

Prof Petr Broz

The Broz lab investigates the innate immune signaling pathways that allows cells to detect and respond to the infection with pathogenic microorganisms. A particular focus of the lab is the inflammasome, a multi protein signaling platform that is assembled by pattern recognition receptors upon detection of pathogen- or host-derived danger signals, and which controls the release of cytokines and the induction of pyroptosis, a lytic for of cell death.

We are seeking an outstanding a PhD candidate who is interested in studying a) The mechanisms of inflammasome activation by NOD-like receptor proteins (NLRs), with focus on orphan NLR receptors, or b) the regulation and function of NINJ1-induced plasma membrane rupture during lytic cell death. The successful applicant will be able to use state-of-the-art microbiological, biochemical, molecular biological and cell biological approaches including transgenic animal models, proteomics, siRNA- and CRISPR/Cas9-based screening technologies as well as high-resolution single cell imaging.