

Synonym

S protein RBD, Spike glycoprotein Receptor-binding domain, S glycoprotein RBD, Spike protein RBD, COVID-19

Source

2019-nCoV (COVID-19) S protein RBD, Fc Tag (MALS verified) (AMS.SPD-C5255) is expressed from human 293 cells (HEK293). It contains AA Arg 319 - Phe 541 (Accession # QHD43416.1). Predicted N-terminus: Arg 319

Molecular Characterization

S protein RBD(Arg 319 - Phe 541) QHD43416.1	Fc(Pro 100 - Lys 330) P01857
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This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 51.5 kDa. The protein migrates as 58-65 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, pH7.4. Normally trehalose is added as protectant before lyophilization.

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

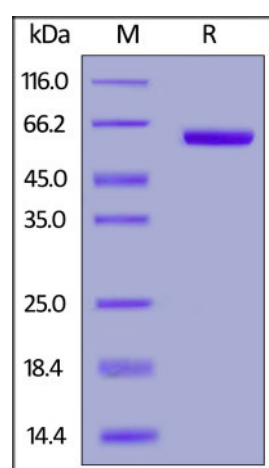
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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.

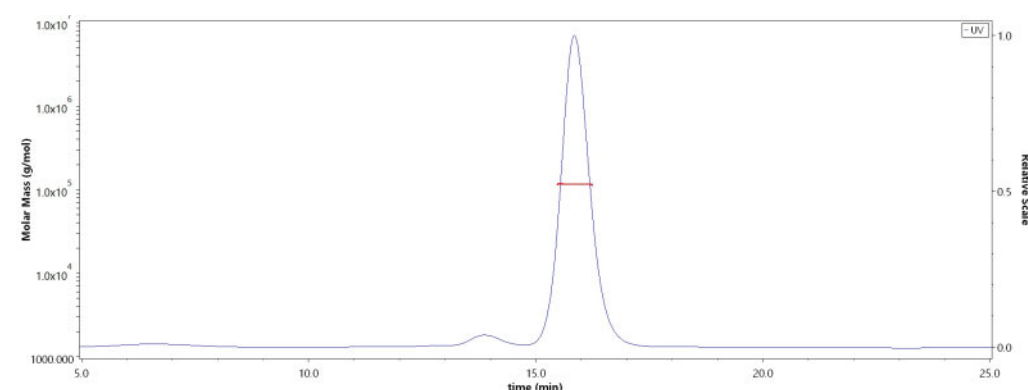
SDS-PAGE



2019-nCoV (COVID-19) S protein RBD, Fc Tag (MALS verified) 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

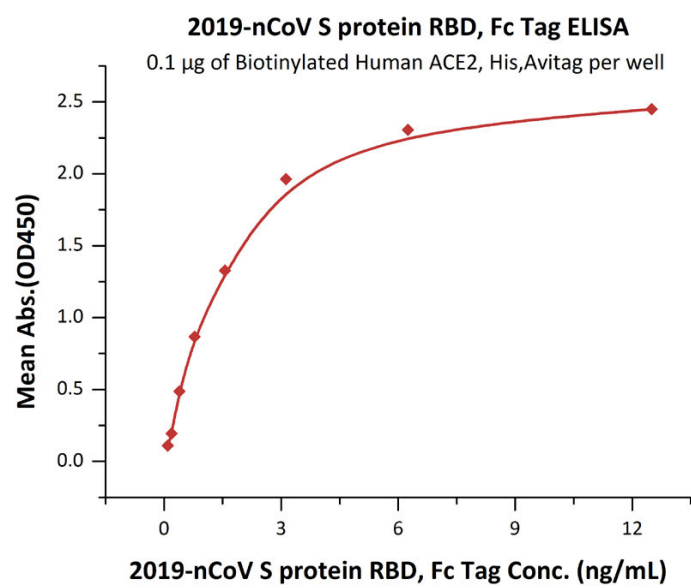
SEC-MALS



The purity of 2019-nCoV (COVID-19) S protein RBD, Fc Tag (MALS verified) (Cat. No. AMS.SPD-C5255) was more than 90% in HP-SEC, and around 110-125 kDa verified by SEC-MALS.

2019-nCoV (COVID-19) S protein RBD, Fc Tag (MALS verified)

Catalog # AMS.SPD-C5255



Immobilized Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat.No. AMS.AC2-H82E6) at 1 µg/mL (100 µL/well) on streptavidin precoated (0.5 µg/well) plate, can bind 2019-nCoV (COVID-19) S protein RBD, Fc Tag (MALS verified) (Cat. No. AMS.SPD-C5255) with a linear range of 0.1-3 ng/mL (QC tested).

Background

Protein S (PROS1) is glycoprotein and expressed in many cell types supporting its reported involvement in multiple biological processes that include coagulation, apoptosis, cancer development and progression, and the innate immune response. Known receptors bind S1 are ACE2, angiotensin-converting enzyme 2, DPP4, CEACAM etc.. It's been reported that 2019-nCoV 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.

References

- (1) [Wan Y, et al. J Virol. 2020. pii: JVI.00127-20.](#)
- (2) [Benvenuto D, et al. J Med Virol. 2020.](#)
- (3) [Chang CY, et al. AMB Express. 2020. 10\(1\):20.](#)

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