

# Recombinant SARS-CoV Spike protein

Catalog Number: ATGP3967

## PRODUCT INFORMATION

---

### Expression system

Baculovirus

### Domain

14-1195aa

### UniProt No.

P59594

### NCBI Accession No.

NP\_828851.1

### Alternative Names

E2 glycoprotein precursor, Spike glycoprotein, S glycoprotein, E2, Peplomer protein, Severe acute respiratory Syndrome-related Coronavirus, SARS, SARS-CoV, SARS-CoV1

## PRODUCT SPECIFICATION

---

### Molecular Weight

131.9kDa(1188aa)

### Concentration

0.25mg/ml (determined by Bradford assay)

### Formulation

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

### Purity

> 85% 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

---

# Recombinant SARS-CoV Spike protein

Catalog Number: ATGP3967

## 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 metalloproteinase, 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 protein fused to His-tag at C-terminus, was expressed in insect cell and purified by using conventional chromatography techniques.

## Amino acid Sequence

SDLDRCTTFD DVQAPNYTQH TSSMRGVYYP DEIFRSDTLY LTQDLFLPFY SNVTGFHTIN HTFGNPVIFP KDGIFYAATE KSNVVRGWVF GSTMNNKSQS VIIIINNSTNV VIRACNFELC DNPFFAVSKP MGTQTHMIF DNAFNCTFEY ISDAFSLDVS EKSGNFKHLR EFVFKNKDGF LYVYKGYQPI DVVRDLPSGF NTLKPIFKLP LGINITNFRA ILTAFSPAQD IWGTSAAAYF VGYLKPTTFM LKYDENGITIT DAVDCSQNPL AELKCSVKSF EIDKGIYQTS NFRVVPDGDV VRFNPITNLC PFGEVFNATK FPSVYAWERK KISNCVADYS VLYNSTFFST FKCYGVSATK LNDLCFSNVY ADSFVVKGDD VRQIAPGQTG VIADYNYKLP DDFMGCVLAW NTRNIDATST GNYNYKYRYL RHGKLRPFER DISNVPFSPD GKPCTPPALN CYWPLNDYGF YTTTGIGYQP YRVVVLSEFEL LNAPATVCGP KLSTDLIKNQ CVNFNFNGLT GTGVLTPSSK RFQPFQFGR DVSDFTDSVR DPKTSEILDI SPCAFGGVSV ITPGTNASSE VAVLYQDVNC TDVSTAIHAD QLTPAWRIYS TGNNVFQTA GCLIGAEHVD TSYECDPIG AGICASYHTV SLLRSTSQKS IVAYTMSLGA DSSIAYSNTT IAIPNFSIS ITTEVMPVSM AKTSVDCNMY ICGDSTECAN LLLQYGSFCT QLNRALSGIA AEQDRNTREV FAQVKQMYKT PTLKYFGGFN FSQILPDPLK PTKRSFIEDL LFNKVTLADA GFMKQYGECL GDINARDLIC AQKFNGLTVL PPLLTDDMIA AYTAALVSGT ATAGWTFGAG AALQIPFAMQ MAYRFNGIGV TQNVLYENQK QIANQFNKAI SQQESLTTT STALGKLQDV VNQNAQALNT LVKQLSSNFG AISSVLNDIL SRLDKVEAEV QIDRLITGRL QSLQTYVTQQ LIRAAEIRAS ANLAATKMSE CVLGQSKRVD FCGKGYHLMS FPQAAPHGVV FLHVTVVPSQ ERNFTTAPAI CHEGKAYFPR EGVFVFNQTS WFITQRNFFS PQIITTDNTF VSGNCDVIG IINNTVYDPL QPELDSFKEE LDKYFKNHTS PDVDLGDISG INASVVNIQK EIDRLNEVAK NLNESLIDLQ ELGKYEQYIK WP<HHHHHH>

## General References

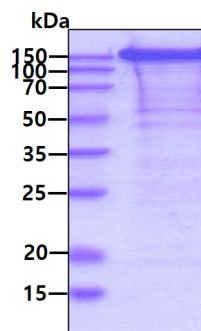
- Kukla M., et al, (2020) J Clin Med. 9:1420.
- Ayouba A., et al,(2020) J Clin Virol. 129:104521.
- Tortorici, M.A. and D. Veasler (2019). Adv. Virus Res. 105:93-116.
- Li F, et al, (2005) Science. 309:1864-1868.
- Struck AW, et al, (2012) Antiviral Res. 94:288-296.

## DATA

### SDS-PAGE

# Recombinant SARS-CoV Spike protein

Catalog Number: ATGP3967



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

## Biological Activity

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

