PRESS RELEASE

ERYTECH Presents New Data on GRASPA's Mechanism of Action at ASH Annual Meeting

Lyon (France), December 1st, 2016 – ERYTECH Pharma (Euronext Paris: ERYP), the French biopharmaceutical company developing 'tumor starvation' treatments for acute leukemia and other oncology indications with unmet medical needs, today announced the presentation of promising preliminary data for the Company's lead product candidate, eryaspase, also known as ERY-ASP or under the trade name GRASPA®, at the 58th American Society of Hematology (ASH) Annual Meeting and Exposition, being held December 3-6, 2016 in San Diego, California.

The research was conducted at The University of Texas MD Anderson Cancer Center. Dr. Philip Lorenzi, Co-Director of the Proteomics and Metabolomics Core Facility and lead author of the poster, will present a summary of the findings from a preclinical study which demonstrates that eryaspase, L-asparaginase encapsulated in red blood cells (RBC), has differential dual activity on its main targets, asparagine and glutamine, when compared to non-encapsulated native asparaginase (L-ASP), during a poster session.

Abstract #1266: Red Blood Cell-Encapsulation of L-Asparaginase Favorably Modulates Target Selectivity and Pharmacodynamics

Date:	Saturday, December 3, 2016
Time:	5:30 – 7:30 p.m. PST
Location:	Hall GH of the San Diego Convention Center
Poster Session:	101. Red Cells and Erythropoiesis, Structure and Function, Metabolism, and Survival, Excluding Iron: Poster I

The anticancer effect of asparaginase products is attributed to the systemic degradation of asparagine, a critical amino acid for the growth and survival of cancer cells. Asparaginase is also known to have a glutaminase effect. The degradation of glutamine has been demonstrated to be associated with clinical toxicity. The study aimed to characterize the transport and degradation of the different amino acids between the plasma and the RBC cytoplasm in the presence of L-ASP or eryaspase. Using a new bioanalytical method, MD Anderson researchers analyzed several metabolites to study differential conversion of asparagine and glutamine. In the presence of eryaspase, asparagine was rapidly and extensively converted to aspartic acid inside the RBC, whereas eryaspase displayed significantly decreased glutaminase activity as compared to L-ASP. The approximately 3.5-fold increase in selectivity for asparagine over glutamine may explain the observed decrease in frequency of adverse events in clinical trials with eryaspase compared to L-ASP. Altered target selectivity is believed to be an additional beneficial property of the encapsulation in the RBC, on top of improved half-life and decreased immunogenicity. The results also provided further evidence of the 'bioreactor' mode of action of eryaspase, demonstrating that the enzymatic activity is essentially happening inside the RBC.

Dr. Lorenzi at The University of Texas MD Anderson Cancer Center, stated, *"This work presents what we believe to be the first known solution to a long-standing challenge associated with measuring the pharmacodynamics of L-asparaginase products. Using a stable isotope-based correction method, we are now able to accurately determine the concentration of amino acids present at the time of sample collection. In this study, we used this method to identify reduced selectivity for glutamine as a plausible explanation for the improved toxicity profile of GRASPA over L-asparaginase that has been observed in prior clinical studies."*

Dr. Iman El-Hariry, MD, PhD, Chief Medical Officer of ERYTECH, added, "*We are pleased with these findings and believe that GRASPA has the potential to offer a new treatment option for cancer patients. This preclinical work demonstrates the unique mechanism of action of GRASPA and the important role of the RBC membrane in modulating the enzymatic activity of the encapsulated L-ASP on both asparagine and glutamine. The toxic side effects of L-ASP are believed to stem from its activity in degrading glutamine. These preclinical observations from MD Anderson researchers provide further support for our previously reported findings and demonstrate an improved therapeutic index of GRASPA in a clinical setting. We look forward to sharing our research to date with the global hematology community at the ASH Annual Meeting.*"

About ERYTECH and eryaspase (GRASPA®): www.erytech.com

Founded in Lyon, France in 2004, ERYTECH is a clinical-stage biopharmaceutical company developing innovative therapies for rare forms of cancer and orphan diseases. Leveraging its proprietary ERYCAPS platform, which uses a novel technology to encapsulate therapeutic drug substances inside red blood cells, ERYTECH has developed a pipeline of product candidates targeting markets with high unmet medical needs. ERYTECH's initial focus is on the treatment of blood cancers, including acute lymphoblastic leukemia (ALL) and acute myeloid leukemia (AML), by depriving tumors of nutrients necessary for their survival. ERYTECH plans to pursue regulatory approvals for its lead product candidate, eryaspase, also known as ERY-ASP or under the trade name GRASPA®, having achieved positive efficacy and safety results from its completed Phase 2/3 pivotal clinical trial in Europe in children and adults with relapsed or refractory ALL. ERYTECH also has an ongoing Phase 1 clinical trial of eryaspase in the United States in adults with newly diagnosed ALL, and a Phase 2b clinical trial in Europe in elderly patients with newly diagnosed AML, each in combination with chemotherapy. ERYTECH believes that eryaspase also has the potential as a treatment approach in solid tumors and is conducting a Phase 2 clinical trial in Europe in patients with metastatic pancreatic cancer.

Eryaspase consists of an enzyme, L-asparaginase, encapsulated inside donor-derived red blood cells. L-asparaginase depletes asparagine, a naturally occurring amino acid essential for the survival and proliferation of cancer cells, from circulating blood plasma. ERYTECH produces eryaspase at its own GMP-approved and operational manufacturing site in Lyon (France), and at a site for clinical production in Philadelphia (USA). ERYTECH has entered into licensing and distribution partnership agreements for eryaspase for ALL and AML in Europe with Orphan Europe (Recordati Group), and for ALL in Israel with TEVA, which will market the product under the GRASPA® brand name. The European Medicines Agency (EMA) and the U.S. Food and Drug Administration (FDA) have granted orphan drug designations for eryaspase for the treatment of ALL, AML and pancreatic cancer.

In addition to eryaspase, ERYTECH is developing two other product candidates that focus on using encapsulated enzymes to induce tumor starvation. The company is also exploring the use of its ERYCAPS platform for developing cancer immunotherapies and enzyme replacement therapies.

ERYTECH is listed on Euronext regulated market in Paris (ISIN code: FR0011471135, ticker: ERYP) and is part of the CAC Healthcare, CAC Pharma & Bio, CAC Mid & Small, CAC All Tradable, EnterNext PEA-PME 150 and Next Biotech indexes. ERYTECH is also listed in the U.S. under an ADR level 1 program (OTC, ticker EYRYY).

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Forward-looking information

This press release contains forward-looking statements, forecasts and estimates with respect to the clinical development plans, business and regulatory strategy, 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. They include all matters that are not historical facts. 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. Documents filed by ERYTECH Pharma with the French Autorité des Marchés Financiers (www.amf-france.org), also available on ERYTECH’s website (www.erytech.com) describe such risks and uncertainties. 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.