

Human coronavirus spike glycoprotein Protein (isolate HKU1) (aa 1-760, His Tag)

Catalog Number: 40021-V08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

S; S; S1

Protein Construction:

A DNA sequence encoding the N-terminal fragment of human coronavirus (isolate HKU1) spike glycoprotein (YP_173238.1) (Met 1-Arg 760), corresponding to the S1 region, was fused with a polyhistidine tag at the C-terminus.

Source: HCoV

Expression Host: Human Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA. Immobilized Spike-His (aa 1-760) (Cat: 40021-V08H) at 10 µg/ml (100 µl/well) can bind biotinylated human ACE2-Fc (Cat: 10108-H02H) with a linear range of 0.16-4.0 µg/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gly 16

Molecular Mass:

The secreted recombinant human coronavirus spike glycoprotein (aa 1-760) comprises 756 amino acids with a predicted molecular mass of 85.8 kDa. As a result of high glycosylation, the apparent molecular mass of the recombinant protein is approximately 130-140 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

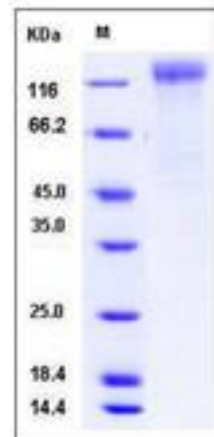
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell: they are 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. Most notable is severe acute respiratory syndrome (SARS). The severe acute respiratory syndrome-coronavirus (SARS-CoV) spike (S) glycoprotein alone can mediate the membrane fusion required for virus entry and cell fusion. It is also a major immunogen and a target for entry inhibitors. The SARS-CoV spike (S) protein is composed of two subunits; the S1 subunit contains a receptor-binding domain that engages with the host cell receptor angiotensin-converting enzyme 2 and the S2 subunit mediates fusion between the viral and host cell membranes. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity, during infection with SARS-CoV.

References

1. Shen S, *et al.* (2007) Expression, glycosylation, and modification of the spike (S) glycoprotein of SARS CoV. *Methods Mol Biol.* 379: 127-35.
2. 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.
3. Xiao X, *et al.* (2004) The SARS-CoV S glycoprotein. *Cell Mol Life Sci.* 61 (19-20): 2428-30.

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