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

**Lead Researcher:** Ms. María Escribese Alonso

**Reference:** PI18/01467

**Title**: ‘Identification of biomarkers associated with the efficacy of the treatment with biologic drugs in patients with severe asthma’ (Identificación de biomarcadores asociados a la eficacia del tratamiento con medicamentos biológicos en pacientes con asma grave)

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

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**Summary:**

Asthma is a chronic inflammatory disease that currently affects 334 million people, causing significant morbidity and mortality and enormous economic costs to the NHS. Most patients diagnosed with asthma can be effectively treated with inhaled corticosteroids and bronchodilators. However, there is a group of patients who are not controlled with this treatment, patients with severe uncontrolled asthma. They have a higher mortality rate and a high number of comorbidities, such as nasal polyposis or NSAID intolerance. New therapeutic strategies aimed at controlling these more severe cases include biologic drugs such as anti-IgE (Omalizumab) and anti-IL5 (Mepolizumab, Reslizumab). However, the information needed to make rational use of these drugs is not available. This project proposes that it is possible to identify a panel of biomarkers that can be used to define: the optimal treatment time with the biologic drugs Omalizumab and Mepolizumab, the biological pathways altered with this treatment and the biomarkers useful for predicting efficacy and for monitoring these treatments in patients with severe uncontrolled asthma. Optimising the use of these treatments would mean a significant improvement in the quality of life of patients in the medium to long term and considerable savings for the NHS.