

SARS-COV-2 Spike S Trimer Protein (D614G, His & Avi)

General Information

Synonyms:	S protein;Spike glycoprotein;COVID-19;S glycoprotein
Protein Construction:	Val16-Glu1188 (D614G)
Species:	SARS-CoV-2
Expression Host:	HEK293 Cells
Accession:	A0A6G7K2L4
Molecular Weight:	136.7 kDa (predicted). Due to glycosylation, the protein migrates to 175-230 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Immobilized SARS-COV-2 Spike S Trimer (D614G) , His Tag at 1µg/ml (100µl/well) on the plate. Dose response curve for Human ACE2, hFc Tag with the EC50 of 10.6ng/ml determined by ELISA.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The SARS-CoV-2 spike (S) protein variant D614G supplanted the ancestral virus worldwide, reaching near fixation in a matter of months. Recently, that D614G was been found more infectious than the ancestral form on human lung cells, colon cells, and on cells rendered permissive by ectopic expression of human ACE2 or of ACE2 orthologs from various mammals, including Chinese rufous horseshoe bat and Malayan pangolin.

Reference

Yurkovetskiy L, et al. Structural and Functional Analysis of the D614G SARS-CoV-2 Spike Protein Variant. Cell. 2020 Oct 29;183(3):739-75e8. doi: 10.1016/j.cell.2020.09.032. Epub 2020 Sep 15. PMID: 32991842; PMCID: PMC7492024.

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