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Researchers from Spain and France join forces to develop new therapies against two subtypes of leukemias and lymphomas.

PROTEOBLOOD, a French-Spanish cooperative network for the analysis of proteinopathies and the development of individualized therapies in hematological cancers, begins thanks to the cofounding of Interreg POCTEFA.

Significant advances have been made recently in the diagnosis and selective treatment of some blood cancers. However, most of these cancers remain incurable. Much evidence suggests a link between imbalances in protein homeostasis and the development of some subtypes of leukemia and lymphoma. The study of this phenomenon requires highly specialized knowledge and represents a fundamental economic and research challenge, which institutions cannot address efficiently on an individual basis.

Researchers from universities, research centers, and companies in France and Spain have joined together to create a French-Spanish cooperative network for the analysis of proteinopathies and the development of individualized therapies in hematological cancers: EFA360/19 PROTEOblood. This network will investigate protein homeostasis in two prevalent subtypes of leukemia and lymphoma and develop personalized treatments to cure them.

The coordinator of this network is Dr. Gael Roué, from the Josep Carreras Leukaemia Research Institute, with the collaboration of Dr. Pablo Menéndez. Also joining PROTEOblood are the Experimental Haematology Unit of the Vall d'Hebron Institute of Oncology (VHIO), led by Dr. Valcárcel, the French Institute of Health and Medical Research (INSERM), led by Jean-Emmanuel SARRY; the Association Centre for Cooperative Research in Biosciences - CIC bioGUNE with researcher M^a Rosa Barrio; the West Occitania branch of the French National Centre for Scientific Research (CNRS), with Pierre Lutz; the Spanish biotechnology company ANAXOMICS Biotech, with Judith Farrés; and the Pharmaceutical Chemistry Group of the Sarrià Institute of Chemistry (IQS), with José Ignacio Borrell.

PROTEOblood's goal is to optimize, share and exploit a set of cutting-edge technologies and resources through the coordination of these entities, for the study of protein homeostasis in two prevalent subtypes of leukemia and lymphoma, and to generate innovative tools and technologies transferable to the development of personalized medicines against these diseases.

To this end, the network will bring together a collection of study models derived from patients (organoids and xenografts) with the capacity to recreate the tumor microenvironment *ex vivo*. State-of-the-art proteomics approaches, associated with systems biology analysis and small molecule design, will allow the complete characterization of proteinopathies and the development of effective and safe therapies to validate in organoid and xenograft collections. PROTEOblood will thus promote technological development, cross-border cooperation, and knowledge sharing, easing the optimization of existing infrastructures and resources of all entities.

The project has been co-financed at 65% by the European Regional Development Fund (ERDF) through the Interreg V-A Spain-France-Andorra Programme (POCTEFA 2014-2020). The objective of POCTEFA is to strengthen the economic and social integration of the Spain-France-Andorra border area. Its assistance focuses on the development of cross-border economic, social, and environmental activities through joint strategies in favor of sustainable territorial development.



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As PROTEOblood's partners possess complementary capacities illustrated by co-authorship in publications, patents, and licenses, this project will undoubtedly increase the competitiveness and internationalization of POCTEFA's regions.

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