Project B12 - Role of two pore domain potassium channel signalling in CNS immunity and inflammatory neuronal injury

Subcluster: Immune-mediated damage and repair

Project Summary: Ion channels of the 2-pore domain potassium channel (K_{2P}) family are involved in pathological immune cell activation, cell migration and neuronal apoptosis in multiple sclerosis. We will focus on uncovering KCNK2/KCNK6 channel-dependent molecular signaling pathways in endothelial cells and a direct antiapoptotic impact of KCNK2/KCNK3 neurons in experimental autoimmune encephalomyelitis. We will then assess the immunological consequences of KCNK2 activation in human MS patients. By these means we want to unravel the neuroprotective and therapeutic potential of K_{2P} channels in autoimmune neuroinflammation.

Principal Investigator:

Prof. Dr. med. Stefan Bittner
Klinik und Poliklinik für Neurologie
Universitätsmedizin Mainz
Langenbeckstraße 1
55131 Mainz
Tel.: +49 6131 17 8077
E-Mail: stefan.bittner@unimedizin-mainz.de