Recombinant SARS-CoV Spike RBD protein

Catalog Number: ATGP3960

PRODUCT INFORMATION

Expression system
Baculovirus

Domain
306-515aa

UniProt No.
P59594

NCBI Accession No.
NP_828851.1

Alternative Names
E2 glycoprotein precursor, Spike glycoprotein, S glycoprotein, E2, Peplomer protein, Severe acute repiratory Syndrome-related Coronavirus, SARS, SRAS-CoV, SARS-CoV1

PRODUCT SPECIFICATION

Molecular Weight
24.7kDa (219aa)

Concentration
0.5 mg/ml (determined by Absorbance at 280nm)

Formulation
Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

Purity
> 95% by SDS-PAGE

Endotoxin level
< 1 EU per 1ug of protein (determined by LAL method)

Biological Activity
Measured by its binding ability in a functional ELISA with Human ACE-2 (CAT# ATGP3963)

Tag
His-Tag

Application
SDS-PAGE, Bioactivity

Storage Condition
Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

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Description

Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV), Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV), and the recently identified novel Coronavirus (SARS-CoV-2) belong to the Coronaviridae family, genus Betacoronavirus, that has been related to important epidemiological outbreaks. SARS-CoV emerged in 2003 as a significant threat to human health. SARS-CoV has four structural proteins, known as the S (spike), E (envelope), M (membrane), and N (nucleocapsid) proteins. The spike protein, responsible for allowing the virus to attach to and fuse with the membrane of a host cell and 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. It attaches the virion to the cell membrane by interacting with host receptor, initiating the infection. A metallopeptidase, angiotensin-converting enzyme 2 (ACE-2), has been identified as a functional receptor for SARS-CoV through interaction with a receptor binding domain (RBD) located at the C-terminus of S1 subunit. Recombinant SARS-CoV spike RBD protein fused to His-tag at C-terminus, was expressed in insect cell and purified by using conventional chromatography techniques.

Amino acid Sequence

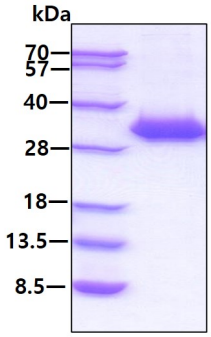
<ADP>RVVPSGD VVRFPNITNL CPFGEVFNAT KFPSVYAWER KKISNCVADY SVLYNSTFFS TFKCYGVSAT KLNDLCFSNV YADSFVVKGD DVRQIAPGQT GVIADYNYKL PDDFMGCVLA WNTRNIDATS TGNYNYKYRY LRHGKLRPFE RDISNVPFSP DGKPCTPPAL NCYWPLNDYG FYTTTGIGYQ PYRVVVLSFE LLNAPATVCG PKL<HHHHHH>

General References

Kukla M., et al, (2020) J Clin Med. 9:1420.
Ayouba A., et al,(2020) J Clin Virol. 129:104521.
Tortorici, M.A. and D. Veesler (2019). Adv. Virus Res. 105:93-116.
Li F, et al, (2005) Science. 309:1864-1868.
Struck AW, et al, (2012) Antiviral Res. 94:288-296.

DATA

SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain

Biological Activity

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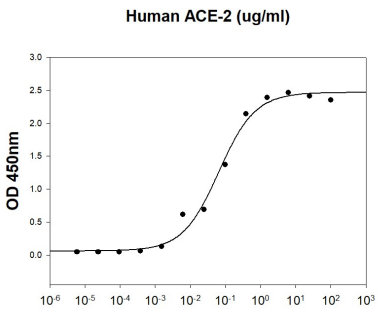

SARS-CoV Spike RBD is coated at 5ug/ml (100 ul/well) can bind ACE-2 (CAT# ATGP3963) in a Functional ELISA assay.