

# 3<sup>rd</sup> International Conference and Exhibition on **Clinical & Cellular Immunology**

September 29-October 01, 2014 DoubleTree by Hilton Baltimore-BWI Airport, USA

## Immune mechanisms implicated in the tolerance induction to food allergens in children

Rafael Correa-Rocha

Institute of Health Research Gregorio Marañón, Spain

Food allergy affects about 6% of young children and 3-4% of adults in westernized countries. Food allergy is the most frequent reason for anaphylactic reactions in children, and its prevalence and persistence is undergoing an important increase in the last years. Although the origin of the allergic process is clearly an altered response of immune system, there is still a limited knowledge about the immune mechanisms implicated in allergy and tolerance acquisition. We have investigated the immune changes associated to the desensitization to food allergens in allergic children treated with oral immunotherapy. Our recent findings demonstrated that, tolerance achievement is associated with the recovery of a new CD4 T-cell subset with a hypo-proliferative phenotype and a marked increase in the regulatory T-cell (Treg) population. The Treg increase was related with the control of effector immune responses and the disappearance of allergy-related symptoms. These results contribute to better understanding of immune responses in allergic patients, and could provide the basis for the use of these immune subsets as predictive and diagnostic markers of clinical outcome, and as a tool to follow the efficacy of immunotherapy easily measurable in peripheral blood.

### Biography

Rafael Correa Rocha has completed his first PhD in Biology at the Universidad Complutense of Madrid (Spain) in 2004. His thesis was awarded with the National Prize of Doctorate 2005. He joined the ISREC (Epalinges, Switzerland) as a Post-doctoral Researcher and afterwards, he obtained a position as Assistant Professor at the Hôpitaux Universitaires de Genève (Switzerland). He joined the IISGM of Madrid as a Senior Scientist in February 2008. He completed a second PhD in Medicine at the Universidad Autónoma of Madrid in 2014. At present, he is the Head of the Laboratory of Immune-regulation at IISGM. He has published more than 40 papers in reputed journals.

[rafael.correa@iisgm.com](mailto:rafael.correa@iisgm.com)