

Zaire Ebolavirus envelope glycoprotein

Catalogue #	P-300-100
Synonyms:	GP 1,2
Uniprot ID:	A0A068J419
Source:	Ebolavirus, Zaire isolate
MW:	Approximately 74.4 kDa, Envelope glycoprotein contains 650 amino acids, processed to GP1 and GP2 by cellular furin endoprotease. Transmembrane and cytoplasmatic domains are removed. Contains C-terminal linker and hexahistidine tag sequence (GSGHHHHHH)
Host:	Mammalian expression system
Purification:	His-tag, added to the C-terminal part of GP2 is used for purification of GP1-GP2 complex. Purified by metal-affinity chromatography and gel-filtration from cell culture growth media
Concentration:	1 mg/ml
Buffer:	PBS pH 7.4
QC:	Coomassie-stained SDS-PAGE analysis
Shipping:	Shipped on dry ice
Storage:	Store at -70°C upon receipt. Recommended to aliquot into smaller quantities. Avoid repeated freeze-thaw cycles
Background:	GP1 is responsible for binding to the receptors on target cells. Interacts with CD209/DC-SIGN and CLEC4M/DC-SIGNR which act as cofactors for virus entry into the host cell. Binding to CD209 and CLEC4M, which are respectively found on dendritic cells (DCs), and on endothelial cells of liver sinusoids and lymph node sinuses, facilitate infection of macrophages and endothelial cells. These interactions not only facilitate virus cell entry, but also allow capture of viral particles by DCs and subsequent transmission to susceptible cells without DCs infection (trans infection). GP2

acts as a class I viral fusion protein. Under the current model, the protein has at least 3 conformational states: pre-fusion native state, pre-hairpin intermediate state, and post-fusion hairpin state. During viral and target cell membrane fusion, the coiled coil regions (heptad repeats) assume a trimer-of-hairpins structure, positioning the fusion peptide in close proximity to the C-terminal region of the ectodomain. The formation of this structure appears to drive apposition and subsequent fusion of viral and target cell membranes. GP1,2 mediates endothelial cell activation and decreases endothelial barrier function. Mediates activation of primary macrophages. At terminal stages of the viral infection, when its expression is high, GP1,2 down-modulates the expression of various host cell surface molecules that are essential for immune surveillance and cell adhesion. Down-modulates integrins ITGA1, ITGA2, ITGA3, ITGA4, ITGA5, ITGA6, ITGAV and ITGB1. GP1,2 alters the cellular recycling of the dimer alpha-V/beta-3 via a dynamin-dependent pathway. Decrease in the host cell surface expression of various adhesion molecules may lead to cell detachment, contributing to the disruption of blood vessel integrity and hemorrhages developed during Ebola virus infection (cytotoxicity). (Ebola GP1 and 2 functions, UniProt).

Custom price

Custom quantity - ask quotation

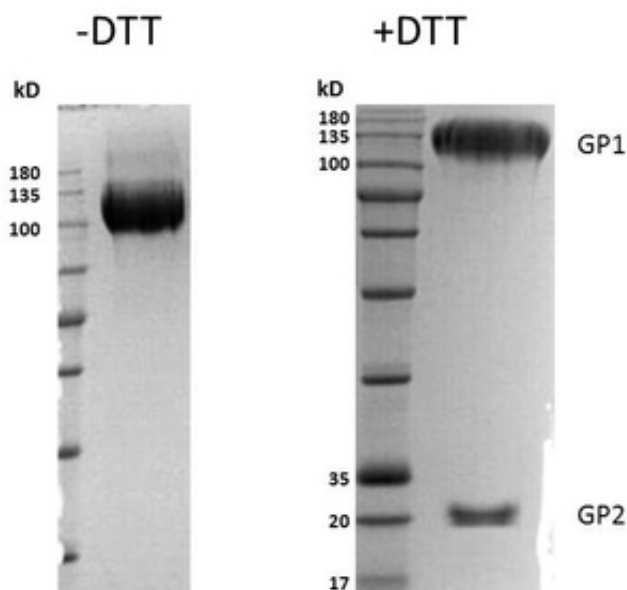


Figure 1. Coomassie-stained SDS-PAGE analysis of Zaire Ebolavirus GP-His protein. GP protein is analyzed in reducing and non-reducing conditions. In reducing conditions GP1 and GP2 are electrophoretically separated. His-tag is added to the C-terminal part of GP2.