



## Synonym

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

## Source

SARS-CoV-2 Spike RBD Protein, His Tag (BA.2.86/V483del/USA) (SPD-C5247) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Lys 537 (Accession # [QHD43416.1](#) (I332V,G339H,K356T,S371F,S373P,S375F,T376A,R403K,D405N,R408S,K417 N,N440K,V445H,G446S,N450D,L452W,N460K,S477N,T478K,N481K,V483de 1,E484K,F486P,Q498R,N501Y,Y505H)). The spike mutations are identified on the SARS-CoV-2 Omicron variant (Pango lineage: BA.2.86/V483del/USA). Predicted N-terminus: Arg 319

## Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 26.7 kDa. The protein migrates as 38-43 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) 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.

## 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

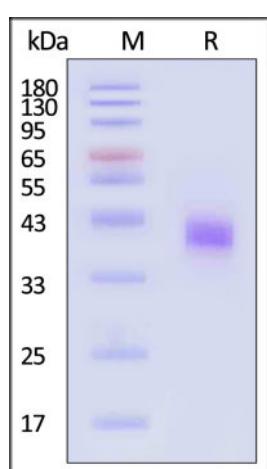
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

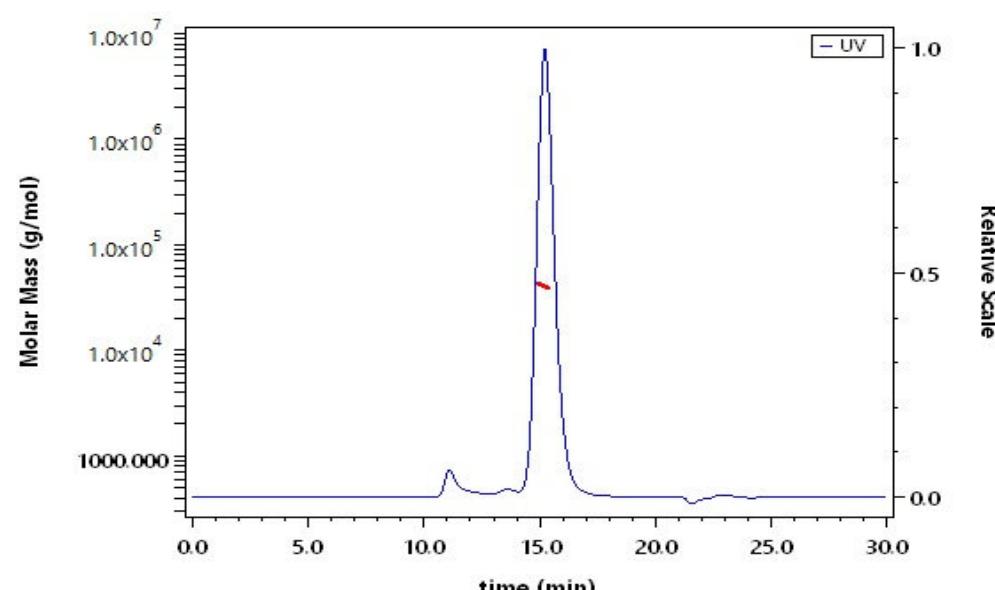
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE



SARS-CoV-2 Spike RBD Protein, His Tag (BA.2.86/V483del/USA) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

## SEC-MALS

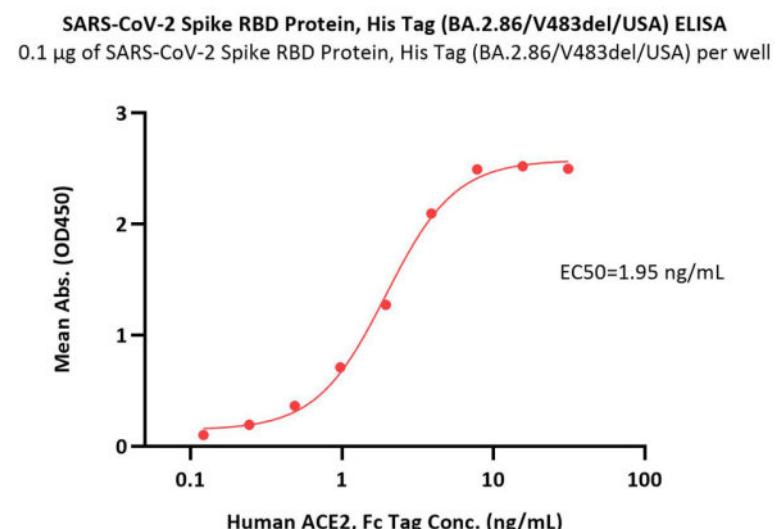
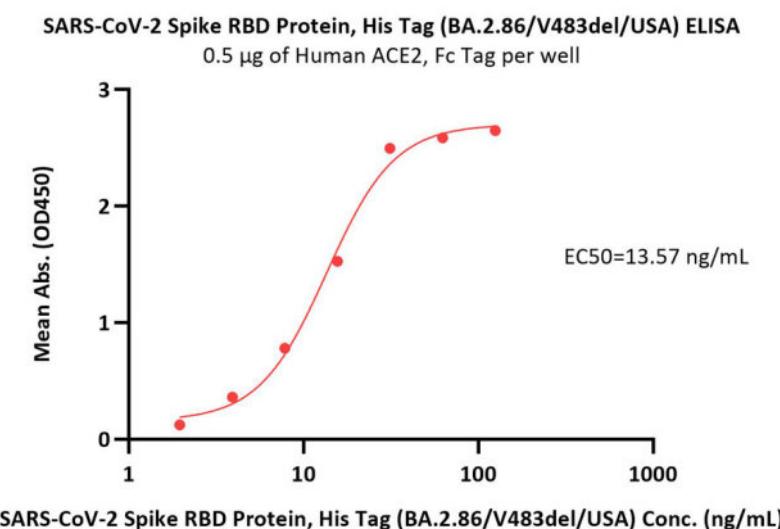


The purity of SARS-CoV-2 Spike RBD Protein, His Tag (BA.2.86/V483del/USA) (Cat. No. SPD-C5247) is more than 85% and the molecular weight of this protein is around 35-45 kDa verified by SEC-MALS. [Report](#)

## Bioactivity-ELISA

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Immobilized Human ACE2, Fc Tag (Cat. No. AC2-H5257) at 5 µg/mL (100 µL/well) can bind SARS-CoV-2 Spike RBD Protein, His Tag (BA.2.86/V483del/USA) (Cat. No. SPD-C5247) with a linear range of 1.953-31.25 ng/mL (QC tested).

Immobilized SARS-CoV-2 Spike RBD Protein, His Tag (BA.2.86/V483del/USA) (Cat. No. SPD-C5247) at 1 µg/mL (100 µL/well) can bind Human ACE2, Fc Tag (Cat. No. AC2-H5257) with a linear range of 0.122-3.906 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.

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