



**Viral tegument proteins and host factors in human
cytomegalovirus maturation**

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Human cytomegalovirus (HCMV) is a large double stranded DNA virus that provides a good model system for studying host pathogen interactions besides being a virus of major public health importance. HCMV DNA replication and virus capsid assembly occurs in the infected cell nucleus and virus particles mature during their transit from the nucleus to the cytoplasm before release. The viral tegument proteins pp150 and pUL96 are critical for HCMV replication. Important regions in pp150 and pUL96 proteins were determined by construction of mutant recombinant viruses. Based on virological, immunological, structural and biochemical evidences we conclude that pp150 preserves nucleocapsid integrity and requires pUL96 for function. Dynamics of interactions between pp150 and pUL96 in infected cells, their viral and host interaction partners, and structural biology aspects of these interactions are currently being explored. During maturation, HCMV relied on host endosomal sorting complex required for transport (ESCRT) machinery for envelopment, demonstrated by a modified virus complementation assay. Resolution of the intricacies of interactions among host and virus factors during HCMV maturation promises to provide insights into parallel pathways utilized by a number of similar virus systems and will also be useful in designing effective antiviral drugs and vaccines.