

Th17 and IL-17 Regulatory Pathways in Chronic Inflammation Progression and Autoimmune Diseases Therapy

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Interleukin-17A (IL-17A) is the most studied member of the IL-17 cytokine family. It is mainly produced by T-helper (Th)-17 lymphocytes, and also by cytotoxic CD8⁺ T cells (Tc17), $\gamma\delta$ T cells ($\gamma\delta$ -17), natural killer T (NKT) cells and neutrophils (1). This cytokine elicits protection against extracellular bacterial and fungal infections and, when produced in excess, it contributes to chronic inflammation (2).

Since its discovery, much attention has been given to mediators and factors responsible for the development of IL-17-producing cells while very few studies have investigated the inflammatory properties of this cytokine and signaling pathways involved in its physio-pathological functions.

A growing number of evidences gathered over the last few years indicate that IL-17A might play a key role in sustaining chronic inflammation in patients suffering from autoimmune diseases (such as rheumatoid arthritis, psoriasis, multiple sclerosis and some bowel inflammatory diseases) and probably in the hemostatic disorders observed in these patients (3, 4).

Here, I summarize the most recent findings on the biological effects of these new inflammatory cytokine and discuss how these discoveries might influence our current view on therapeutic approaches to treat ongoing inflammation and inflammatory-related diseases.

Biography:

Dr. Francesco Maione Holds a PhD degree in Pharmaceutical Science (Cycle XXI), at the Faculty of Pharmacy, University of Naples Federico II. In the year 2009 he is the Winner of the specialization competition in hospital pharmacy at the University of Naples Federico II. His Research activity is in the field of Pharmacology of the cardiac, gastrointestinal and inflammation systems. The main research lines include the study of 1) role of the protein Annessin-1 (ANX-1) in inflammation and cardiovascular system 2) role of interleukin-17 (IL-17) in inflammation and platelet function 3) pharmacological characterization of active ingredients of natural origin. He has published n.36 works in estensi in international journals (peer-reviewed Journals).