CIC biomaGUNE biomedical project receives boost from "la Caixa" Foundation

The CaixaResearch Validate call will be used to bring patients closer to a new pulmonary ventilation imaging tool

The project led by researcher Jordi Llop will be receiving specialized training in technology transfer and marketing, in addition to financial support

Donostia-San Sebastian. 12 July, 2022. A project led by the researcher Jordi Llop of the Center for Cooperative Research in Biomaterials CIC biomaGUNE has received the support of CaixaResearch to develop a tool to image lung ventilation. "La Caixa" Foundation is boosting 15 projects relating to cutting-edge biomedical research in Spain and Portugal in the CaixaResearch Validate 2022 call, and they include the CIC biomaGUNE project. These are early-stage projects that the organization is keen to support in order to accelerate their arrival on the market and thus bring them closer to the patients who may need them.

A panel of European experts and professionals in the field of life and health sciences has selected these 15 projects from among the 110 submitted to the call. Those selected are awarded up to 100,000 euros from the program to validate their technologies and design a roadmap for their valorization. CaixaResearch Validate is thus promoting innovation and the transfer of knowledge and technologies by supporting the creation of new research-based products and enterprises.

The Corporate Director of Research and Health Àngel Font pointed out that "through this grant call, we are keen to break down the barrier that exists between the laboratory and the market by adding value to the scientific knowledge created by researchers across the Iberian peninsula and, by means of funding and advisory assistance, to bring their innovations closer to those who await them most eagerly: the patients".

A new tool to image lung ventilation

Many diseases with a high prevalence and socio-economic impact, such as lung cancer, chronic obstructive pulmonary disease, asthma and, more recently, COVID-19, lead to lung ventilation problems. In order to make an early diagnosis of the disease and to assess its severity and progression, as well as the patient's response to treatment, a medical tool to accurately image lung ventilation is needed. Current methods, based on the use of radioactively labelled aerosols that are imaged by means of single photon emission computed tomography (SPECT), are not sufficiently accurate, involve a significant dose of radiation for the patient and are fraught with operational drawbacks for healthcare facilities.

CIC biomaGUNE's Radiochemistry & Nuclear Imaging Lab research group, led by Jordi Llop, has developed a radiopharmaceutical that, when used in conjunction with the imaging technique

known as positron emission tomography (PET), is much more accurate than SPECT, and allows lung ventilation to be assessed precisely and efficiently. It has been successfully tested in animal models and in this project the group will be working on technological solutions and safety assessment aimed at bringing this tool to the clinic and positioning it as the new gold standard method, thereby providing the numerous patients around the world who suffer from respiratory diseases with an effective solution.

Pre-clinical evaluation and technology development are expected to be completed by the end of 2023, and a new start-up will help to valorize the technology and attract investors so that clinical trials through phase two can be completed. In the view of the group's principal researcher Jordi Llop, "the award is a major boost to the development of the project. Firstly, it represents an essential injection of funds to carry out the pre-clinical evaluation and technological development necessary to be able to undertake the first clinical trials on healthy volunteers in the near future. Secondly, for the research team it means the possibility of receiving specific high-level training, as well as access to personalized support to cover the different stages necessary to achieve the final objective, which is none other than to consolidate the diagnostic tool in the clinical healthcare environment".

About CaixaResearch Validate

These grants aim to foster the creation of new products and enterprises in life sciences and health, and also to contribute to the transfer of research results to the general public and the market. The call is being made in collaboration with Caixa Capital Risc and in partnership with the Fundação para a Ciência e a Tecnologia (FCT) of the Portuguese Ministry of Science, Technology and Higher Education, thus promoting Spanish-Portuguese collaboration between research centers and universities across the Iberian Peninsula.

About CIC biomaGUNE

The Center for Cooperative Research in Biomaterials CIC biomaGUNE, member of the Basque Research and Technology Alliance (BRTA), conducts state-of-the-art research at the interface between Chemistry, Biology and Physics, devoting particular attention to studying the properties of biological nanostructures on a molecular scale and their biomedical applications. It was recognized in 2018 as a “María de Maeztu” Unit of Excellence for meeting requirements of excellence, which are characterized by a high impact and level of competitiveness in its field of activity on the global scientific stage.