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Th17 cells that secrete the cytokines IL-17A and IL-17F and express lineage-specific transcription factor RORC (RORγt in mice) represent a distinct lineage of CD4(+) T cells. transforming growth factor-β and inflammatory cytokines, such as IL-6, IL-21, IL-1β, and IL-23, play central roles in the generation of Th17 cells. Th17 cells are critical for the clearance of extracellular pathogens, including Candida and Klebsiella. However, under certain conditions, these cells and their effector molecules, such as IL-17, IL-21, IL-22, GM-CSF, and CCL20, are associated with the pathogenesis of several autoimmune and inflammatory diseases, such as rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis, psoriasis, inflammatory bowel disease, and allergy and asthma. This review discusses these disease states and the various therapeutic strategies are under investigation to target Th17 cells, which include blocking the differentiation and amplification of Th17 cells, inhibiting or neutralizing the cytokines of Th17 cells, and suppressing the transcription factors specific for Th17 cells.