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In Vivo Demonstration of Protein-Protein Interactions between Herpes Simplex Virus Type-1 Proteins UL20 and GK during Viral Egress from Infected Cells

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Poster Presentation P44

**IN VIVO DEMONSTRATION OF PROTEIN-PROTEIN INTERACTIONS
BETWEEN HERPES SIMPLEX VIRUS TYPE-1 PROTEINS UL20 AND GK
DURING VIRAL EGRESS FROM INFECTED CELLS**

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Recent evidence suggests a functional relationship between Herpes Simplex virus type-1 membrane proteins UL20 and gK. UL20 and gK likely interact to permit viral exodus from an infected cell, a process necessary for further viral infection of surrounding cells. We sought to demonstrate UL20 and gK interactions using a split-ubiquitin yeast two-hybrid system. Contrasting with traditional yeast two-hybrid experiments, the split-ubiquitin yeast two-hybrid system allows us to investigate interactions between integral membrane proteins such as gK and UL20. Confocal microscopy was also used to determine the intracellular localization of UL20 and gK. UL20 has been successfully fused into the bait vector and shown, through interactions with a control prey vector, to be properly inserted into the membrane. UL20 and gK have been shown to co-localize to the trans-golgi network (TGN) by confocal microscopy.

Continued study and increased understanding of viral patterns within infected cells can lead to better treatment and prevention of viral infections, as well as the use of HSV-1 as a medicinal vector to treat genetically-based disease.