

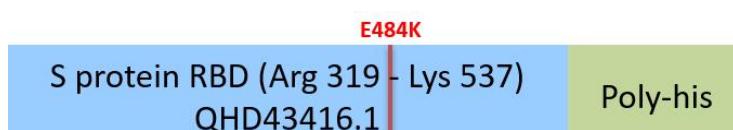
**Synonym**

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

**Source**

SARS-CoV-2 S protein RBD (E484K), His Tag (SRD-C52H3) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#) (E484K)). E484K mutation was 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 polyhistidine tag at the C-terminus.

The protein has a calculated MW of 26.5 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**

>95% 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.*

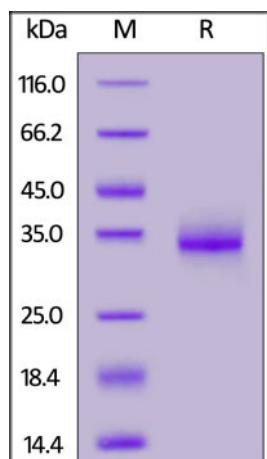
**Storage**

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

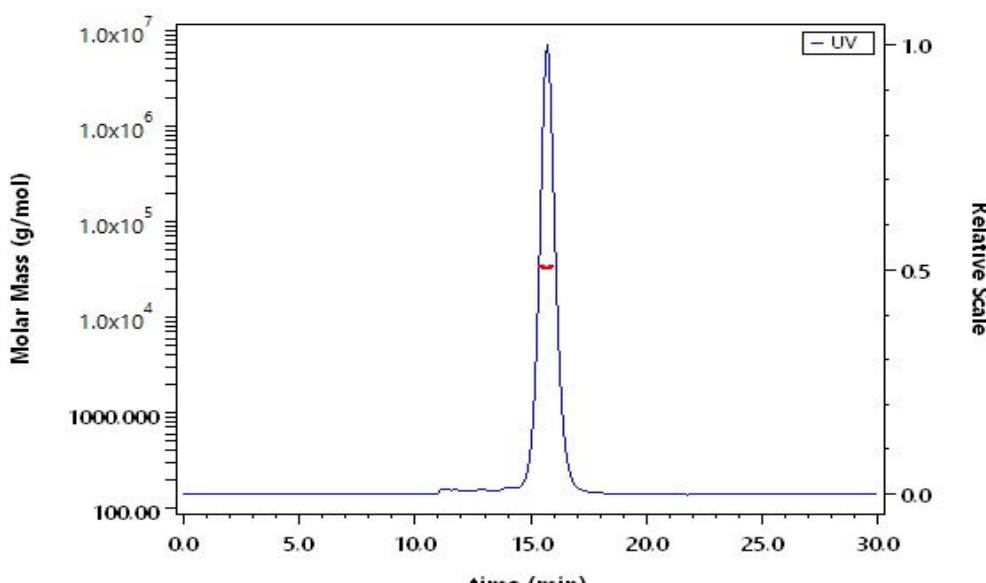
*Please avoid repeated freeze-thaw cycles.*

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 S protein RBD (E484K), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

**SEC-MALS**

The purity of SARS-CoV-2 S protein RBD (E484K), His Tag (Cat. No. SRD-C52H3) is more than 90% and the molecular weight of this protein is around 30-40 kDa verified by SEC-MALS.

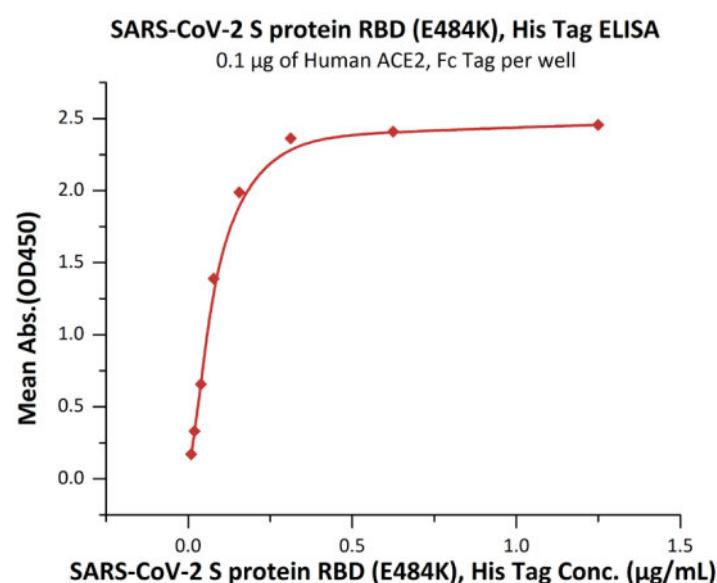
[Report](#)

**Bioactivity-ELISA**

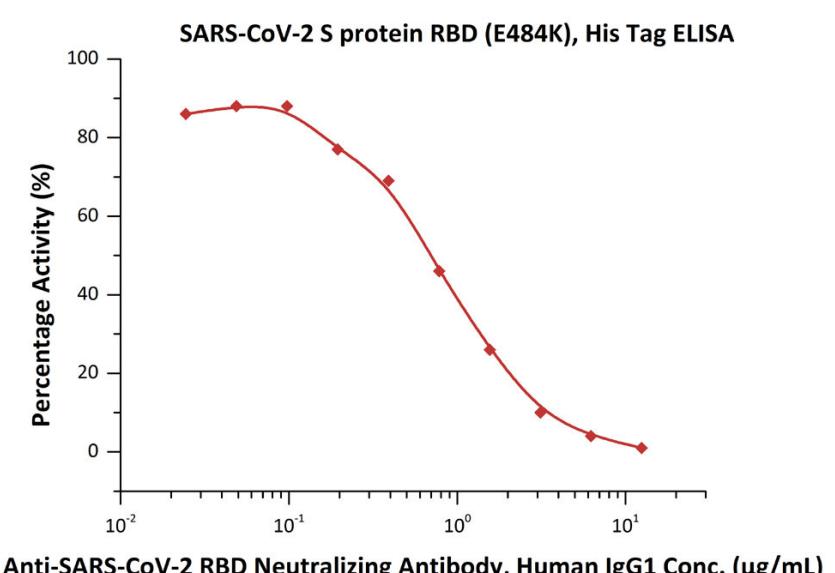
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Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 1 µg/mL (100 µL/well) can bind SARS-CoV-2 S protein RBD (E484K), His Tag (Cat. No. SRD-C52H3) with a linear range of 0.01-0.156 µg/mL (QC tested).



Serial dilutions of Anti-SARS-CoV-2 RBD Neutralizing Antibody, Human IgG1 (Cat. No. SAD-S35) were added into SARS-CoV-2 S protein RBD (E484K), His Tag (Cat. No. SRD-C52H3): Biotinylated Human ACE2, His, Avitag (Cat. No. AC2-H82E6) binding reactions. The half maximal inhibitory concentration (IC50) is 0.82098 (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.

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