relating to the offering of the Common Shares under this Prospectus will be passed upon for us by Norton Rose Fulbright Canada LLP with respect to matters of Canadian law and by Norton Rose Fulbright US LLP with respect to matters of U.S. law. In addition, certain legal matters in connection with any offering of Common Shares under this Prospectus will be passed upon for any underwriters, dealers or agents by counsel to be designated at the time of the offering by such underwriters, dealers or agents with respect to matters of applicable law.

The partners and associates of Norton Rose Fulbright Canada LLP as a group and the partners and associates of Norton Rose Fulbright US LLP as a group, each beneficially own, directly or indirectly, less than 1% of the outstanding securities of any class of securities issued by us.

EXPERTS

The consolidated financial statements incorporated into this Prospectus by reference to the Annual Report on Form 20-F of Aeterna Zentaris Inc. for the financial year ended December 31, 2016, have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent auditors, given on the authority of said firm as experts in auditing and accounting.

ENFORCEABILITY OF CIVIL LIABILITIES

We are a corporation incorporated under and governed by the *Canada Business Corporations Act*. Many of our officers and directors, and some of the experts named in this Prospectus, are residents of Canada or elsewhere outside of the U.S., and a substantial portion of our assets and the assets of such persons are located outside the U.S. As a result, it may be difficult for investors in the U.S. to effect service of process within the U.S. upon such directors, officers and representatives of experts who are not residents of the U.S. or to enforce against them judgments of a U.S. court predicated solely upon civil liability under U.S. federal securities laws or the securities laws of any state within the U.S. We have been advised by our legal counsel, Norton Rose Fulbright Canada LLP, that a judgment of a U.S. court predicated solely upon civil liability under U.S. federal securities laws would probably be enforceable in Canada if the U.S. court in which the judgment was obtained has a basis for jurisdiction in the matter that would be recognized by a Canadian court for the same purposes. We have also been advised by Norton Rose Fulbright Canada LLP, however, that there is substantial doubt as to whether an action could be brought in Canada in the first instance on the basis of liability predicated solely upon U.S. federal securities laws.

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WHERE YOU CAN FIND MORE INFORMATION

We file annual reports on Form 20-F with the SEC, and we furnish other documents, such as quarterly and current reports, proxy statements and other information and documents that we file with the Canadian securities regulatory authorities, to the SEC, as required. You may read and copy any materials we file with or furnish to the SEC at the public reference room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site (*www.sec.gov*) that contains reports, proxy and information statements and other information regarding registrants who file electronically with the SEC. As we are a Canadian issuer, we also file continuous disclosure documents with the Canadian securities regulatory authorities, which documents are available on the System for Electronic Document Analysis and Retrieval ("SEDAR") website maintained by the Canadian Securities Administrators at *www.sedar.com*.

This Prospectus forms part of a registration statement that we filed with the SEC. The registration statement contains more information than this Prospectus regarding us and our Common Shares, including certain exhibits and schedules. You can obtain a copy of the registration statement from the SEC at the address listed above or electronically at *www.sec.gov/edgar.shtml*.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents have been filed with the various securities commissions or similar securities regulatory authorities in Canada and are specifically incorporated by reference into, and form an integral part of, this Prospectus:

- our Annual Report on Form 20-F for the financial year ended December 31, 2016, which includes (i) our consolidated statements of financial position as at December 31, 2016 and December 31, 2015 and our consolidated statements of changes in shareholders' equity, comprehensive loss and cash flows for the years ended December 31, 2016, 2015 and 2014 and the auditors' report dated March 15, 2017 on such consolidated financial statements as Item 18, (ii) management's annual report on internal control over financial reporting included as Item 15 of our 2016 Annual Report on Form 20-F and (iii) our Management's Discussion and Analysis as "Item 5. Operating and Financial Review and Prospects";

- the description of the rights issued and issuable under our shareholder rights plan agreement described in our Registration Statement on Form 8-A filed with the SEC on April 13, 2017;

- our management information circular dated March 20, 2017 in connection with our annual meeting of shareholders to be held on May 9, 2017, included as Exhibit 99.1 to our Report on Form 6-K furnished to the SEC on March 20, 2017;

- our material change report dated March 30, 2017 in connection with our intention to file an NDA with respect to Macrilen in the third quarter of 2017, included as Exhibit 99.1 to our Report on Form 6-K furnished to the SEC on March 30, 2017;

- our material change report dated January 5, 2017 in connection with the publication of the top-line results of the confirmatory Phase 3 trial of Macrilen , included as Exhibit 99.2 to our Report on Form 6-K furnished to the SEC on January 5, 2017; and

- to the extent permitted by applicable securities law, any other documents which we elect to incorporate by reference into this Prospectus.

All subsequent annual reports on Form 20-F filed by us and all subsequent reports on Form 6-K furnished by us that are identified by us as being incorporated by reference shall be deemed to be incorporated by reference into this Prospectus and deemed to be a part hereof after the date of this Prospectus but before the termination of the offering by this Prospectus.

