



## Synonym

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

## Source

SARS-CoV-2 Spike RBD (L452R, T478K), His Tag (SPD-C52Hh) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#) (L452R, T478K)). The mutations (L452R, T478K) were identified in the SARS-CoV-2 Delta variant (Pango lineage: B.1.617.2; other names: 21A/S:478K).

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  $\mu$ g by the LAL method / rFC method.

## Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

## Formulation

Lyophilized from 0.22  $\mu$ m filtered solution in PBS, pH7.4 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

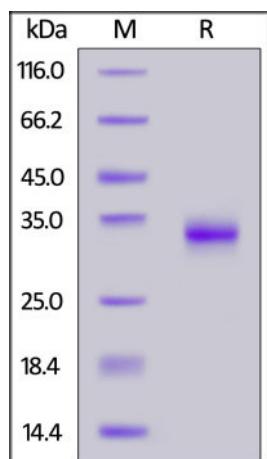
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

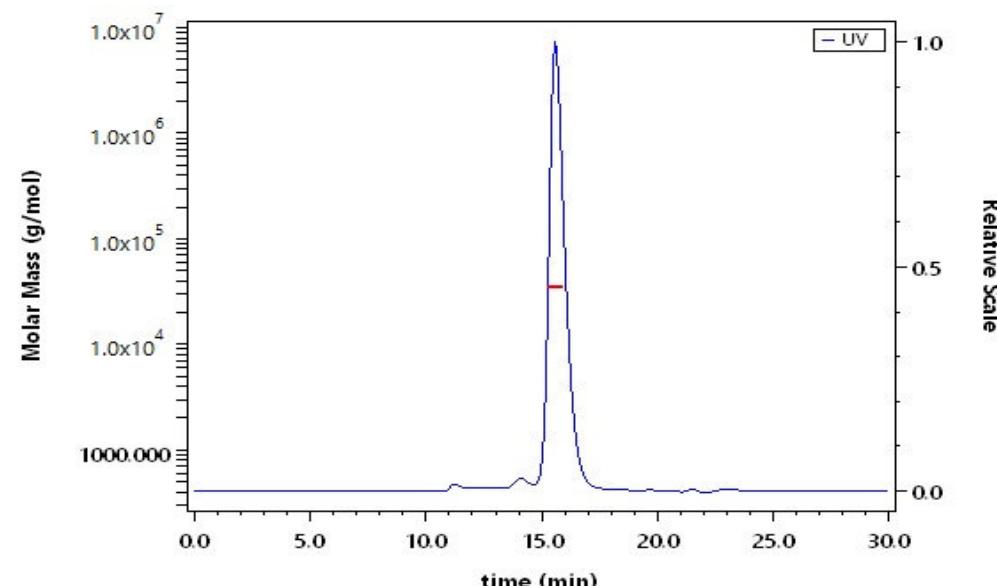
- 20°C to -70°C for 12 months in lyophilized state;
- 70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE



SARS-CoV-2 Spike RBD (L452R, T478K), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

## SEC-MALS



The purity of SARS-CoV-2 Spike RBD (L452R, T478K), His Tag (Cat. No. SPD-C52Hh) is more than 90% and the molecular weight of this protein is around 30-40 kDa verified by SEC-MALS.

