

Thu 3. October 2019
Time: 10:00 h

Institute of Biochemistry
and Molecular Medicine
(IBMM)

Seminar Room
Gertrud-Woker-Str. 5,
3012 Bern

Everybody is welcome

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Stefan Feske, MD
is Professor of
Pathology at the New
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This lecture is hosted by
Prof. Christine Peinelt
(IBMM).

NCCR TransCure Lecture in Physiology by Stefan Feske

CRAC channels in immunity to infection and autoimmunity

Ion channels control ion fluxes across lipid membranes and play pivotal roles in a multitude of cell functions. While ion channels have been extensively investigated in excitable cells such as neurons, much less is known about the role of ion channels in the function of immune cells and immunity. Of the hundreds of ICTs only 10-15 are well established to play a role in immune responses. This includes the Ca²⁺ release activated Ca²⁺ (CRAC) channel encoded by ORAI and STIM genes. Our lab has shown that CRAC channel function is essential for T cell mediated immunity to infection and in autoimmunity, in part by regulating gene expression programs in proinflammatory and regulatory T cells. In particular, metabolic pathways such as glycolysis and mitochondrial respiration that control T cell proliferation and effector functions are regulated by Ca²⁺ influx through CRAC channels. This talk will discuss new insights into the role of CRAC and other ion channels in T cell mediated immune function.