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# Autologous CMV-pp65-shLAMP-1 mRNA Loaded Dendritic Cell Vaccine

National Cancer Institute

## Source

National Cancer Institute. *Autologous CMV-pp65-shLAMP-1 mRNA Loaded Dendritic Cell Vaccine*. NCI Thesaurus. Code C158522.

A cancer cell vaccine consisting of autologous dendritic cells pulsed with mRNA encoding the human cytomegalovirus (CMV) matrix protein pp65 (65 kDa lower matrix phosphoprotein; UL83) as a fusion construct with a short peptide chimeric antigen from lysosome-associated membrane protein 1 (shLAMP-1), with potential antineoplastic and immunostimulatory activities. Upon vaccination, the autologous CMV-pp65-shLAMP-1 vaccine exposes the immune system to the CMV pp65 peptide, which may elicit a cytotoxic T-lymphocyte (CTL) response against CMV pp65-expressing tumor cells. The incorporation of shLAMP-1 may route CMV pp-65 antigens into the lysosomal compartment, resulting in enhanced MHC class II antigen presentation, thereby promoting CD4-positive T-cell responses. The CMV pp65 protein is the primary component of the enveloped sub-viral particle of CMV and is expressed in certain tumor types.