

MERS-CoV Spike/S1 Active Protein | MERS-CoV active protein

MERS-CoV Spike/S1 Protein (S1 Subunit, aa 1-725, His Tag)

CATALOG #
AAA258067

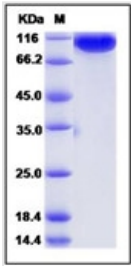
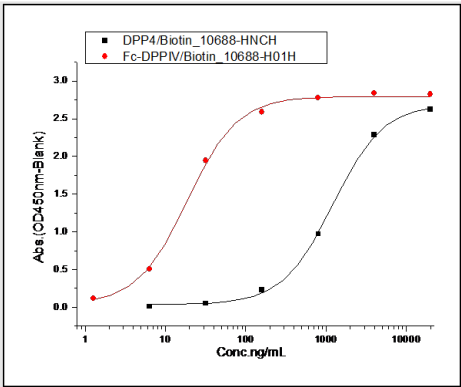
HOST
HEK293 Cells

PRODUCT SYNONYMS

MERS-CoV Spike/S1; MERS-CoV Spike/S1 Protein (S1 Subunit; aa 1-725; His Tag); coronavirus s1 Protein; MERS-CoV; coronavirus s2 Protein; coronavirus spike Protein; cov spike Protein; ncov RBD Protein; ncov s1 Protein; ncov s2 Protein; ncov spike Protein; RBD Protein; S Protein; s1 Protein; Spike RBD Protein; MERS-CoV active protein

PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>95% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Sequence	Met1-Glu725
Species	MERS-CoV
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Tyr 18
Tag	C-His
Protein Construction	A DNA sequence encoding the MERS-CoV spike protein S1 Subunit (AFS88936.1)(Met1-Glu725) was fused with a polyhistidine tag at the C-terminus.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Activity	Measured by its binding ability in a functional ELISA. Immobilized Spike Protein S1 (aa 1-725) at 2ug/ml (100uL/well) can bind biotinylated Fc-DPP4. The EC50 of biotinylated Fc-DPP4 is 15-60ng/mL.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.



SDS-PAGE

Application Data

1. Measured by its binding ability in a functional ELISA. Immobilized Spike Protein S1 (aa 1-725) at 10 ug/ml (100 ul/well) can bind biotinylated human DPP4. The EC50 of biotinylated DPP4 is 0.6-1.39 ug/ml. 2. Measured by its binding ability in a functional ELISA. Immobilized Spike Protein S1 (aa 1-725) at 10 ug/ml (100 ul/well) can bind biotinylated Fc-DPP4. The EC50 of biotinylated Fc-DPP4 is 0.02-0.05 ug/ml.

ADDITIONAL INFORMATION

Related Product Information for MERS-CoV active protein

Background: The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell. Known receptors bind S1 are ACE2, angiotensin-converting enzyme 2; DPP4, dipeptidyl peptidase-4; APN, aminopeptidase N; CEACAM, carcinoembryonic antigen-related cell adhesion molecule 1; Sia, sialic acid; O-ac Sia, O-acetylated sialic acid. The spike is essential for both host specificity and viral infectivity. The term 'peplomer' is typically used to refer to a grouping of heterologous proteins on the virus surface that function together. The spike (S) glycoprotein of coronaviruses is known to be essential in the binding of the virus to the host cell at the advent of the infection process. It's been reported that SARS-CoV-2 (COVID-19 coronavirus, 2019-nCoV) can infect the human respiratory epithelial cells through interaction with the human ACE2 receptor. The spike protein is a large type I transmembrane protein containing two subunits, S1 and S2. S1 mainly contains a receptor binding domain (RBD), which is responsible for recognizing the cell surface receptor. S2 contains basic elements needed for the membrane fusion. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity. The main functions for the Spike protein are summarized as: Mediate receptor binding and membrane fusion; Defines the range of the hosts and specificity of the virus; Main component to bind with the neutralizing antibody; Key target for vaccine design; Can be transmitted between different hosts through gene recombination or mutation of the receptor binding domain (RBD), leading to a higher mortality rate.

References

Shen S, et al. (2007) Expression, glycosylation, and modification of the spike (S) glycoprotein of SARS CoV. Methods Mol Biol. 379: 127-35. Du L, et al. (2009) The spike protein of SARS-CoV--a target for vaccine and therapeutic development. Nat Rev Microbiol. 7 (3): 226-36. Xiao X, et al. (2004) The SARS-CoV S glycoprotein. Cell Mol Life Sci. 61 (19-20): 2428-30.

NCBI AND UNIPROT INFORMATION

Molecular Weight

The recombinant spike protein S1 Subunit MERS-CoV comprises 719 amino acids and has a predicted molecular mass of 79.9kDa. As a result of glycosylation, it migrates as an approximately 94kDa band in SDS-PAGE under reducing conditions.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.