

Recombinant SARS-CoV-2 S Protein, His-tagged

Cat. No. S-22S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant 2019-nCoV S-trimer Protein is produced by our Mammalian expression system and the target gene encoding Cys15-Gln1208(D614G) is expressed with a 6His tag at the C-terminus. Proline substitutions (K986P, V987P), and G/S substitutions (R682G, R683S, R685S) are introduced to stabilize the trimeric prefusion state of Spike protein and remove the furin cleavage site, respectively.
Species	SARS-CoV-2
Source	Human Cells
ProteinLength	Cys15-Gln1208(D614G)
Description	The spike (S) glycoprotein of coronaviruses is known to be essential in the binding of the virus to the host cell at the advent of the infection process. Most notable is severe acute respiratory syndrome (SARS). The severe acute respiratory syndrome-coronavirus (SARS-CoV) spike (S) glycoprotein alone can mediate the membrane fusion required for virus entry and cell fusion. It is also a major immunogen and a target for entry inhibitors. 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.

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Form	Supplied as a 0.2 µm filtered solution of PBS, PH7.4.
Molecular Mass	Predicted Molecular Weight: 136.5kDa Apparent Molecular Weight: 170-220kDa, reducing conditions.
AA Sequence	CVNLTTTRTQLPPAYTNSFTRGVYYPDKVFRSSVLHSTQDLFLPFFSNVTWFHAI HVS GTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSTQSLIVNN ATNVVIK VCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYVSQPF LMDLEGKQ GNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPQGFSALEPLVDLP IGINITRFQTLA LHRSYLTPGDSSSGWTAGAAAYVGYLQPRTFLLKYNENGTI TDAVDCALDPLSET KCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEV FNATRFASVYAWNRK RISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNV YADSFVIRGDEVQRQIAPG QTGKIADYNYKLPDDFTGCVIAWNSNNLDSKVGGN YNYLYRLFRKSNLKPFERDIST EIYQAGSTPCNGVEGFNCYFPLQSYGFQPTNGV GYQPYRVVLSFELLHAPATVC GPKKSTNLVKNKCVNFNFNGLTGTGVLTESN KKFLPFQQFGRDIADTTDAVRDPQT LEILDITPCSFSGGVSVITPGTNTSNQVAVL YQGVNCTEVPVAIHADQLTPTWRVYST GSNVFQTRAGCLIGAHEVNNSYECDI PIGAGICASYQTQTNSPGSASSVASQSIIAYT MSLGAENSVAYSNNNSIAIPTNFTI SVTTEILPVSMTKTSVDCTMYICGDSTECSNLLLQ YGSFCTQLNRALTGIAVEQD KNTQEVFAQVKQIYKTPPIKDFGGFNFSQILPDPSKP SKRSFIEDLLFNKVTLADA GFIKQYGDCLGDIAARDLICAQKFNGLTVLPPLLTDEMI QYTSALLAGTITSGW TFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKLIANQFN SAIGKIQDSLS STASALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRDLP PEAEVQI DRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFC GKG Y HLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHDGKAHFPREGVFVSN G THWFVTQRNFYEPQIITDNTFVSGNCDVVIGIVNNTVYDPLQPELDSFKEELD KY FKNHTSPDVLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQ LVPRG SGYIPEAPRDGQAYVRKDG EWLLSTFLHHHHHH
Endotoxin	Less than 0.1 ng/ug (1 EU/ug).

Purity	> 95% by reducing SDS-PAGE; > 90% by reducing SEC-HPLC.
Storage	Store at ≤-70 centigrade, stable for 6 months after receipt. Store at ≤-70 centigrade, stable for 3 months under sterile conditions after opening. Please minimize freeze-thaw cycles.
Quality Statement	Purity: Greater than 95% as determined by reducing SDS-PAGE; greater than 90% as determined by reducing SEC-HPLC.
Shipping	The product is shipped on dry ice pack. Upon receipt, store it immediately at the temperature listed below.

GENE INFORMATION

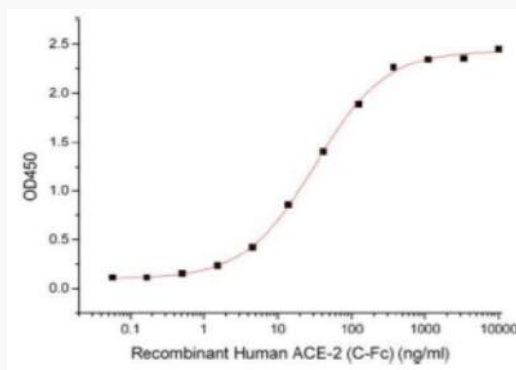
Gene Name	S surface glycoprotein [Severe acute respiratory syndrome coronavirus 2]
Official Symbol	S
Synonyms	SARS-CoV-2 S protein; SARS-CoV-2 Spike glycoprotein; SARS-CoV-2 S glycoprotein; SARS-nCoV2 Spike glycoprotein
Gene ID	43740568
Protein Refseq	YP_009724390.1
UniProt ID	P0DTC2

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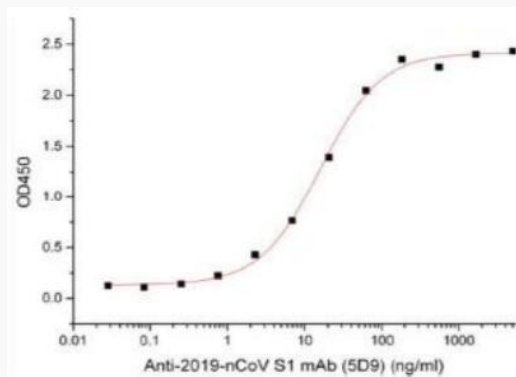
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Bioactivity



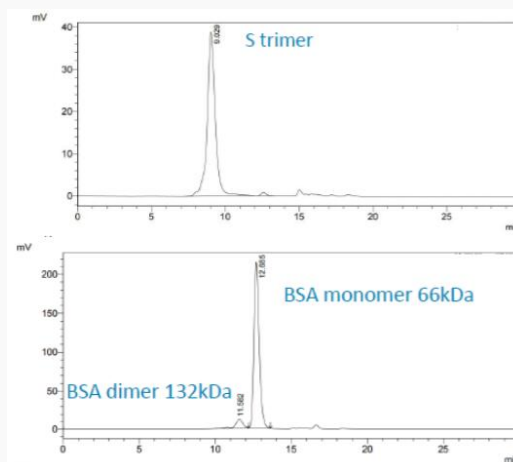
Immobilized S trimer (D614G) His at 2µg/ml (100µl /well) can bind Human ACE 2 Fc. The ED50 of Recombinant Human ACE 2 Fc is 31.75 ng/ml.

Bioactivity



Immobilized S trimer (D614G) His at 2µg/ml (100µl /well) can bind Anti 2019 nCoV S1 mAb (5D9). The ED50 of Anti 2019 nCoV S1 mAb (5D9) is 15.81ng/ml.

SEC-HPLC



Results show DRA59 is trimer (theoretical MW: 411kDa) with high purity.

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