PRESS RELEASE

ERYTECH Presents New Erymethionase Preclinical Findings at the 2019 AACR Annual Meeting

- **Results support the potential for combination of erymethionase with checkpoint inhibition**

Lyon (France) and Cambridge, Mass. (U.S.), 01 April 2019 – ERYTECH Pharma (Euronext Paris: ERYP - Nasdaq: ERYP), a clinical-stage biopharmaceutical company developing innovative therapies by encapsulating drug substances inside red blood cells, announced today the presentation of a poster highlighting new preclinical results for the Company's second product candidate, erymethionase, at the 2019 American Association of Cancer Research (AACR) annual meeting held in Atlanta, Georgia. The poster (Abstract 2258) is available at www.erytech.com.

Erymethionase, methionine-gamma-lyase (MGL) encapsulated into red blood cells, is being developed as a novel antitumor therapy targeting cancer cells' altered amino acid metabolism. MGL degrades L-methionine, an amino acid nutrient needed for tumor growth and metastasis. This enzyme is characterized by a limited half-life and its dependence on pyridoxal 5'-phosphate, the biologically active form of vitamin B6, as a co-factor. When coupled with oral vitamin B6 administration, erymethionase has demonstrated increased MGL half-life versus the free form of MGL, prolonged plasma methionine depletion and has shown significant tumor growth regression in mouse models of glioblastoma and gastric adenocarcinoma.[1][2]

The results presented today at the AACR conference highlight the potential for the combination of erymethionase with immune checkpoint inhibition. Along with in vitro data demonstrating that MGL upregulated the expression of PD-L1 on triple negative breast cancer cells, the combination of erymethionase and an anti-PD-1 monoclonal antibody demonstrated synergistic effect in a murine EMT6 syngeneic model of triple negative breast cancer. As compared to single agent therapy alone, tumor growth inhibition of 57% and a 52% increase in survival were observed.

The analysis of erymethionase-treated tumors revealed significant metabolic changes, providing initial mechanistic insight on how erymethionase sensitizes the tumor to anti PD-1 immunotherapy. Additionally, in vitro experiments demonstrating increased stimulation of immune cells with erymethionase also suggest that other immune checkpoint inhibitors, such as anti-CTLA-4 monoclonal antibodies, could be good candidates for further combination studies.

"In addition to the previously demonstrated potential of erymethionase as a monotherapy, these new findings may open up new therapeutic concepts linking immune checkpoint blockade to methionine metabolism," stated Dr. Alexander Scheer, CSO of ERYTECH. *"We plan to further explore the potential for these novel combinations as we continue our progress towards a Phase 1 trial for erymethionase."*

About ERYTECH: www.erytech.com

ERYTECH is a clinical-stage biopharmaceutical company developing innovative red blood cell-based therapeutics for cancer and orphan diseases. Leveraging its proprietary ERYCAPS platform, a novel technology to encapsulate drug substances inside red blood cells, ERYTECH is developing a pipeline of product candidates to address markets with high unmet medical needs.

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[1] *Cancer Medicine 2017; 6(6): 1437-1452*
[2] *Cancer Res 2017;77(13 Suppl): Abstract 2134*

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, which consists of L-asparaginase encapsulated inside donor-derived red blood cells, targets the cancer cell's altered asparagine and glutamine metabolism. Eryaspase is in Phase 3 clinical development for the treatment of second-line pancreatic cancer and in preparations to enter Phase 2 clinical development for the treatment of triple-negative breast cancer. ERYTECH's next product candidate erymethionase, which consists of methionine-gamma-lyase encapsulated in red blood cells to target methionine-dependent cancers, has demonstrated promising preclinical results and is in preparations to enter Phase 1 clinical development.

ERYTECH is also exploring the use of its ERYCAPS platform for developing cancer immunotherapies (ERYMMUNE) and enzyme therapies (ERYZYME).

ERYTECH produces product candidates at its GMP-approved manufacturing site in Lyon, France, and at the American Red Cross in Philadelphia, USA. A large-scale GMP manufacturing facility is under construction in New Jersey, USA.
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.

CONTACTS

ERYTECH
Eric Soyer
CFO & COO

+33 4 78 74 44 38
investors@erytech.com

NewCap
Mathilde Bohin / Louis-Victor Delouvrier
Investor relations
Nicolas Merigeau
Media relations

+33 1 44 71 94 94
erytech@newcap.eu

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 potential of ERYTECH's product pipeline, its clinical development and regulatory plans for eryaspase, the timing of ERYTECH's clinical studies and trials and announcements of data from those studies and trials, and the contents and timing of decisions by the FDA and EMA regarding ERYTECH's product candidates. 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 2017 Document de Référence filed with the AMF in April 2018 and in the Company's Annual Report on Form 20-F filed with the SEC on April 24, 2018 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.