

Biotinylated Human ACE2 / ACEH Protein, His,Avitag™ (MALS verified)

Catalog # AC2-H82E6

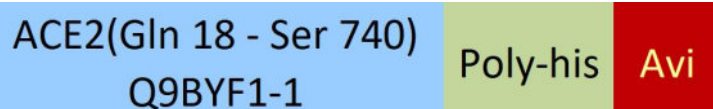
Synonym

ACE-2,ACEH,ACE2

Source

Biotinylated Human ACE2, His,Avitag (MALS verified) (AC2-H82E6) is expressed from human 293 cells (HEK293). It contains AA Gln 18 - Ser 740 (Accession # Q9BYF1-1).

Predicted N-terminus: Gln 18

Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag.

The protein has a calculated MW of 87.2 kDa. The protein migrates as 95-125 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Biotinylation

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Delivered as bulk protein in a 0.2 µm filtered solution of 50 mM Tris, 150 mM NaCl, pH7.5 with glycerol as protectant.

Contact us for customized product form or formulation.

Storage

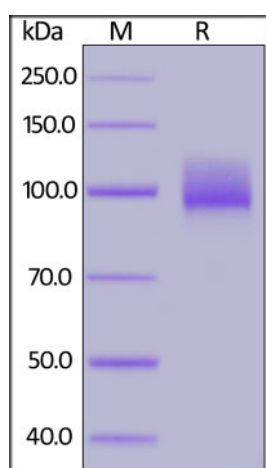
Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

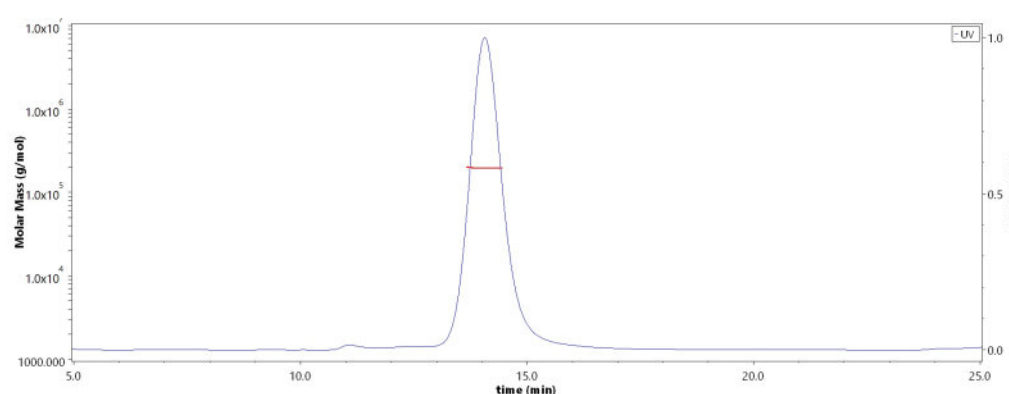
- The product **MUST** be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

Shipping

This product is supplied as sterile liquid solution and shipped frozen with dry ice, please inquire the shipping cost.

SDS-PAGE

Biotinylated Human ACE2, His,Avitag (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 90%.

Bioactivity-ELISA**SEC-MALS**

The purity of Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. AC2-H82E6) was more than 90% and around 190-230 kDa verified by SEC-MALS.