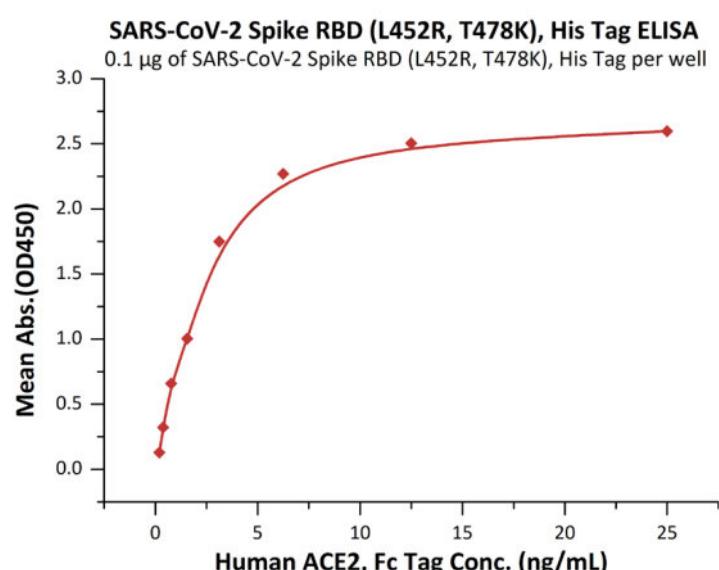
[Report](#)

## Bioactivity-ELISA

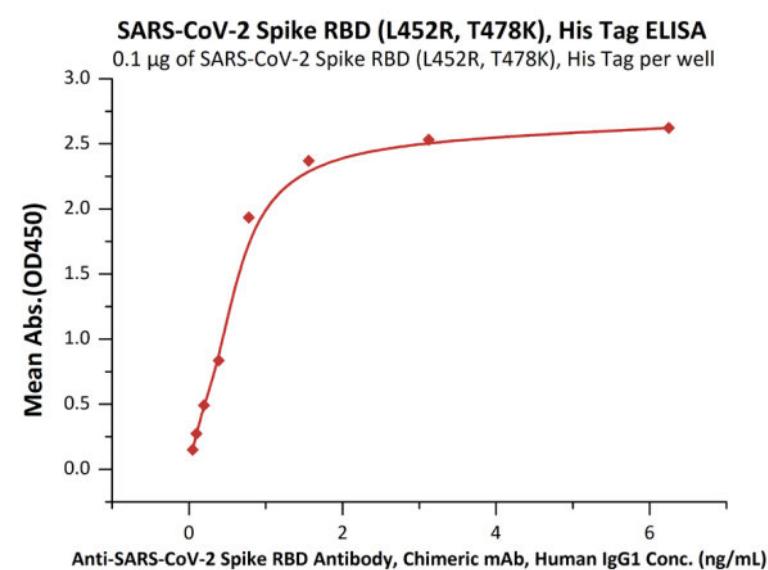
Discounts, Gifts,  
and more!



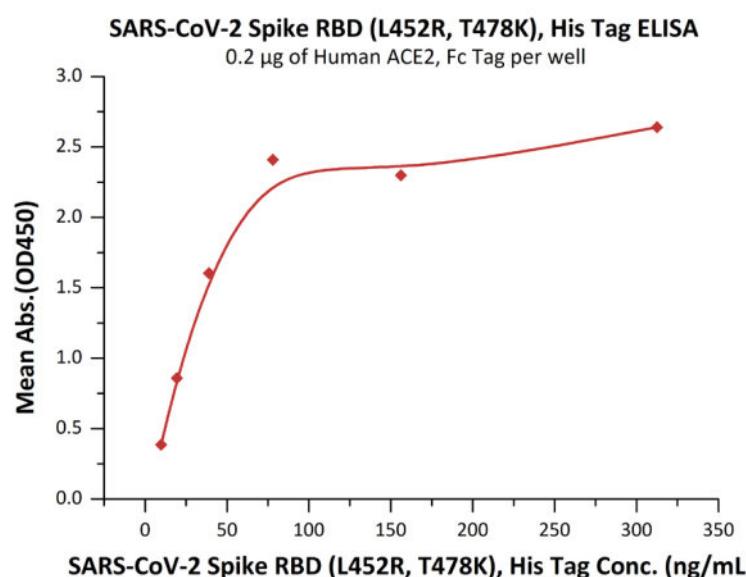
» [www.acrobiosystems.com](http://www.acrobiosystems.com)



