Main Office: Loc. Bellaria, 35 - 53018 Sovicille (SI), Italy
e-mail: info@philogen.it – website: www.philogen.com

Philogen
innovating targeting

Philogen publishes a new study in Pharmaceutics

The study shows excellent tumor uptake of the novel L19-IFNγ KRG fusion protein compared to previous products

Siena, Italy, February 2, 2023 - Philogen S.p.A., a clinical-stage biotechnology company focused on the development of innovative medicines based on tumor targeting antibodies and small molecule ligands, announces the publication of a study in the peer-reviewed journal "Pharmaceutics" describing the development and the *in vitro*/*vivo* characterization of a novel interferon-gamma (IFNγ) based antibody fusion protein. The study was conducted by scientists at Philochem AG, the wholly-owned Swiss subsidiary company of Philogen. The paper can be accessed from the Pharmaceutics website under the following link.

The study shows excellent tumor uptake of the novel L19-IFNγ KRG fusion protein compared to previous products. IFNγ is a key cytokine produced by the immune system that plays a vital role in fighting cancer. It helps detect tumors, activates immune cells, blocks new blood vessels from forming around tumors and directly inhibits the growth of cancer cells. However, previous studies by Philochem have shown that delivering IFNγ directly to tumors can be hindered by the protein being trapped by receptors in other organs. To overcome this obstacle, the Company has developed a new fusion protein that combines an L19 antibody, which targets a specific component of fibronectin found in tumors, with a variant of IFNγ that has reduced binding affinity to its receptors. This new approach improves the targeted delivery of IFNγ to cancerous lesions, increasing its effectiveness in the fight against cancer.

Dario Neri, CEO and CSO of Philogen commented: "Our new product, which features the L19 antibody fused to an engineered IFNγ has shown significantly improved properties when compared to other formats that we have published in the past . Due to its central role in anti-tumor immunity and to the pre-clinical data collected so far, we will be further investigating the potential of IFNγ as a new potential payload to bring in our clinical pipeline."

Roberto De Luca, Head of Antibody Therapeutics of Philochem AG commented: "The novel immunocytokine, has shown excellent tumor-targeting properties in tumor-bearing mice and favourable pharmacokinetic profiles in monkeys. The fusion protein was investigated in several pre-clinical cancer mouse models both as single-agent and in combination with chemotherapy and immunotherapy. Our Discovery team is committed to generating new drug prototypes which have the potential to improve the life of patients with serious malignancies."

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Philogen Group Description

Philogen is an Italian-Swiss company active in the biotechnology sector, specialized in the research and development of pharmaceutical products for the treatment of highly lethal diseases. The Group mainly discovers and develops targeted anticancer drugs, exploiting high-affinity ligands for tumor markers (also called tumor antigens). These ligands - human monoclonal antibodies or small organic molecules - are identified using *Antibody Phage Display Libraries* and *DNA-Encoded Chemical Library* technologies.

The Group's main therapeutic strategy for the treatment of these diseases is represented by the so-called *tumor targeting*. This approach is based on the use of ligands capable of selectively delivering very potent therapeutic active ingredients (such as pro-inflammatory cytokines) to the tumor mass, sparing healthy tissues. Over the years,

Philogen has mainly developed monoclonal antibody-based ligands that are specific for antigens expressed in tumor-associated blood vessels, but not expressed in blood vessels associated with healthy tissues. These antigens are usually more abundant and more stable than those expressed directly on the surface of tumor cells. This approach, so called *vascular targeting*, is used for most of the projects pursued by the Group.

The Group's objective is to generate, develop and market innovative products for the treatment of diseases for which medical science has not yet identified satisfactory therapies. This is achieved by exploiting (i) proprietary technologies for the isolation of ligands that react with antigens present in certain diseases, (ii) experience in the development of products targeted at the tissues affected by the disease, (iii) experience in drug manufacturing and development, and (iv) an extensive portfolio of patents and intellectual property rights.

Although the Group's drugs are primarily oncology applications, the *targeting* approach is also potentially applicable to other diseases, such as certain chronic inflammatory diseases.

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FOR MORE INFORMATION:

Philogen - Investor Relations

IR@philogen.com - Emanuele Puca | *Investor Relations*

Consilium Strategic Communications contacts

Mary-Jane Elliott, Davide Salvi

Philogen@consilium-comms.com