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**Identification of Host Cell Factors Required for Uukuniemi Virus (*Bunyaviridae*)  
Infection Revealed by a Genome Wide siRNA Silencing Screen**

R. Meier\*, P.-Y. Lozach, P. Horvath, G. Csúcs, A. Helenius  
*ETH Zurich, Switzerland*

*Bunyaviridae* constitute a large family of enveloped viruses many of which are arthropod-borne and cause serious diseases. Virus-cell interactions and cellular factors involved in entry and early events in the replication cycle remain largely uncharacterized. Our group recently identified the C-type lectin DC-SIGN as a receptor for some arbo-bunyaviruses including Uukuniemi virus (UUKV, genus *Phlebovirus*). To study bunyavirus entry, we used UUKV in a genome wide siRNA silencing screen (~21,000 human genes) using HeLa cells ectopically expressing DC-SIGN. Cells were transfected by 4 different siRNAs against each gene in 384-well plates, and after 72 h exposed to UUKV. The infected cells were identified by immunostaining against the viral nucleoprotein N using automated fluorescence microscopy. Infection was quantified by computational image-based analysis utilizing the softwares «CellProfiler» and «Advanced Cell Classifier». A ranked list of potential hits involved in UUKV infection was determined according to a redundant siRNA activity probability-based approach. From this, and using the STRING database, we identified clusters of predicted functional protein interactions.

Keywords: Uukuniemi, siRNA, endocytosis