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We will provide each person to whom this Prospectus is delivered a copy of the information that has been incorporated into this Prospectus by reference but not delivered with the Prospectus (except exhibits, unless they are specifically incorporated into this Prospectus by reference). You may obtain copies of these documents, at no cost, by writing or telephoning us at:

Aeterna Zentaris Inc.
Attention: Investor Relations
315 Sigma Drive, Suite 302D
Summerville, South Carolina
USA, 29486
Tel. (843) 900-3223

Any statement contained in this Prospectus or in a document incorporated or deemed to be incorporated herein by reference shall be deemed to be modified or superseded, for the purposes of this Prospectus, to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated herein by reference modifies or supersedes such statement. The modifying or superseding statement need not state that it has modified or superseded a prior statement or include any other information set forth in the document that it modifies or supersedes. The making of a modifying or superseding statement shall not be deemed an admission for any purposes that the modified or superseded statement, when made, constituted a misrepresentation, an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make a statement not misleading in light of the circumstances in which it was made. Any statement so modified or superseded shall not constitute a part of this Prospectus, except as so modified or superseded.

Upon a new annual information form or annual report on Form 20-F and the related audited annual consolidated financial statements together with the auditors' report thereon and management's discussion and analysis related thereto being filed by us with the applicable securities regulatory authorities during the currency of this Prospectus, the previous annual information form or annual report on Form 20-F, the previous audited annual consolidated financial statements and all interim financial statements, annual and quarterly management's discussion and analyses, material change reports and business acquisition reports filed by us prior to the commencement of our financial year in which the new annual information form or annual report on Form 20-F was filed, no longer shall be deemed to be incorporated by reference into this Prospectus for the purpose of future offers and sales of Common Shares hereunder.

One or more Prospectus Supplements containing the terms of an offering of Common Shares and other information in relation to such Common Shares will be delivered to purchasers of such Common Shares together with this Prospectus and shall be deemed to be incorporated by reference into this Prospectus as of the date of such Prospectus Supplement solely for the purposes of the offering of the Common Shares covered by any such Prospectus Supplement.

A Prospectus Supplement containing any additional or updated information that we elect to include therein will be delivered with this Prospectus to purchasers of Common Shares who purchase such Common Shares after the filing of this Prospectus and shall be deemed to be incorporated into this Prospectus as of the date of such Prospectus Supplement.

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PART II INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 8. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Under Section 124 of the *Canada Business Corporations Act*, the registrant may indemnify a present or former director or officer of the registrant or another individual who acts or acted at the registrant's request as a director or officer, or an individual acting in a similar capacity, of another entity, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the individual in respect of any civil, criminal, administrative, investigative or other proceeding in which the individual is involved because of that association with the registrant or other entity. The registrant may not indemnify an individual unless the individual (i) acted honestly and in good faith with a view to the best interests of the registrant or, as the case may be, to the best interests of the other entity for which the individual acted as director or officer or in a similar capacity at the registrant's request, and (ii) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, had reasonable grounds for believing that his or her conduct was lawful. Such indemnification may be made in connection with an action by or on behalf of the registrant or other entity to procure a judgment in its favor only with court approval. A director or officer is entitled to indemnification from the registrant as a matter of right if he or she was not judged by the Court or other competent authority to have committed any fault or omitted to do anything that he or she ought to have done and fulfilled the conditions set forth above. The registrant may advance moneys to a director, officer or other individual for the costs, charges and expenses of a proceeding referred to above. The individual shall repay the moneys if he or she does not fulfill the conditions set forth above to qualify for indemnification.

In accordance with provisions of the *Canada Business Corporations Act* described above, the by-laws of the registrant provide that the registrant shall indemnify a director or officer of the registrant, a former director or officer of the registrant or a person who acts or acted at the registrant's request as a director or officer of a body corporate of which the registrant is or was a shareholder or creditor, and his or her heirs and legal representatives, against all costs, losses, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by such person in respect of any civil, criminal or administrative action or proceeding to which such person is made a party by reason of being or having been a director or officer of the registrant or such body corporate, if: (a) the person acted honestly and in good faith with a view to the best interests of the registrant and (b) in the case of criminal or administrative action or proceeding that is enforced by a monetary penalty, the person had reasonable grounds for believing that their conduct was lawful. The registrant may indemnify from time to time any director or other person who has assumed or is about to assume in the normal course of business any liability for the registrant or for any corporation controlled by the registrant, and to secure such director or other person against any loss by the pledge of all or part of the movable or immovable property of the registrant through the creation of a hypothec or any other real right in all or part of such property or in any other manner.

