MERS-CoV Spike/S1 Protein (HEK293, His)

Cat. No.:	HY-P74751
Synonyms:	Spike glycoprotein; S glycoprotein; E2; Peplomer protein; S
Species:	Virus
Source:	HEK293
Accession:	AFS88936 (M1-E725)
Gene ID:	14254594
Molecular Weight:	Approximately 94 kDa

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Spike Protein S1 at 2 μg/mL (100 μL/well) can bind biotinylated DPP4-Fc and the EC_{50} is 15-60 ng/mL.
Appearance	Solution.
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

The MERS-CoV Spike glycoprotein (S) has three subunits S1, S2' and S2 through alternative splicing. S1 can attaches the virion to the cell membrane by interacting with host receptor, initiating the infection. S2' acts as a viral fusion peptide which is unmasked following S2 cleavage occurring upon virus endocytosis. S2 mediates fusion of the virion and cellular membranes by acting as a class I viral fusion protein.

Under the current model, S protein has at least three 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.

The engagement of the MERS-CoV spike protein S1 with CD26 (also known as dipeptidyl peptidase 4, DPP4) mediates viral attachment to host cells and virus–cell fusion, thereby initiating infection[1].

Caution: Product has not been fully validated for medical applications. For research use only.

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