PRESS RELEASE

ERYTECH to Present Novel Vesiculation Approach at the 24th Meeting of the European Red Cell Society

- **Oral presentation detailing the feasibility of producing cargo-loaded extracellular vesicles derived from red blood cells that have been loaded using the ERYCAPS® process, ERYCEV™**

Cambridge, MA (U.S.) and Lyon (France), April 04, 2022 – ERYTECH Pharma (Nasdaq & Euronext: ERYP), a clinical stage biopharmaceutical company developing innovative therapies by encapsulating therapeutic drug substances inside red blood cells (RBC), today announced the presentation of its novel red blood cell vesiculation technology at the 24th Meeting of the European Red Cell Society (ERCS), taking place from April 7 to 11, 2022 in Gazzada Schianno, Italy.

Oral presentation: Evaluation of production methods, characterization and biological activity of RBC-derived extracellular vesicles (RBCEVs) containing active molecules.

Date/Time: Saturday, April 9 at 11:30am Local Time during the session "*Technology: RBCs as Carriers, cultured RBCs, Blood Banking*"

RBC-derived extracellular vesicles are formed naturally during senescence and storage of mature RBCs. They are a potentially attractive drug delivery system due to their intrinsic properties: small size, wide range of potential routes of administration, natural targeting to immune cells, lack of nucleic acids, and readily available sourcing of RBC for their production. Vesiculation of RBCs that have already been loaded with active therapeutic compounds utilizing the ERYCAPS® process, entails the potential of producing cargo-loaded RBC-derived extracellular vesicles for the development of novel therapeutic approaches.

Françoise Horand, Director of R&D Operations at ERYTECH, commented: *"We are delighted to present the work of our team and collaborators at the upcoming ERCS meeting, in particular the opportunity to introduce the ERYCEV™ technology, which leverages our proprietary ERYCAPS® technology in a novel fashion, and allows to produce red blood cell-derived extracellular vesicles, loaded with active ingredients. We are encouraged by the initial results characterizing the in vitro biological activity of these pre-loaded RBCEVs, suggesting potential future application in immune modulation."*

Gil Beyen, CEO of ERYTECH, added: *"The results that will be presented at the upcoming ERCS conference underscore the versatility and broad potential of our ERYCAPS® platform. We look forward to discussing further potential development opportunities with the red blood cell community and will look to provide updates on ERYCEV™ as the program advances going forward."*

ERYTECH and its researchers will also participate in the Poster session on April 8 to present the *Capabilities of the RBC therapeutics platform ERYCAPS®*, and in the "*RBC Diseases*" session on April 10 to present the work conducted with the LIBM academic laboratory (Laboratoire Interuniversitaire de Biologie de la Motricité de Lyon).

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, 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 eryaspase 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 including, but not limited to, statements with respect to the clinical development and regulatory plans of eryaspase including the timing of a potential BLA submission to the FDA for the treatment of acute lymphoblastic leukemia, the Company's ability to obtain regulatory approval for the treatment of patients with acute lymphoblastic leukemia who developed hypersensitivity reactions to PEG-asparaginase, the Company's ability to extend the indication scope of eryaspase, the Company's ability for additional funding under the OCABSA financing agreement or other financing attempts, and the Company's anticipated cash runway. 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. 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 and timeline 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 2020 Document d'Enregistrement Universel filed with the AMF on March 8, 2021 and in the Company's Annual Report on Form 20-F filed with the SEC on March 8, 2021 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. In addition, the COVID-19 pandemic and the associated containment efforts have had a serious adverse impact on the economy, the severity and duration of which are uncertain. Government stabilization efforts will only partially mitigate the consequences. The extent and duration of the impact on the Company's business and operations is highly uncertain, and that impact includes effects on its clinical trial operations and supply chain. Factors that will influence the impact on the Company's business and operations include the duration and extent of the pandemic, the extent of imposed or recommended containment and mitigation measures, and the general economic consequences of the pandemic. The pandemic could have a material adverse impact on the Company's business, operations and financial results for an extended period of time.