Aeterna Zentaris Announces the Selection of a Development Candidate in the DC-PTH Program for the Potential Treatment of Primary Hypoparathyroidism

- *In collaboration, Aeterna and The University of Sheffield, UK have selected the development candidate AEZS-150, a parathyroid hormone (PTH) fusion polypeptide to start the formal preclinical development for potentially enabling the first in human clinical study.*
- *AEZS-150 has the potential to become a new therapeutic treatment option of primary hypoparathyroidism.*

CHARLESTON, S.C., May 6, 2021 -- Aeterna Zentaris Inc. (NASDAQ: AEZS) (TSX: AEZS) through its wholly-owned subsidiary Aeterna Zentaris GmbH, ("Aeterna" or the "Company"), a specialty biopharmaceutical company developing and commercializing a diversified portfolio of pharmaceutical and diagnostic products, today announced that, in consultation with The University of Sheffield, UK (the "University"), Aeterna has selected AEZS-150 as the lead candidate in the Company's delayed clearance parathyroid hormone fusion polypeptides (DC-PTH) program. Aeterna will now start the formal preclinical development of AEZS-150 in preparation for a potential IND filing for conducting the first in-human clinical study of AEZS-150. AEZS-150 is being developed with the goal of providing a potential new treatment option of primary hypoparathyroidism in adults.

"We are very excited to have identified AEZS-150 as the development candidate within our DC-PTH program. We are in contact with CMOs to establish the GMP manufacturing process to prepare material for the required toxicology and safety assessment of AEZS-150. At this point in time the Aeterna team with its proven expertise can contribute on the formal development process of a new chemical entity (NCE). We look forward to continuing and advancing the development of our collaboration with the University and Prof. Dr. Ross. We are now a step closer towards our common goal of potentially helping patients suffering from hypoparathyroidism," commented Dr. Klaus Paulini, Chief Executive Officer of Aeterna.

AEZS-150 is a DC-PTH consisting of a modified growth hormone binding protein (GHBP) linked to PTH1-34. It is being developed with the goal of producing a product with delayed clearance of one or two weeks and the potential to be self-administered via a pharmaceutical pen. If successful, it would help patients maintain normal serum calcium and phosphate levels during chronic use. The technology is based on proprietary intellectual property exclusively licensed by Aeterna from the University.

Prof. Dr. Richard J. Ross of the University added, “We are very optimistic about the development candidate AEZS-150 and the start of the preclinical program. We will now focus on the further characterization of AEZS-150 in disease specific *in-vitro* and *in-vivo* models. We are confident that Aeterna is the right partner to pursue the manufacturing process and the formal preclinical development.”

Primary hypoparathyroidism, the first indication for candidate AEZS-150, is an orphan indication in the field of endocrinology. It is an uncommon condition in which the body produces abnormally low levels of PTH. PTH is a key regulating hormone essential for calcium homeostasis and renal phosphate clearance for maintaining a balance of those two minerals in the body. Untreated, primary hypoparathyroidism will cause, among other effects, renal dysfunction, muscle cramping, twitching, seizures, and cardiac arrhythmias. Approximately 23 to 37 in every 100,000 individuals in Europe and the U.S. are estimated to suffer from hypoparathyroidism.

About Aeterna Zentaris Inc.

Aeterna Zentaris is a specialty biopharmaceutical company developing and commercializing a diversified portfolio of pharmaceutical and diagnostic products focused on areas of significant unmet medical need. The Company’s lead product, macimorelin, is the first and only U.S. FDA and European Commission approved oral test indicated for the diagnosis of adult growth hormone deficiency (AGHD). The Company is leveraging the clinical success and compelling safety profile of macimorelin to develop it for the diagnosis of childhood-onset growth hormone deficiency (CGHD) in collaboration with Novo Nordisk.

Aeterna Zentaris is dedicated to the development of therapeutic assets and has recently taken steps to establish a growing pipeline to address unmet medical needs across a number of indications, including neuromyelitis optica spectrum disorder (NMOSD), primary hypoparathyroidism and neurodegenerative disease. Additionally, the Company is developing an oral prophylactic bacterial vaccine against SARS-CoV-2, the virus that causes COVID-19.

For more information, please visit www.zentaris.com and connect with the Company on Twitter, LinkedIn and Facebook.

Forward-Looking Statements

This press release contains forward-looking statements (as defined by applicable securities legislation) made pursuant to the safe-harbor provision of the U.S. Securities Litigation Reform Act of 1995, which reflect our current expectations regarding future events. Forward-looking statements in this press release include those relating to the development of AEZS-150 as a potential new therapeutic treatment option for primary hypoparathyroidism and the effect and method of administration of any product developed with AEZS-150. Forward-looking statements involve known and unknown risks and

uncertainties, including those discussed in this press release and in our Annual Report on Form 40-F, under the caption "Key Information - Risk Factors" filed with the relevant Canadian securities regulatory authorities in lieu of an annual information form and with the U.S. Securities and Exchange Commission. Known and unknown risks and uncertainties could cause our actual results to differ materially from those in forward-looking statements. Such risks and uncertainties include, among others, results from ongoing or planned pre-clinical and clinical studies of our other products under development may not be successful; our ability to raise capital and obtain financing to continue our currently planned operations, our ability to continue to list our Common Shares on the NASDAQ; our now heavy dependence on the success of Macrilen™ (macimorelin) and related out-licensing arrangements and the continued availability of funds and resources to successfully commercialize the product, including our heavy reliance on the success of the License Agreements for macimorelin; the global instability due to the global pandemic of COVID-19, and its unknown potential effect on our planned operations; our ability to enter into out-licensing, development, manufacturing, marketing and distribution agreements with other pharmaceutical companies and keep such agreements in effect; our ability to enter into out-licensing, development, manufacturing, marketing and distribution agreements with other pharmaceutical companies and keep such agreements in effect; our reliance on third parties for the manufacturing and commercialization of Macrilen™ (macimorelin), potential disputes with third parties, leading to delays in or termination of the manufacturing, development, out-licensing or commercialization of our product candidates, or resulting in significant litigation or arbitration, uncertainties related to the regulatory process; our ability to efficiently commercialize or out-license Macrilen™ (macimorelin), our reliance on the success of the pediatric clinical trial in the European Union (“E.U.”) and U.S. for Macrilen™ (macimorelin), the degree of market acceptance of Macrilen™ (macimorelin), our ability to obtain necessary approvals from the relevant regulatory authorities to enable us to use the desired brand names for our product, our ability to successfully negotiate pricing and reimbursement in key markets in the E.U. for Macrilen™ (macimorelin), our ability to protect our intellectual property, and the potential of liability arising from shareholder lawsuits and general changes in economic conditions. Investors should consult our quarterly and annual filings with the Canadian and U.S. securities commissions for additional information on risks and uncertainties. Given these uncertainties and risk factors, readers are cautioned not to place undue reliance on these forward-looking statements. We disclaim any obligation to update any such factors or to publicly announce any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments, unless required to do so by a governmental authority or applicable law.

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