Project: Initial Training Network for Neurological Disorders orchestrated by cytokines (NeuroKine)

Research Topics: IL-23 in autoimmune neuroinflammation

Interleukin 23 (IL-23), is a central player in the development of tissue autoimmunity. This is clearly illustrated in experimental autoimmune encephalomyelitis (EAE), a well-established mouse model of Multiple Sclerosis (MS). Mice lacking either the IL-23 subunits p40/p19 or the IL-23 receptor (IL-23R) are resistant to EAE. My research focuses on defining 1) the immune cell populations and 2) the molecular mechanisms that are triggered by IL-23 during autoimmune neuroinflammation.

To achieve these goals, the response to EAE in mouse models that bear a conditional deletion of IL-23R in defined adaptive and innate immune cell compartments is being dissected (i.e. pathogenic alpha/beta CD4+ T cells). Overall, the aim is to clarify the mechanisms through which IL-23 mediates autoimmune neuroinflammation, and aid in the identification of novel therapeutic targets for the treatment of MS and other autoimmune diseases.

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