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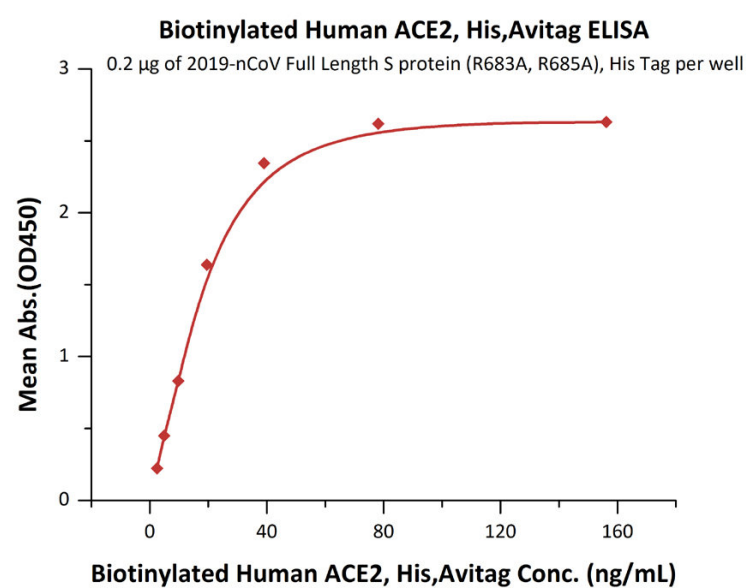
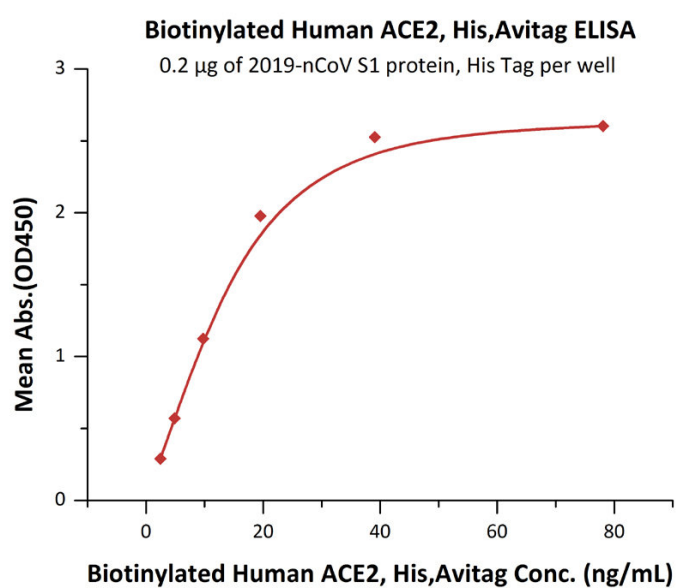
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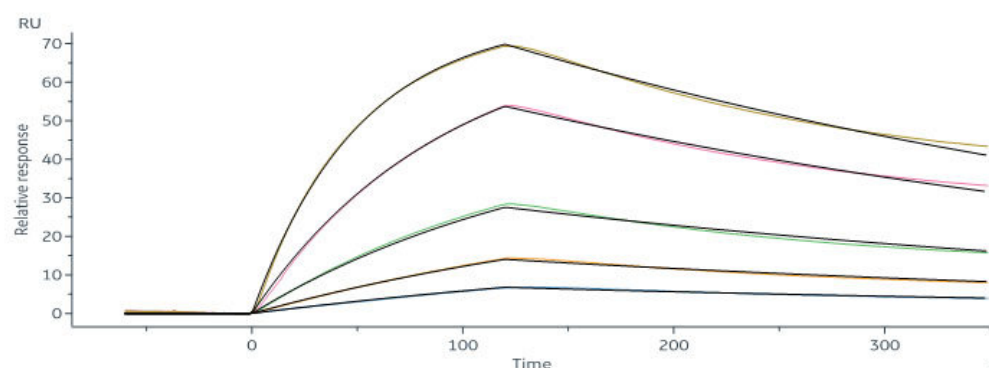
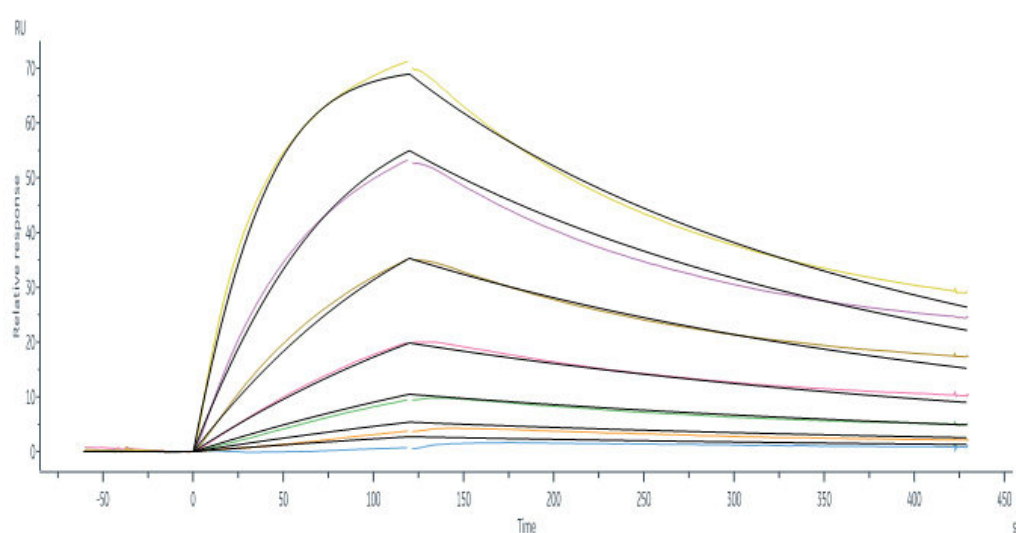
Catalog # AC2-H82E6



