Synonym

Spike,S protein RBD,Spike glycoprotein Receptor-binding domain,S glycoprotein RBD,Spike protein RBD

Source

SARS-CoV-2 Spike RBD (K417N, E484K, N501Y), Mouse IgG1 Fc Tag (SPD-C5254) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # QHD43416.1(K417N, E484K, N501Y)). K417N / E484K / N501Y mutations were identified in the SARS-CoV-2 Beta variant (Pango lineage: B.1.351; other names: 20H/501Y.V2).
Predicted N-terminus: Arg 319

Molecular Characterization



This protein carries a mouse IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 50.9 kDa. The protein migrates as 55-60 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.1 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris,100 mM Glycine,25 mM Arginine,150 mM NaCl,pH7.5. Normally trehalose is added as protectant before lyophilization.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

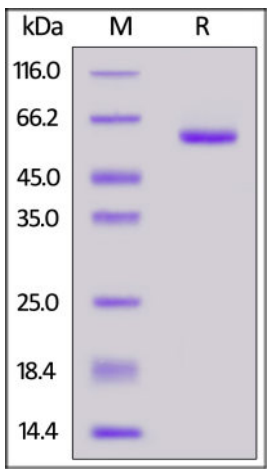
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

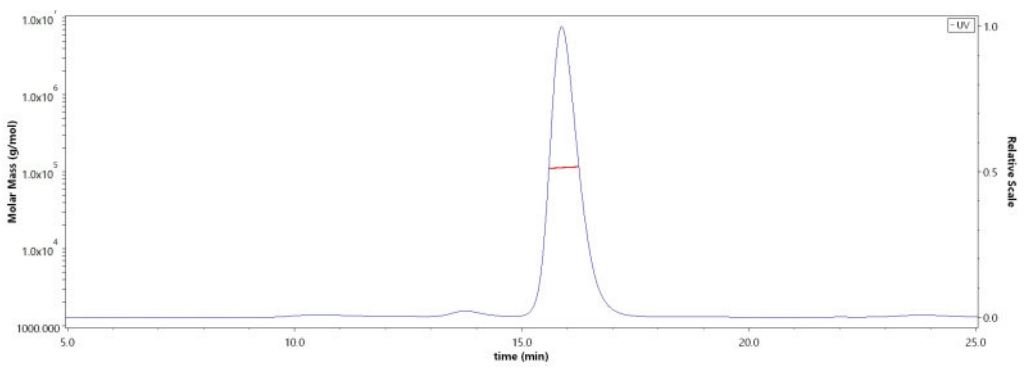
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



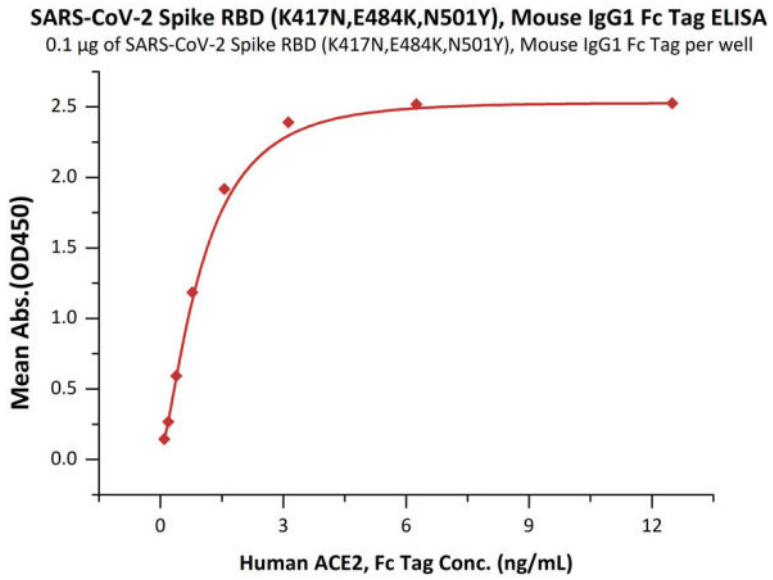
SARS-CoV-2 Spike RBD (K417N, E484K, N501Y), Mouse IgG1 Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS



The purity of SARS-CoV-2 Spike RBD (K417N, E484K, N501Y), Mouse IgG1 Fc Tag (Cat. No. SPD-C5254) was more than 90% and the molecular weight of this protein is around 100-120kDa verified by SEC-MALS.
Report

Bioactivity-ELISA



Immobilized SARS-CoV-2 Spike RBD (K417N, E484K, N501Y), Mouse IgG1 Fc Tag (Cat. No. SPD-C5254) at 1 μg/mL (100 μL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.1-2 ng/mL (QC tested).

Background

It's been reported that Coronavirus 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.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.