

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



Catalog Number:PKSV030242

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

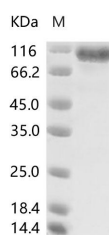
## Description

<b>Synonyms</b>	coronavirus s1 Protein;MERS-CoV;coronavirus s2 Protein;MERS-CoV;coronavirus spike Protein;MERS-CoV;cov spike Protein;MERS-CoV;ncov RBD Protein;MERS-CoV;ncov s1 Protein;MERS-CoV;ncov s2 Protein;MERS-CoV;ncov spike Protein;MERS-CoV;RBD Protein;MERS-CoV;S Protein;MERS-CoV;s1 Protein;MERS-CoV;Spike RBD Protein;MERS-CoV
<b>Species</b>	MERS-CoV
<b>Expression Host</b>	HEK293 Cells
<b>Sequence</b>	Met1-Glu725
<b>Accession</b>	AFS88936.1
<b>Calculated Molecular Weight</b>	79.9 kDa
<b>Observed molecular weight</b>	94 kDa
<b>Tag</b>	C-His

## Properties

<b>Purity</b>	> 95 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



> 95 % as determined by reducing SDS-PAGE.

## 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 spike (S) glycoprotein of

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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.

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