

## **Project 12: Characterization of autophagosome-dependent T cell activation against vaccinia virus**

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### **Abstract**

T cells play an important role for immunity against viral diseases. In particular, humoral and cytotoxic cellular immune responses rely on the efficient induction of CD4+ T cells. Preliminary results indicate that most of the viral MHC class II ligands derived from vaccinia are intracellularly processed by antigen presenting cells such as dendritic cells via autophagy *in vitro*. Some vaccinia virus strains induce autophagy in infected cells while some strains seem to inhibit this pathway. We want to identify and functionally characterize the viral and cellular interaction partners which act in an activating or inhibitory way on the autophagosome-mediated T cell induction by vaccinia virus. Detailed information about the MHC class II-restricted presentation pathways relevant for activation of CD4+ T cells specific for viral antigens may offer new target structures for immunotherapeutic approaches based on poxviral vector vaccines.