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Identification and functional analysis of the small membrane protein pUL11 of avian infectious laryngotracheitis virus

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pUL11 is a highly conserved, small acylated, membrane-associated tegument protein of herpesviruses. It is involved in secondary envelopment of nascent virions in the cytoplasm, although the precise mechanism is still unknown. By screening of mouse monoclonal antibodies (mAb) raised against purified particles of the avian alphaherpesvirus infectious laryngotracheitis virus (ILTV, gallid herpesvirus 1) we identified two mAb recognizing the 15 kDa protein product of the 81 codon ORF UL11. These unique mAb against a herpesviral pUL11 homologue were used for detection and localization of their target protein in mature ILT virions, as well as in the cytoplasm (trans-Golgi region) of infected chicken cells by Western blot analyses, indirect immunofluorescence tests, and immunoelectron microscopy. For investigation of gene function a UL11-deleted ILTV mutant was generated, which exhibited reduced virus yields and moderately impaired spread in cell culture. However, ILTV-pUL11, like its homologues in several other herpesviruses, proved to be nonessential for productive virus replication. The available tools will help to further elucidate the role of pUL11 *in vitro* and *in vivo*, as well as its physical and functional interactions with other viral or cellular gene products. In this context, it is of particular interest, that the pUL11 homologue of herpes simplex virus type 1 forms a tripartite complex with the virion proteins pUL16 and pUL21. Whereas pUL21 is also conserved in ILTV, pUL16 is absent.