**PROJECT CO-FUNDED BY EUROPEAN REGIONAL DEVELOPMENT FUNDS (ERDF)**

**Lead Researcher:** Dr. Domingo Barber Hernández

**Reference**: PI19/00044

**Title**: ‘Severe allergic pathology: biomarkers validation and new allergy intervention strategies’ (Patología alérgica grave: validación de biomarcadores y nuevas estrategias de intervención en alergía, VABMAN)

**Financing Entity:** Carlos III Health Institute (Instituto de Salud Carlos III)

**Total amount**: 79.860 €

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**Summary:**

Allergic diseases have shown a steady increase both in prevalence and severity within the last decades. Thus, it is necessary to understand the underlying causes of such increase and develop new biomarker strategies to follow the patient’s progress and to predict and decide the best intervention techniques. In previous projects, we have discovered, using omics techniques, new mechanisms associated with the evolution of allergy, where platelets seem to play a key role, identifying new potential biomarkers associated with the evolution to severity. Specifically, we selected 29 metabolites, which in the initial screening showed the best diagnostic potential. We then developed quantitative analytical methodologies using triple quadrupole mass spectrometry. In addition, we identified additional proteomic candidates by Luminex.

-The overall aim of this project is to validate the above methodology in a similar population and to explore its combined potential in a broader range of respiratory allergies.

-A second objective is to explore new biomarkers at the cellular level focusing on platelets, lymphocytes and monocytes that have been identified in previous projects as possible key players in the evolution to severe phenotypes.

- Finally, we will work on integrated procedures and generate common biobanks with the other sub-projects of the coordinated project that will facilitate future research in ARADyAL (Asthma, Adverse Drug Reactions and Allergy network of Carlos III Health Institute)