ERYTECH Expands Patent Portfolio for the Treatment of Rare Metabolic Diseases

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for the Treatment of Rare Metabolic Diseases

Cambridge, MA (U.S.) and Lyon (France), February 8, 2022 – ERYTECH Pharma (Euronext Paris: ERYP - Nasdaq: ERYP), a clinical-stage biopharmaceutical company developing innovative therapies by encapsulating therapeutic drug substances inside red blood cells, today announced the allowance of a US patent application covering arginine deiminase (ADI) encapsulated into red blood cells for the treatment of arginase-1 deficiency (A1D), a debilitating rare metabolic disease. The claims will also cover methods of treating other indications, including arginine-dependent cancers, septic shock, and angiogenesis-associated diseases.

In addition to their potential in cancer metabolism, ERYTECH's red blood cell-encapsulated therapeutics can be deployed to reduce pathological levels of various metabolites, that can occur in certain inborn errors of metabolism disorders. And while some enzyme replacement therapies (ERT) are commercially available, the clinical benefits of these enzymes are often outweighed by hypersensitivity and rapid clearance. Therefore, there is a high need for better tolerated and longer-acting ERT approaches.

As disclosed in the recently allowed US 2020/0254074 A1 application, ERYTECH scientists evaluated the efficacy of red blood cell-encapsulated arginine deiminase (ERY-ADI) in a severe mouse model of A1D. ERY-ADI not only reduced pathological levels of arginine in the blood (by >75%), but interestingly also did so without increasing serum ammonia. Moreover, one single administration of ERY-ADI reduced excess levels of blood arginine for at least 10 consecutive days. ERY-ADI also appeared to lower arginine levels in the liver where functioning arginase-1 is highly expressed, suggesting potential benefit in this setting characterized by an inherited deficiency in this enzyme. These promising results, combined with ERYTECH's extensive experience with red blood cell-based therapeutics, support the potential for red blood cell-loaded enzymes to provide an improved therapeutic profile as compared with traditional ERT.

Gil Beyen, Chief Executive Officer of ERYTECH, commented, *"We are very pleased to expand our patent coverage for our red blood cell platform in rare disease. Importantly, our rare disease patents reinforce the use of our versatile technology for clinical applications beyond oncology and cancer metabolism. We have obtained encouraging preclinical data in Arginase Deficiency (A1D) to support the potential advancement of our rare disease program and our patent estate provides protection for current and future innovations and partnerships in this area."*

ERYTECH currently has a patent portfolio of about 310 issued patents and over 45 pending patent applications worldwide covering 16 patent families. The majority of these patents are directed at applications of the Company's encapsulation platform used in its late-stage development in oncology, including its lead product candidate eryaspase. Eighty-eight issued patents in 5 families cover applications of the Company's encapsulation technology in rare metabolic diseases, such as phenylketonuria, tyrosinemia type II, homocysteinuria, hyperhomocysteinemia, A1D and Gaucher's disease.

About ERYTECH and eryaspase (GRASPA®)

ERYTECH is a clinical-stage biopharmaceutical company developing innovative red blood cell-based therapeutics for severe forms of cancer and orphan diseases. Leveraging its proprietary ERYCAPS® platform, which uses a novel technology to encapsulate drug substances inside red blood cells, ERYTECH is developing a pipeline of product candidates for patients with high unmet medical needs. ERYTECH's primary focus is on the development of product candidates that target the altered metabolism of cancer cells by depriving them of amino acids necessary for their growth and survival.

The Company's lead product candidate, eryaspase (GRASPA®), which consists of L-asparaginase encapsulated inside donor-derived red blood cells, targets the cancer cells' altered asparagine and glutamine metabolism. The proof of concept of eryaspase as a cancer metabolism agent was established in different trials in acute lymphoblastic leukemia (ALL) and pancreatic cancer. An investigator sponsored Phase 2 trial (IST) evaluating the use of GRASPA® in ALL patients who developed hypersensitivity reactions to pegylated asparaginase recently reported positive results, based on which the Company intends to request approval in the United States and potentially other territories. The Company is also pursuing a Phase 1 investigator-sponsored clinical trial in first-line pancreatic cancer.

Eryaspase received Fast Track designation from the U.S. Food and Drug Administration (FDA) for the treatment of advanced pancreatic cancer and treatment of acute lymphoblastic leukemia (ALL) patients who have developed hypersensitivity reactions to *E. coli*-derived pegylated asparaginase. The FDA and the European Medicines Agency have granted eryaspase orphan drug status for the treatment of pancreatic cancer and ALL.

ERYTECH produces its product candidates for treatment of patients in Europe at its GMP-approved manufacturing site in Lyon, France, and for patients in the United States at its GMP manufacturing site in Princeton, New Jersey, USA. Eryaspase is not an approved medicine.

ERYTECH is listed on the Nasdaq Global Select Market in the United States (ticker: ERYP) and on the Euronext regulated market in Paris (ISIN code: FR0011471135, ticker: ERYP). ERYTECH is part of the CAC Healthcare, CAC Pharma & Bio, CAC Mid & Small, CAC All Tradable, EnterNext PEA-PME 150 and Next Biotech indexes.

For more information, please visit www.erytech.com

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Forward-looking information

This press release contains forward-looking statements, forecasts and estimates with respect to the clinical results from and the development plans of eryaspase, business and regulatory strategy, expansion of manufacturing capacity and anticipated future performance of ERYTECH and of the market in which it operates. Certain of these statements, forecasts and estimates can be recognized by the use of words such as, without limitation, "believes", "anticipates", "expects", "intends", "plans", "seeks", "estimates", "may", "will" and "continue" and similar expressions. All statements contained in this press release other than statements of historical facts are forward-looking statements, including, without limitation, statements regarding the ERYTECH's business strategy including its clinical development of eryaspase; the status of the TRYbeCA1 trial including the timeline for patient enrollment, expansion of trial into the United States and intended activities with respect to the interim analysis; the potential of ERYTECH's product pipeline; the timing of ERYTECH's preclinical studies and clinical trials and announcements of data from those studies and trials; ERYTECH's anticipated manufacturing capacity and ability to meet future demand and ERYTECH's anticipated cash runway and sufficiency of cash resources. Such statements, forecasts and estimates are based on various assumptions and assessments of known and unknown risks, uncertainties and other factors, which were deemed reasonable when made but may or may not prove to be correct. Actual events are difficult to predict and may depend upon factors that are beyond ERYTECH's control. There can be no guarantees with respect to pipeline product candidates that the candidates will receive the necessary regulatory approvals or that they will prove to be commercially successful. Therefore, actual results may turn out to be materially different from the anticipated future results, performance or achievements expressed or implied by such statements, forecasts and estimates. Further description of these risks, uncertainties and other risks can be found in the Company's regulatory filings with the French Autorité des Marchés Financiers (AMF), the Company's Securities and Exchange Commission (SEC) filings and reports, including in the Company's 2018 Document de Référence filed with the AMF in March 2019 and in the Company's Annual Report on Form 20-F filed with the SEC on March 29, 2019 and future filings and reports by the Company. Given these uncertainties, no representations are made as to the accuracy or fairness of such forward-looking statements, forecasts and estimates. Furthermore, forward-looking statements, forecasts and estimates only speak as of the date of this press release. Readers are cautioned not to place undue reliance on any of these forward-looking statements. ERYTECH disclaims any obligation to update any such forward-looking statement, forecast or estimates to reflect any change in ERYTECH's expectations with regard thereto, or any change in events, conditions or circumstances on which any such statement, forecast or estimate is based, except to the extent required by law.

Attachment

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