
Recombinant SARS-CoV-2 Spike Glycoprotein(S) (D614G), Partial

(Catalog # E80028)

Background

Spike protein S1 attaches the virion to the cell membrane by interacting with the host receptor, initiating the infection (By similarity). Binding to human ACE2 receptor and internalization of the virus into the endosomes of the host cell induces conformational changes in the Spike glycoprotein. Uses also human TMPRSS2 for priming in human lung cells which is an essential step for viral entry. Proteolysis by cathepsin CTSL may unmask the fusion peptide of S2 and activate membranes fusion within endosomes. Spike protein S2 mediates fusion of the virion and cellular membranes by acting as a class I viral fusion protein. Under the current model, the 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.

Description

Recombinant Human Novel Coronavirus Spike glycoprotein(S), expressed in Mammalian cell at the 16-685aa region

Purity

Greater than 90% as determined by SDS-PAGE.

Formulation

Lyophilized powder: The buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Species

SARS-CoV-2

Calculated MW

116 kDa

Expressed Host

Mammalian cell (Expression Region 16-685aa (D614G))

Tag

N-terminal 10xHis-tagged and C-terminal Flag-tagged

Uniprot ID

P0DTC2

Storage

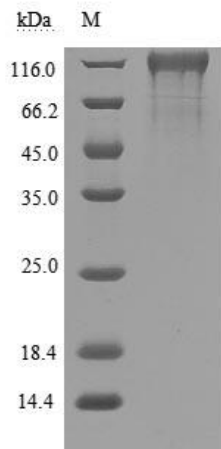
Store at -20°C upon receipt, aliquoting is necessary for multiple use. Avoid repeated freeze-thaw cycles.

Reconstitution

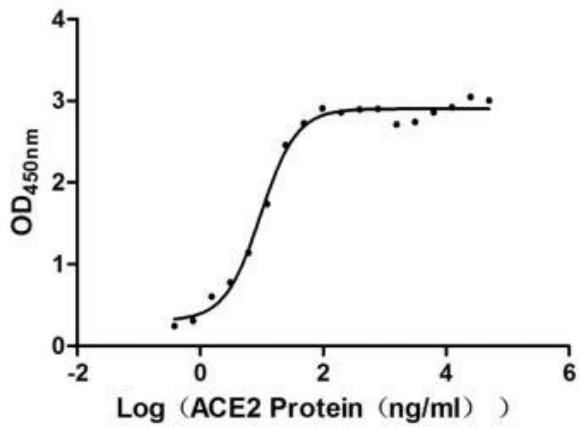
We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as a reference.

Alternative Names

Spike glycoprotein



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S1 (D614G) at 2 µg/ml can bind human ACE2, the EC₅₀ is 8.236-11.22 ng/ml [$\log(8.236-11.22) = 0.92-1.05$ as indicated in graph].