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In this study, we examined one viral gene, US27, which encodes a protein that is similar to human chemokine receptors. Chemokine receptors have seven transmembrane domains and signal immune cells to sites of infection. Previous work in our lab found that US27 binds to GABARAP (γ-aminobutyric acid receptor-associated protein), a 14kD cellular protein that plays a role in receptor trafficking.

We used fluorescence microscopy to examine the US27-GABARAP interaction in human embryonic kidney cells (HEK293). GABARAP has been shown to bind to a WXXL motif in target proteins, and this sequence is present in the C-terminal domain of US27. Using a series of proteins with mutations in this motif (Figure 1), we found that the WXXL motif in US27 is required for both GABARAP binding and for localization to the endosomes.

**Introduction**

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**Results**

**US27 co-localizes with GABARAP; US27 mutants do not**

**US27 localizes to the endosomes; US27 mutants do not**