Recombinant Bundibugyo ebolavirus GP Protein, C-His-tagged

Cat. No. GP-08E **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Ebolavirus BDBV (subtype Bundibugyo,strain Uganda 2007) secreted Glycoprotein (sGP) produced in HEK293 cells, incorporating a C-terminal 6x His-tag.
Species	Bundibugyo ebolavirus
Source	HEK293
ProteinLength	33-324aa
Description	The virulence of EBOV may be partially attributed to the Ebola virus secreted glycoprotein (sGP), which is the main product transcribed from its GP gene. Ebola virus secreted glycoprotein is secreted from infected cells and can be readily detected in the serum of EBOV-infected hosts. Mature sGP is produced from a precursor by proteolytic cleavage by host cell proteases such as furin. sGP monomers bind to each other to form a homodimer. The role of Ebola virus secreted glycoprotein in EBOV pathogenesis is unclear, but is examined in detail by de la Vega et al (2015). EBOV envelope glycoproteins (GPs) are known to function as one of the crucial factors that determine the differential virulence across the five different EBOV species (Zaire ebolavirus, Sudan ebolavirus, Bundibugyo ebolavirus, Tai Forest ebolavirus, and Reston ebolavirus). GPs are type I transmembrane glycoproteins composed of GP1 and GP2 and all filoviruses display multiple copies of this single membrane-anchored glycoprotein (GP) projecting from their envelopes. GP is a trimer in which each monomer is a disulfide-bonded complex of a receptor binding subunit (GP1) and a fusion subunit (GP2). The Ebola virus GP has been the target of multiple

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	neutralizing antibodies (Ab), several of which are effective in preventing the onset of disease in nonhuman primates when administered as part of a monoclonal Ab (MAb) cocktail 1 or 2 days after viral exposure (reviewed in Baseler et al., 2017). Ebola virus envelope glycoprotein GP1 mucin-like region (Emuc) is a highly glycosylated region located at the apex and the sides of each glycoprotein monomer (Tran et al., 2014); it is dispensable for EBOV infections in vitro and not highly conserved. It can induce morphological change of adherent cells in vitro and causes distinct cell and tissue damage and acute inflammation in mouse muscles in vivo (Ning et al., 2018). It is believed to have various functions including influencing GP structure, enhancing viral attachment to target cell surfaces, protecting conserved regions of GP, such the receptor binding site, from antibody recognition, and masking immune regulatory molecules, such as major histocompatibility complex 1 (MHC1), on infected cell surfaces. Emuc may also have a cytotoxic function and could be involved in binding to human CLEC10A. It was reported to be essential to the infectivity of ZEBOV (Yang et al., 2000). As such, neutralizing antibodies are often directed against Emuc for potential therapeutic use.
Form	Lyophilised
Molecular Mass	A calculated MW of 34.3 kDa. DTT-reduced Protein migrates as 40-55 kDa in SDS-PAGE.
Purity	>90% pure by SDS-PAGE.
Stability	Stability before reconstitution: At ambient temperature: 1 month; At 4 centigrade: 12 months; At <-20 centigrade: 24 months Stability after reconstitution: At -80°C: 3 months Freezing: Can be frozen, but avoid multiple freeze/thaw cycles

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Storage	Store lyophilised product at 4 centigrade for short term, or frozen at -20 centigrade to -80 centigrade for long term. Product is shipped at ambient temperature.
Concentration	Dependent upon reconstitution volume.
Storage Buffer	DPBS pH 7.4.
Reconstitution	It is recommended to reconstitute the protein by adding 500 µL sterile PBS, pH7 to a stock solution of 200µg/mL. Solubilize for 30 to 60 minutes at room temperature with occasional gentle mixing. We recommend the addition of carrier protein (0.1% (w/v) BSA) for further dilution and long term storage.

GENE INFORMATION

Gene Name	GP second secreted glycoprotein;small secreted glycoprotein;spike glycoprotein [Bundibugyo ebolavirus]
Official Symbol	GP
Gene ID	9487265
Protein Refseq	YP_003815435.1
UniProt ID	B8XCN1

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