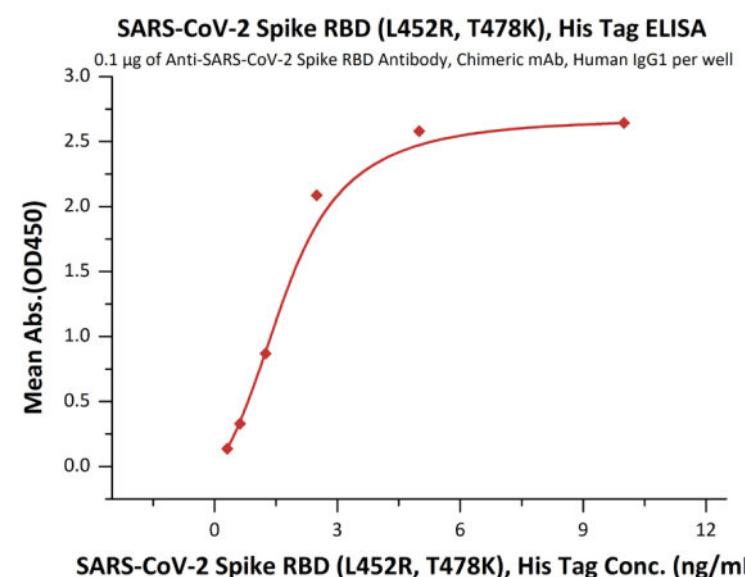
Immobilized SARS-CoV-2 Spike RBD (L452R, T478K), His Tag (Cat. No. SPD-C52Hh) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.2-3 ng/mL (QC tested).



Immobilized SARS-CoV-2 Spike RBD (L452R, T478K), His Tag (Cat. No. SPD-C52Hh) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Spike RBD Antibody, Chimeric mAb, Human IgG1 (Cat. No. S1N-M122) with a linear range of 0.1-1 ng/mL (Routinely tested).

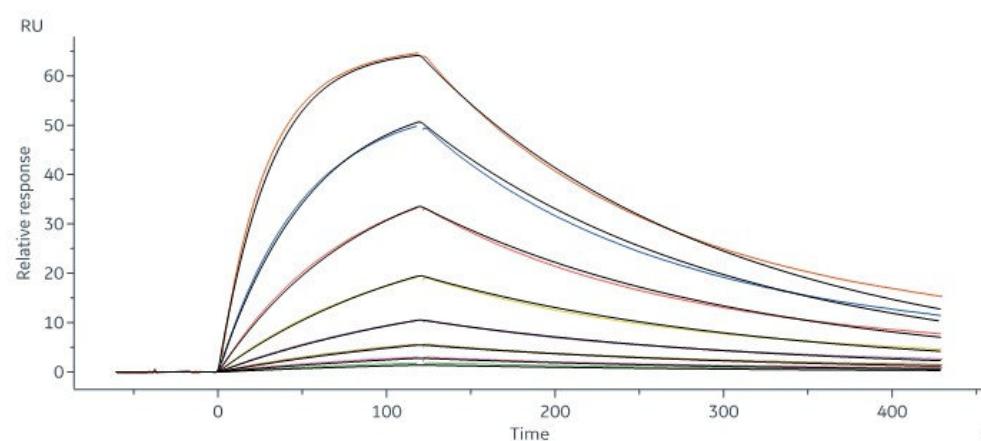


Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 2 µg/mL (100 µL/well) can bind SARS-CoV-2 Spike RBD (L452R, T478K), His Tag (Cat. No. SPD-C52Hh) with a linear range of 20-78 ng/mL (Routinely tested).



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 (L452R, T478K), His Tag (Cat. No. SPD-C52Hh) with a linear range of 0.3-3 ng/mL (Routinely tested).

## Bioactivity-SPR



Human ACE2, Fc Tag (Cat. No. AC2-H5257) captured on CM5 chip via Anti-human IgG Fc antibodies surface can bind SARS-CoV-2 Spike RBD (L452R, T478K), His Tag (Cat. No. SPD-C52Hh) with an affinity constant of 9.39 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

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and more!





## 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.

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