Immobilized 2019-nCoV S1 protein, His Tag (Cat. No. [S1N-C52H3](#)) at 2 µg/mL (100 µL/well) can bind Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. [AC2-H82E6](#)) with a linear range of 2-20 ng/mL (QC tested).

Immobilized 2019-nCoV Full Length S protein (R683A, R685A), His Tag (Cat. No. [SPN-C52H4](#)) at 2 µg/mL (100 µL/well) can bind Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. [AC2-H82E6](#)) with a linear range of 2-20 ng/mL (Routinely tested).

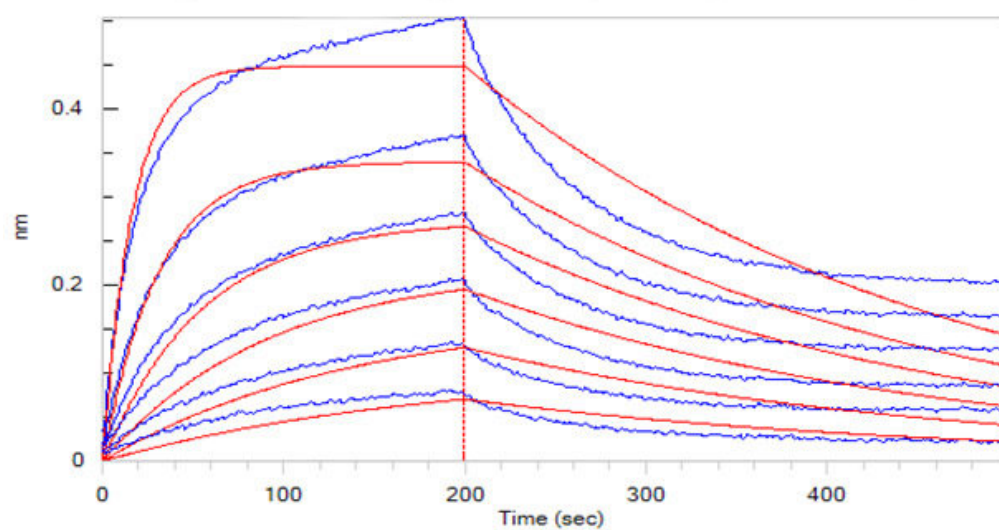
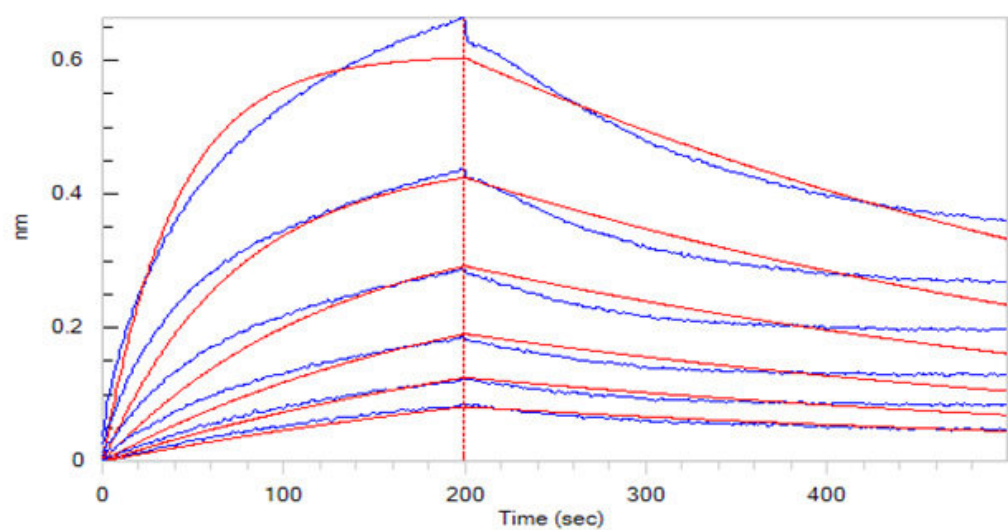
Bioactivity-SPR



Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. AC2-H82E6) captured on Biotin CAP - Series S sensor Chip can bind 2019-nCoV Full Length S protein (R683A, R685A), His Tag (Cat. No. SPN-C52H4) with an affinity constant of 54.5 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. AC2-H82E6) captured on Biotin CAP - Series S sensor Chip can bind 2019-nCoV S1 protein, His Tag (Cat. No. S1N-C52H3) with an affinity constant of 16.7 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Bioactivity-BLI



Biotinylated Human ACE2 / ACEH Protein, His,Avitag™ (MALS verified)

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Loaded Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. AC2-H82E6) on SA Biosensor, can bind 2019-nCoV Full Length S protein (R683A, R685A), His Tag (Cat. No. SPN-C52H4) with an affinity constant of 42.8 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Loaded Biotinylated Human ACE2, His,Avitag (MALS verified) (Cat. No. AC2-H82E6) on SA Biosensor, can bind 2019-nCoV S1 protein, His Tag (Cat. No. S1N-C52H3) with an affinity constant of 33.3 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

Angiotensin-converting enzyme 2 (ACE2) is also known as ACEH (ACE homolog), is an integral membrane protein with considerable homologous to ACE, which belongs to the peptidase M2 family. ACE2 is an exopeptidase that catalyses the conversion of angiotensin I to the nonapeptide angiotensin, or the conversion of angiotensin II to angiotensin 1-7. ACE2 may be an important regulator of heart function. In case of human coronaviruses SARS and HCoV-NL63 infections, ACE-2 serve as functional receptor for the spike glycoprotein of both coronaviruses. ACE2 is activated by chloride and fluoride, but not bromide and Inhibited by MLN-4760, cFP_Leu, and EDTA, but not by the ACE inhibitors losinipril, captopril and enalaprilat. ACE2 is active from pH 6 to 9, and the optimum pH is 6.5 in the presence of 1 M NaCl.

References

- (1) [Turner AJ., et al., 2002, Can. J. Physiol. Pharmacol. 80 \(4\): 346–53.](#)
- (2) [Katovich MJ., et al., 2005, Exp. Physiol. 90 \(3\): 299–305.](#)
- (3) [Donoghue M., et al., 2000, Circ. Res. 87:E1-E9.](#)
- (4) [Tipnis S.R., et al., 2000, J. Biol. Chem. 275:33238-33243.](#)
- (5) [Vickers C., et al., 2002, J. Biol. Chem. 277:14838-14843.](#)

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