

Synonym

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

Source

SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag (SPD-C5226) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#) (K417N, L452R, T478K)). The mutations K417N, L452R, T478K were identified in the SARS-CoV-2 Delta sub-lineages (Pango lineage: AY.1, AY.2, AY.3; also known as "Delta Plus").

Predicted N-terminus: Arg 319

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 26.6 kDa. The protein migrates as 33-35 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 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 PBS, pH7.3 with trehalose as protectant.

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

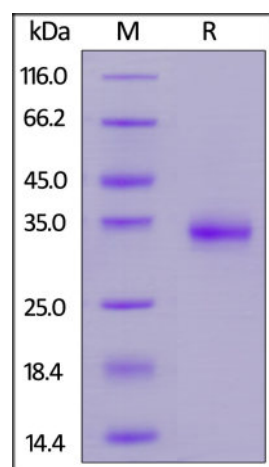
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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.

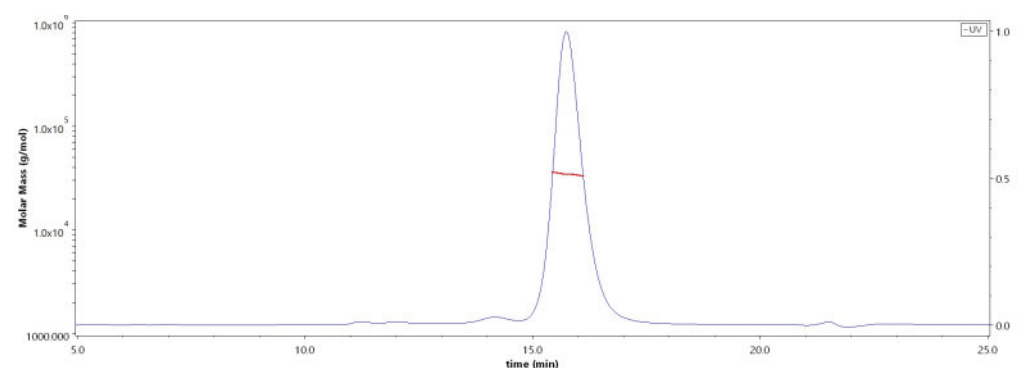
SDS-PAGE



SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His 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%.

Bioactivity-ELISA

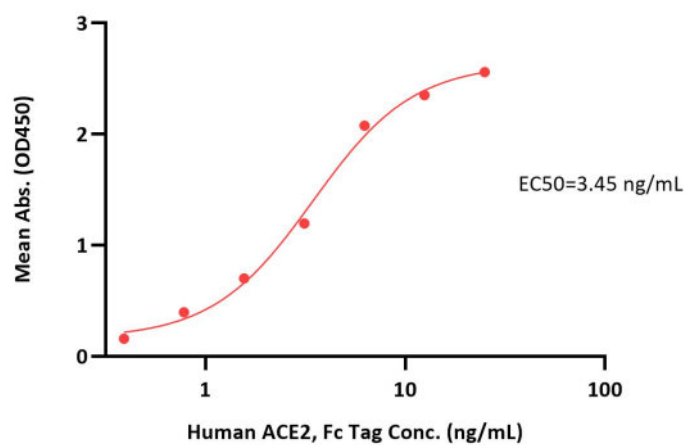
SEC-MALS



The purity of SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag (Cat. No. SPD-C5226) is more than 90% and the molecular weight of this protein is around 30-40 kDa verified by SEC-MALS.

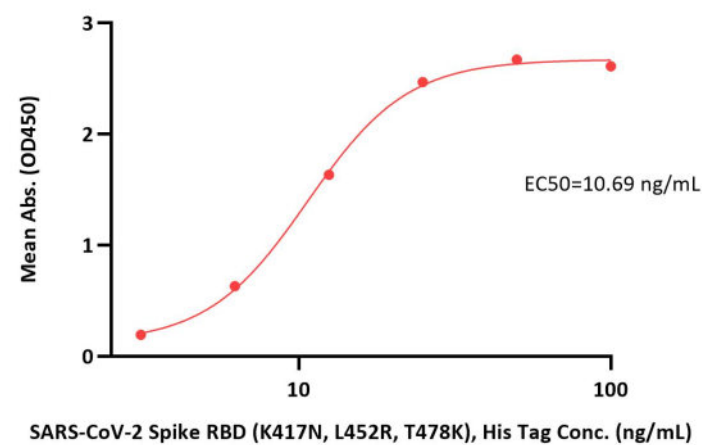
[Report](#)

SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag ELISA
0.1 µg of SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag per well



Immobilized SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag (Cat. No. SPD-C5226) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.4-6 ng/mL (QC tested).

SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag ELISA
0.1 µg of Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 per well



Immobilized Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (Cat. No. S1N-M122) at 1 µg/mL (100 µL/well) can bind SARS-CoV-2 Spike RBD (K417N, L452R, T478K), His Tag (Cat. No. SPD-C5226) with a linear range of 3-13 ng/mL (Routinely 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.