Itch maintains regulatory T cell stability

October 26 2013

Regulatory T cells (Tregs) function to suppress immune responses of other cells, and their dysfunction has been associated with development of immune disorders. Recent studies suggest that Tregs maintain plasticity even after differentiation, and can be influenced to change their regulatory profile.

In this issue of the *Journal of Clinical Investigation*, Yun-Cai Liu and colleagues at the La Jolla Institute for Allergy and Immunology identified the E3 ubiquitin ligase Itch as a regulator of Tregs stability.

The authors found that in the absence of Itch, Tregs took on a Th2 phenotype, which promoted the development of severe antigen-induced airway inflammation, skin lesion formation and other inflammatory characteristics in mice. In a companion commentary, WanJun Chen of the National Institutes of Health discusses the implications of this study on our understanding of allergy and asthma development.

More information: Itch expression by Treg cells controls Th2 inflammatory responses, *J Clin Invest.* DOI: 10.1172/JCI69355
Regulatory T cells use "Itch" to control asthma, *J Clin Invest.* 2013;123(11):4576–4578. DOI: 10.1172/JCI72477

Provided by Journal of Clinical Investigation