Ariana Pharma announces important Artificial Intelligence (AI) collaboration in precision oncology to accelerate a first-in class antibody blocking lipid metabolism for the treatment of advanced cancer.

Explainable Artificial Intelligence and organoid data to accelerate the development of a first-in-class antibody in precision oncology.

Paris, France and Cambridge, MA, USA, 16th April 2024, Ariana Pharma, a leading Artificial Intelligence drug development company, announced today that it has entered a €3 million consortium sponsored by the Eurostars 3 program, led by ONA Therapeutics SL, specialized in the discovery and development of biologics targeting advanced cancer, and in collaboration with Crown Bioscience, and oloBion.

ONA has developed a first-in-class antibody against CD36, a central regulator of lipid metabolism that has been implicated in cancer progression and patient relapse.

Ariana's unique KEM® (Knowledge Extraction and Management) eXplainable AI technology will be used to combine multi-modal data including organoids and multi-omics data, generated by the advanced omics platform of oloBion. This integration will enable the identification of novel biomarkers that could be developed as companion tests and / or surrogate endpoints. Ariana will also identify additional potential indications for the CD36 antibody. The project will enable a thorough description of the therapeutic Mode of Action and prepare for the initiation of a phase I/IIA clinical trial.

The Lipidomab project aims to address a critical need for patients, particularly those with advanced cancer who have relapsed following standard of care treatment. Due to a limited understanding of key processes that drive cancer progression and relapse, the majority of patients are expected to progress through multiple lines of treatment and ultimately be in need of therapies that takes into consideration how the underlying biology changes with time and lines treatment. The multi-disciplinary approach of this project involves the development of an advanced tumor organoid screening platform that uses novel patient-derived metastatic-based organoids to enable in-vitro and in-vivo characterization of the anti-CD36 antibody.

Cancer cells that express high levels of CD36 on their surfaces are unique in their ability to bias cellular metabolism to benefit cancer progression. ONA developed a first-in-class humanized monoclonal antibody which targets CD36 and potently antagonize cancer cell uptake of fatty acid, thereby ablating the metabolic advantage.

The consortium will accelerate the development ONA's CD36 antibody by elucidating the mechanism of action through organoids, lipidomics analysis and discovery of new biomarkers to enable patient selection, and ultimately de-risk / accelerate the clinical trial design / development, with the potential to co-develop a companion diagnostic (CDx).

Ariana Pharma Media
Thomas Turcat
t.turcat@arianapharma.com

About Ariana Pharma: Ariana Pharma is a leading Artificial Intelligence (AI) drug development company. Using its KEM® Artificial Intelligence (xAI) technology, Ariana helps its partners introduce personalized medicine clinical trial design into their protocols and optimize clinical endpoints, identify biomarkers of therapeutic response and potential synergistic therapies. Ariana routinely collects and combines clinical data with omic data, immunological readouts (such as Fluorescence-Activated Cell Sorting (FACS)), microbiota, Patient Reported Outcomes (PRO) as well as Real World Evidence (RWE) data. Combining advanced data analytics, drug development, and regulatory expertise, Ariana helps translate findings into innovative clinical development plans and regulatory approvals. With a growing number of successful therapeutic development programs, KEM® is an FDA-assessed technology that systematically explores combinations of biomarkers, producing more effective biomarker signatures for precision medicine. Ariana has developed Onco KEM®, the most advanced, clinically tested, oncology therapeutic decision support system. Founded in 2003 as a spin-off of the Institut Pasteur, Paris, France, the company operates a subsidiary in the United States since 2012. www.arianapharma.com