

# SARS-COV-2 Spike RBD (N501Y) Protein

Cat. No. COV-VM1BY

## Description

<b>Source</b>	Recombinant SARS-COV-2 Spike RBD (N501Y) Protein is expressed from HEK293 with His tag at the C-Terminus. It contains Arg319-Phe541(N501Y).
<b>Accession</b>	QHD43416.1
<b>Molecular Weight</b>	The protein has a predicted MW of 26.2 kDa. Due to glycosylation, the protein migrates to 36-40 kDa based on Tris-Bis PAGE result.
<b>Endotoxin</b>	Less than 1EU per µg by the LAL method.
<b>Purity</b>	> 95% as determined by Tris-Bis PAGE > 95% as determined by HPLC

## Formulation and Storage

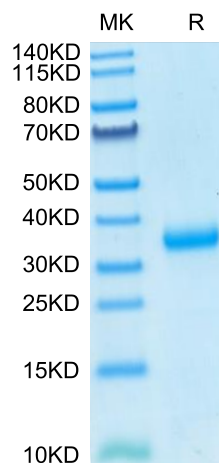
<b>Formulation</b>	Lyophilized from 0.22µm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.
<b>Reconstitution</b>	Centrifuge the tube before opening. Reconstituting to a concentration more than 100 µg/ml is recommended. Dissolve the lyophilized protein in distilled water.
<b>Storage</b>	-20 to -80°C for 12 months as supplied from date of receipt. -20 to -80°C for 3-6 months in unopened state after reconstitution. 2-8°C for 2-7 days after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.

## Background

The ongoing coronavirus disease 2019 (COVID-19) pandemic has prioritized the development of small-animal models for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The resulting mouse-adapted strain at passage 6 (called MASCP6) showed increased infectivity in mouse lung and led to interstitial pneumonia and inflammatory responses in both young and aged mice after intranasal inoculation. Deep sequencing revealed a panel of adaptive mutations potentially associated with the increased virulence. In particular, the N501Y mutation is located at the receptor binding domain (RBD) of the spike protein.

## Assay Data

### Tris-Bis PAGE



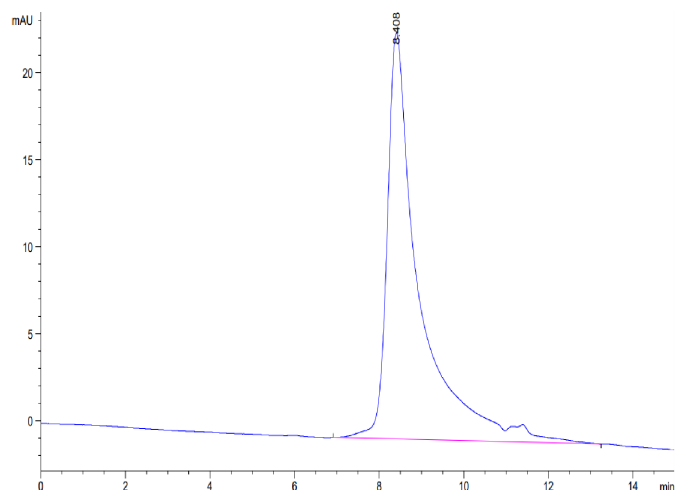
SARS-COV-2 Spike RBD (N501Y) on Tris-Bis PAGE under reduced condition. The purity is greater than 95%.

### SEC-HPLC

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## Assay Data

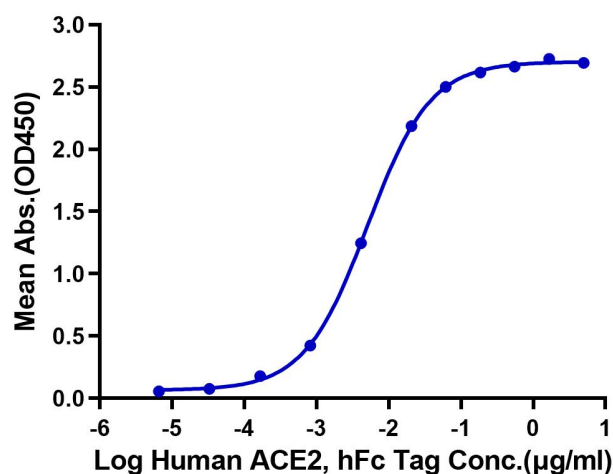


The purity of SARS-COV-2 Spike RBD (N501Y) is greater than 95% as determined by SEC-HPLC.

## ELISA Data

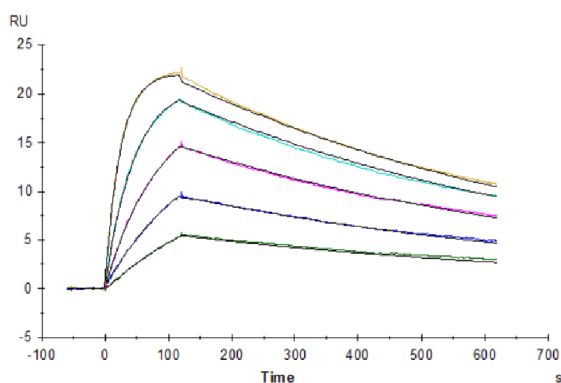
### SARS-COV-2 Spike RBD (N501Y), His Tag ELISA

0.05µg SARS-COV-2 Spike RBD (N501Y), His Tag Per Well



Immobilized SARS-COV-2 Spike RBD (N501Y) , His Tag at 0.5µg/ml (100µl/Well) on the plate. Dose response curve for Human ACE2, hFc Tag with the EC50 of 5.1ng/ml determined by ELISA (QC Test).

## SPR Data



Human ACE2 captured on Protein A chip, can bind SARS-COV-2 Spike RBD (N501Y) , His Tag with an affinity constant of 1.74nM as determined in a SPR assay (Biacore T200).