Data Sheet (Cat.No.TMPK-00436)

TargetMol

SARS-COV-2 Spike S1 Protein (D614G, His & Avi)

General Information

Synonyms:	Spike,S1 protein;Spike protein S1;S glycoprotein Subunit1;S1 protein
Protein Construction:	Gln14-Arg683(D614G)
Species:	SARS-CoV-2
Expression Host:	HEK293 Cells
Accession:	A0A6G7K2L4
Molecular Weight:	77.9 kDa (predicted). Due to glycosylation, the protein migrates to 110-120 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Immobilized SARS-CoV-2 S1 (D614G) , His Tag at 2μg/ml (100μl/Well) on plate.Dose response curve for Human ACE2, hFc Tag with the EC50 of 23.7ng/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 is the target of vaccine design efforts to end the COVID-19 pandemic. Despite a low mutation rate, isolates with the D614G substitution in the S protein appeared early during the pandemic, and are now the dominant form worldwide. Here, we analyze the D614G mutation in the context of a soluble S ectodomain construct.

Reference

Zhang L, et al. The D614G mutation in the SARS-CoV-2 spike protein reduces S1 shedding and increases infectivity. bioRxiv [Preprint]. 2020 Jun 12:2020.06.12.148726. doi: 10.1101/2020.06.12.148726. Update in: Nat Commun. 2020 Nov 26;11(1):6013. PMID: 32587973; PMCID: PMC731063

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