

SFB 900 Seminar Series

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TITLE

HLA-class I geno- and allotype specific regulation by human cytomegalovirus encoded glycoproteins.

SPEAKER

Dr. Anne Halenius, Institute of Virology, University Hospital Freiburg, Germany

LOCATION

Digital Lecture via video conference

02.12.
2021

5.00 PM (s.t.)

» Research of Anne Halenius

The research interests of our group focus on MHC class I antigen presentation in cells infected by human cytomegalovirus (HCMV). HCMV belongs to the β -subgroup of herpesviruses and is one of the largest viruses known to infect humans. HCMV possesses an imposing coding capacity with several hundreds of viral proteins being expressed in infected cells. A large fraction of these proteins is dedicated to counteract host immune defense mechanisms and enables the virus to persist in the host for a life-time. In immunocompromised hosts, infection might have pathological and even fatal consequences, whereas a healthy immune system is able to control the infection.

HCMV encodes for several glycoproteins that reduce cell surface expression of MHC class I molecules and prohibit CD8+ T cell recognition of infected cells. Since CD8+ T-cells are nonetheless able to restrict the infection, the inhibition of MHC class I antigen presentation by HCMV is not complete. So far, a seemingly limited number of HCMV-specific CD8+ T cells have been identified in CMV-positive persons, but not much is known about which potential antigens escape HCMV control in infected cells and which do not and how this is regulated. We investigate the inhibitory mechanisms of HCMV on MHC class I antigen presentation and the contribution of these mechanisms to form the HCMV specific MHC class I ligandome.

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