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CARD Abstract

TITLE: Use of Novel Mutant Viral Proteins to Investigate Chemokine Receptor Signaling

ABSTRACT

Human Cytomegalovirus (HCMV) is a widespread pathogen that causes lifelong latent infection. HCMV rarely causes disease in healthy adults. However, immune-compromised individuals like transplant recipients and AIDS patients can suffer from life-threatening disease. HCMV encodes four G-protein coupled receptors, US27, US28, UL33, and UL78. GPCRs have seven transmembrane α -helices and play vital roles in cellular communication networks. Viral GPCRs may exploit these signaling pathways, and US27 was found to increase cellular proliferation and enhance CXCR4 signaling. Here, US27 deletion mutants are being used to define domains of the viral protein critical for impacting CXCR4 function. These results are expected to clarify how HCMV alters cell communications networks by regulating CXCR4 activity.