Datasheet for ABIN6952457

SARS-CoV-2 Spike S1 Protein (His tag,AVI tag,Biotin)

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Overview

Quantity:	200 µg
Target:	SARS-CoV-2 Spike S1
Origin:	SARS Coronavirus-2 (SARS-CoV-2)
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This SARS-CoV-2 Spike S1 protein is labelled with His tag,AVI tag,Biotin.

Product Details

Sequence:	AA 16-685
Specificity:	Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.
Characteristics:	Biotinylated 2019-nCoV (COVID-19) S1 protein, His,Avitag (MALS verified) is expressed from human 293 cells (HEK293). It contains AA Val 16 - Arg 685 (Accession # QHD43416.1). Predicted N-terminus: Val 16 This protein carries a polyhistidine tag at the C-terminus, followed by an Avi tag.
Purity:	> 90 % as determined by SDS-PAGE. > 90 % as determined by SEC-MALS.
Endotoxin Level:	Less than 1.0 EU per µg by the LAL method.

Target Details

Target:	SARS-CoV-2 Spike S1
Abstract:	SARS-CoV-2 Spike S1 Products

Target Details

Target Type:	Viral Protein
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.
Molecular Weight:	78.6 kDa
Gene ID:	43740568
UniProt:	P0DTC2

Application Details

Application Notes:	The protein has a calculated MW of 78.6 kDa. The protein migrates as kDa under reducing (R) condition due to glycosylation.
Comment:	Ready-to-use AvitagTM biotinylated protein: The product is exclusively produced using the AvitagTM technology. Briefly, a unique 15 amino acid peptide, the Avi tag, is introduced into the recombinant protein during expression vector construction. The single lysine residue in the Avi tag is enzymatically biotinylated by the E. Coli biotin ligase BirA. This single-point enzymatic labeling technique brings many advantages for commonly used binding assays. The biotinylation happens on the lysine residue of Avi tag, and therefore does NOT interfere with the target protein's natural binding activities. In addition, when immobilized on an avidin-coated surface, the protein orientation is uniform because the position of the Avi tag in the protein is precisely controlled.
Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Buffer:	PBS, pH 7.4
Handling Advice:	Please avoid repeated freeze-thaw cycles.
Storage:	-20 °C,-80 °C

Handling

Storage Comment:	For long term storage, the product should be stored at lyophilized state at -20°C or lower. This product is stable aftr storage at: -20°C to -70°C for 12 months in lyophilized state, -70°C for 3 months under sterile conditions after reconstitution.

Publications

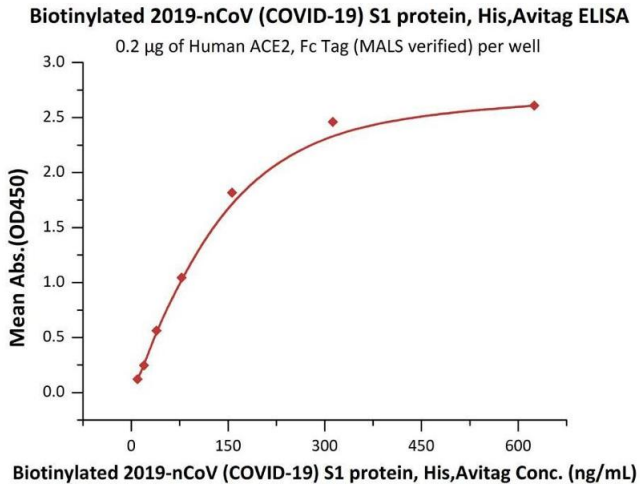
Product cited in:

Kaneko, Satta, Komuro, Muthukrishnan, Kakarla, Guo, An, Elahi, Kornblum, Liebeskind, Hsiai, Hinman: "Flow-Mediated Susceptibility and Molecular Response of Cerebral Endothelia to SARS-CoV-2 Infection." in: **Stroke**, Vol. 52, Issue 1, pp. 260-270, (2021) (PubMed).

Prieto-Fernández, Egia-Mendikute, Vila-Vecilla, Bosch, Barreira-Manrique, Lee, García-Del Río, Antoñana-Vildosola, Jiménez-Lasheras, Moreno-Cugnon, Jiménez-Barbero, Berra, Ereño-Orbea, Palazon: "Hypoxia reduces cell attachment of SARS-CoV-2 spike protein by modulating the expression of ACE2, neuropilin-1, syndecan-1 and cellular heparan sulfate." in: **Emerging microbes & infections**, Vol. 10, Issue 1, pp. 1065-1076, (2021) (PubMed).

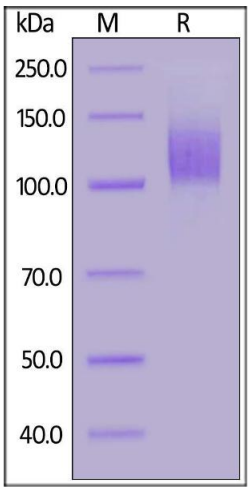
Ng, Attig, Bolland, Young, Major, Wrobel, Gamblin, Wack, Kassiotis: "Tissue-specific and interferon-inducible expression of nonfunctional ACE2 through endogenous retroelement co-option." in: **Nature genetics**, Vol. 52, Issue 12, pp. 1294-1302, (2020) (PubMed).

Images



ELISA

Image 1. Immobilized Human ACE2, Fc Tag (MALS verified) (ABIN6952459) at 2 μg/mL (100 μL/well) can bind Biotinylated 2019-nCoV (COVID-19) S1 protein, His,Avitag (MALS verified) (ABIN6952457) with a linear range of 10-156 ng/mL (QC tested).



SDS-PAGE

Image 2. Biotinylated 2019-nCoV (COVID-19) S1 protein, 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%.

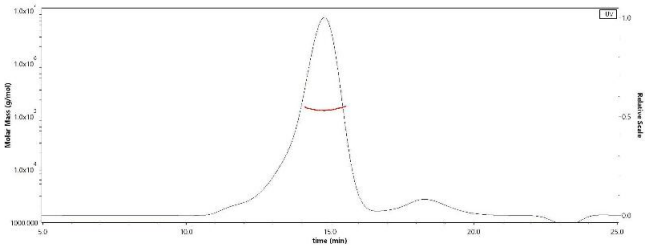


Image 3. The purity of Biotinylated 2019-nCoV (COVID-19) S1 protein, His,Avitag (MALS verified) (ABIN6952457) was more than 90% in HP-SEC, and around 120-140 kDa verified by SEC-MALS.