The by-laws of the registrant also provide that the registrant may, to the extent permitted by the *Canada Business Corporations Act*, purchase and maintain insurance for the benefit of any person referred to above against any such liability as the board of directors may from time to time determine.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the registrant pursuant to the foregoing provisions, the registrant has been informed that in the opinion of the U.S. Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

The registrant has also agreed to indemnify and save harmless the directors and its senior corporate officers as well as the managing director of its German subsidiary pursuant to various Director and Officer Indemnification Agreements against certain charges, damages, awards, settlements,

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liabilities, interest, judgments, fines, penalties, statutory obligations, professional fees and retainers and other expenses of whatever nature or kind, provided that any such costs, charges, professional fees and other expenses are reasonable (collectively, "Expenses") and from and against all Expenses sustained or incurred by the indemnified party as a result of serving as a director, officer or employee of the registrant in respect of any act, matter, deed or thing whatsoever made, done, committed, permitted, omitted or acquiesced in by the indemnified party as a director, officer or employee of the registrant. The form of Director and Officer Indemnification Agreement has been furnished to the Commission as Exhibit 99.1 to the registrant's Report on Form 6-K dated October 21, 2016.

ITEM 9. EXHIBITS

See Exhibit Index following the signature pages of this Registration Statement.

ITEM 10. UNDERTAKINGS

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a further post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, *however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) To file a post-effective amendment to the registration statement to include any financial statements required by Item 8.A. of Form 20-F at the start of any delayed offering or throughout a continuous offering. Financial statements and information otherwise required by Section 10(a)(3) of the Securities Act of 1933 need not be furnished, *provided*, that the registrant includes in the

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prospectus, by means of a post-effective amendment, financial statements required pursuant to this paragraph (a)(4) and other information necessary to ensure that all other information in the prospectus is at least as current as the date of those financial statements. Notwithstanding the foregoing, with respect to registration statements on Form F-3, a post-effective amendment need not be filed to include financial statements and information required by Section 10(a)(3) of the Securities Act of 1933 or Rule 3-19 of Regulation S-X if such financial statements and information are contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Form F-3.

(5) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided*, *however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

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(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offering therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) The undersigned registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of the registration statement as of the time it was declared effective.

(ii) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing and has duly caused this Amendment No. 2 to the Registration Statement on Form F-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Charleston, South Carolina, on April 24, 2017.

AETERNA ZENTARIS INC.

By: /s/ PHILIP A. THEODORE

Name: Philip A. Theodore
Title: Senior Vice President, Chief Administrative Officer, General Counsel and Corporate Secretary

Pursuant to the requirements of the Securities Act, this Amendment No. 2 to the Registration Statement on Form F-3 has been signed by the following persons in the capacities indicated below on April 24, 2017.

Signature	Title
/s/ DAVID A. DODD David A. Dodd	President and Chief Executive Officer and Director (Principal Executive Officer)
/s/ GENEVIÈVE LEMAIRE Geneviève Lemaire	Vice President, Finance & Chief Accounting Officer
/s/ MICHAEL CARDIFF Michael Cardiff	Director
/s/ CAROLYN EGBERT Carolyn Egbert	Director and Chair of the Board
/s/ JUERGEN ERNST Juergen Ernst	Director
/s/ GÉRARD LIMOGES Gérard Limoges	Director
/s/ KENNETH NEWPORT Kenneth Newport	Director

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AUTHORIZED REPRESENTATIVE

Pursuant to the requirements of Section 6(a) of the Securities Act of 1933, the undersigned has signed this Amendment No. 2 to the Registration Statement on Form F-3, solely in the capacity of the duly authorized representative of Aeterna Zentaris Inc. in the United States, on April 24, 2017.

AETERNA ZENTARIS, INC.

By: /s/ PHILIP A. THEODORE

Name: Philip A. Theodore
Title: *Authorized Signatory*

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EXHIBIT INDEX

Exhibit Number	Description
1.1*	At Market Issuance Sales Agreement.
4.1	Restated Certificate of Incorporation and Restated Articles of Incorporation of the Registrant (incorporated by reference to Exhibit 99.2 to the Registrant's report on Form 6-K furnished to the Commission on May 25, 2011).
4.2	Certificate of Amendment and Articles of Amendment of the Registrant (incorporated by reference to Exhibit 99.2 to the Registrant's report on Form 6-K furnished to the Commission on October 3, 2012).
4.3	Certificate of Amendment and Articles of Amendment of the Registrant (incorporated by reference to Exhibit 99.1 to the Registrant's report on Form 6-K furnished to the Commission on November 17, 2015).
4.4	Amended and Restated By-Law One of the Registrant (incorporated by reference to Exhibit 1.3 of the Registrant's Annual Report on Form 20-F for the year ended December 31, 2012 filed with the Commission on March 22, 2013)
4.5	Shareholder Rights Plan Agreement between the Registrant and Computershare Trust Company of Canada, as Rights Agent, dated as at March 29, 2016 (incorporated by reference to Exhibit 99.1 to the Registrant's report on Form 6-K furnished to the Commission on March 30, 2016)
5.1	Opinion of Norton Rose Fulbright Canada LLP.
23.1	Consent of Norton Rose Fulbright Canada LLP (included in Exhibit 5.1).
23.2	Consent of PricewaterhouseCoopers LLP.
24.1+	Power of Attorney.

* To be filed as an exhibit to a post-effective amendment to this registration statement or as an exhibit to a report on Form 6-K and incorporated herein by reference.

\+ Previously filed.