PRESS RELEASE

ERYTECH Secures US Patent Directed to Sequential Use of Methioninase & Asparaginase against Solid Tumors

- **Prior treatment with methioninase shown to sensitize certain solid tumor types to asparaginase-based treatment**
- **New patent granting adding to portfolio of 310 granted patents in 16 patent families**

Cambridge, MA (U.S.) and Lyon (France), November 29, 2021 – ERYTECH Pharma (Nasdaq & Euronext: ERYP), a clinical-stage biopharmaceutical company developing innovative therapies by encapsulating therapeutic drug substances inside red blood cells, today announced the granting of US patent 11,141,468, covering methods of treating solid tumors by administering methioninase and asparaginase. In total, ERYTECH's IP portfolio now includes 16 global patent families with over 310 patents and 45 applications. These patent families protect ERYTECH's proprietary red blood cell encapsulation technology (ERYCAPS®), its therapeutics for Oncology, Rare Metabolic Diseases, and Immune Modulation, as well as its methods for producing Cargo-Loaded Red Cell Extracellular Vesicles (CLRCEV™).

US 11,141,468, entitled "Method of treating a mammal, including human, against cancer using methionine and asparagine depletion", emphasizes ERYTECH's continuing innovation in the delivery of safe and effective enzymatic activity for depriving tumors of essential nutrients. Corresponding family members have also recently been allowed in Europe, China, and Korea. As disclosed in the patent, ERYTECH scientists determined that certain solid tumors including gastric cancer were unexpectedly sensitized to treatment with asparaginase subsequent to prior treatment with methioninase. And while this finding highlights the complexity of the overarching "tumor starvation" approach, it also demonstrates the potential of the approach to weaken cancer cells, ideally rendering them more susceptible to lower levels of standard of care chemotherapies. Of note, the claims cover the method of treatment irrespective of whether the two enzymes are encapsulated in red blood cells.

ERYTECH currently has a patent portfolio of about 310 issued patents and over 45 pending patent applications worldwide covering 16 patent families. These patent families protect ERYTECH's proprietary red blood cell encapsulation technology (ERYCAPS®), its red cell-based clinical-stage product candidates in oncology, and its preclinical programs in rare metabolic diseases and immune modulation, as well as its methods for producing cargo-loaded red cell extracellular vesicles (CLRCEV™).

Red blood cells are the most abundant cell type in the human body and their biology is characterized by a long lifespan and access to all tissues and organs. ERYTECH is a leader in red blood cell-based therapeutics, and its ERYCAPS® platform enables the industrial scale encapsulation of active drug substances inside red blood cells using hypotonic loading. The ERYCAPS® process maintains robust red blood cell functionality, and red blood cell-encapsulated enzymes have the potential to exhibit substantially improved safety and extended half-life versus non-encapsulated enzymes.

About ERYTECH and eryaspase

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.