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Review

IL-17-expressing cells as a potential therapeutic target for treatment of immunological disorders

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Abstract:
IL-17 is a multifunctional cytokine produced by activated CD4+ and CD8+ lymphocytes as well as stimulated unconventional Tγδ and natural killer T cells. IL-17 induces expression of chemokines, proinflammatory cytokines and metalloproteinases, thereby stimulating the inflammation and chemotaxis of neutrophils. Elevation of proinflammatory cytokines is associated with asthma and autoimmune disorders, such as multiple sclerosis, rheumatoid arthritis and psoriasis. Although the role of IL-17 in these disorders is not always easy to define, extensive research has demonstrated an aggravating influence of IL-17 in some animal models. Thus, the development of therapeutics to reduce IL-17 levels is a promising strategy for ameliorating inflammatory diseases.
This review briefly summarizes recent knowledge about stimulants and intracellular signaling pathways that induce development and maturation of IL-17-expressing cells. Its positive and negative roles on disease progression and its importance in vaccine-induced memory are also discussed. Finally, recent literature describing potential therapeutic approaches for targeting IL-17 is presented.

Key words:
IL-17, T cells, autoimmunity, asthma, cancer, vaccination, therapy