PRESS RELEASE

Advanced Accelerator Applications signs exclusive option and license agreement with FUJIFILM Toyama Chemical to develop and commercialize radiolabeled FF-10158 for oncology indications

- *Novel small molecule FF-10158 targets integrin alphavbeta3 ($\alpha v\beta 3$) and alphavbeta5 ($\alpha v\beta 5$) receptors*
- *Expands theragnostic pipeline*
- *Potential broad application in the detection and treatment of highly vascularized tumors and metastases*

Saint-Genis-Pouilly, France, December 3, 2018 - Advanced Accelerator Applications S.A. (AAA), a Novartis company and leader in nuclear medicine theragnostics, today announced that it has entered into an exclusive option and license agreement with FUJIFILM Toyama Chemical, a leading radiopharmaceutical company in Japan, to develop and commercialize radiolabeled FF-10158 for oncology indications. Under the terms of the agreement, AAA is granted worldwide rights to FF-10158, with the exception of Japan, in exchange for an upfront payment and future milestones and royalties.

FF-10158 is a pre-clinical small molecule antagonist with high affinity for integrin alphavbeta3 ($\alpha v\beta 3$) and alphavbeta5 ($\alpha v\beta 5$) receptors. Integrins are cell surface receptors that are embedded in the cell membrane. Integrin alphavbeta3/5 subtypes are over expressed on many types of cancer cells and the blocking of integrin signalling has been shown to inhibit tumor growth, angiogenesis (formation of blood vessels) and metastasis[1,2,3]. AAA plans to develop a theragnostic pairing of compounds based on FF-10158, including a gallium 68-labeled drug for diagnosis and a lutetium 177-labeled drug for therapy.

“Our goal is to develop radiopharmaceuticals that transform oncology treatment,” said Susanne Schaffert, Ph.D., President, Advanced Accelerator Applications. “The in-licensing of FF-10158 expands our oncology theragnostic pipeline and we believe that this approach to integrating diagnostics and therapeutics has the potential to change patient management.”

Among the first potential indications planned for investigation is glioblastoma, an orphan disease with high unmet medical need. Increased alphavbeta3 expression on glioblastoma is associated with invasive growth and poor survival[4,5]. Integrin-targeted delivery of radionuclides has been explored in pre-clinical models of glioblastoma[6].

FUJIFILM Toyama Chemical contributes to healthcare through the research and development, manufacturing and distribution of radiopharmaceuticals as well as other kinds of therapeutic drugs in Japan. The company is responsible for core elements of the healthcare business of FUJIFILM Corporation, that seeks to expand its business in the areas of disease prevention, diagnosis, and treatment. Currently, FUJIFILM Toyama Chemical offers Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET) diagnostics, therapeutic radiopharmaceuticals and small molecule pharmaceutical products.

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This press release contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements can generally be identified by words such as “potential,” “goal,” “planned for investigation,” “will,” “plans,” “expect,” “believe,” “investigational,” “pipeline,” or similar terms, or by express or implied discussions regarding potential marketing approvals, new indications or labeling for the investigational or approved products described in this press release, or regarding potential future revenues from such products, or regarding potential outcomes and success of the exclusive option and license agreement with FUJIFILM Toyama Chemical. You should not place undue reliance on these statements. Such forward-looking statements are based on our current beliefs and expectations regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward-looking statements. There can be no guarantee that the investigational or approved products described in this press release will be submitted or approved for sale or for any additional indications or labeling in any market, or at any particular time. Neither can there be any guarantee that such products will be commercially successful in the future. Nor can there be any guarantee that the exclusive option and license agreement with FUJIFILM Toyama Chemical will achieve any or all of its intended goals, or at any particular time. In particular, our expectations regarding such products and the exclusive option and license agreement with FUJIFILM Toyama Chemical could be affected by, among other things, the uncertainties inherent in research and development, including clinical trial results and additional analysis of existing clinical data; regulatory actions or delays or government regulation generally; global trends toward health care cost containment, including government, payor and general public pricing and reimbursement pressures; our ability to obtain or maintain proprietary intellectual property protection; the particular prescribing preferences of physicians and patients; general political and economic conditions; safety, quality or manufacturing issues; potential or actual data security and data privacy breaches, or disruptions of our information technology systems, and other risks and factors referred to in Novartis AG’s current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

About Advanced Accelerator Applications S.A.

Advanced Accelerator Applications, a Novartis company, is an innovative radiopharmaceutical company developing, producing and commercializing radioligand theragnostics (pairings of therapeutic and diagnostic drugs based on the same targeting molecule) for oncology. AAA is an established leader in radiopharmaceuticals for Positron Emission tomography (PET) and Single-Photon Emission Computed Tomography (SPECT) diagnostic imaging, mainly used in clinical oncology, cardiology and neurology. For more information, please visit: https://www.adacap.com/.

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