

**P016** The role of the ESCRT pathway in the assembly of herpesviruses

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It is now well established that many families of enveloped RNA viruses recruit ESCRT proteins via late domain motifs to facilitate budding and scission from cellular membranes. The viruses that have mainly been studied, such as retroviruses, are relatively small and structurally simple. Conversely, little is known about the budding of larger and more complex enveloped DNA viruses. Herpesviruses, such as HSV-1, are large enveloped DNA viruses associated with many diseases in humans and animals. The assembly of new virions is a complex process culminating in the formation of virus particles consisting of >40 different viral proteins via budding into the lumen of TGN derived membranes before release via exocytosis. Through the use of inducible stable cell lines we have shown that Vps4 activity is essential for the final stages of cytoplasmic envelopment of HSV-1. From studies with dominant negative protein expression and RNAi protein depletion we now show that only a restricted set of ESCRT proteins are required for HSV-1 assembly. Furthermore, despite the presence of several candidate late domain motifs in HSV-1 structural proteins, the ESCRT proteins that interact with these motifs appear to be dispensable for HSV-1 assembly, suggesting a novel mechanism for viral recruitment of the ESCRT machinery.