

Investigators:

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Interleukin 12 (IL-12) is produced by cells of the innate immune system during infection and plays an important role in controlling pathogens. Release of IL-12 leads to the activation of cells of the innate immune system and, via the production of IFN- γ and other cytokines, to the induction of cellular immunity. It was postulated recently that IL-12 has a direct influence on T cells in vitro, enhancing expansion and the development of effector functions as a third signal, additionally to TCR engagement (signal 1) and costimulation (signal 2). We study the direct impact of IL-12 on T cells in vivo, using IL-12 receptor deficient CD8⁺ T cells in an adoptive transfer system. Current investigations aim at the role of IL-12 for the expansion and development of effector functions as well as memory formation of CD8⁺ T cells. Furthermore, conditions (cytokine milieu, antigen load) under which CD8⁺ T cells require direct IL-12 signalling in vivo in the context of different infections will be analysed.