

SARS-CoV Spike S1+S2 Active Protein | SARS-CoV active protein

SARS-CoV Spike S1+S2 ECD-His Recombinant Protein (S577A, Isolate Tor2)

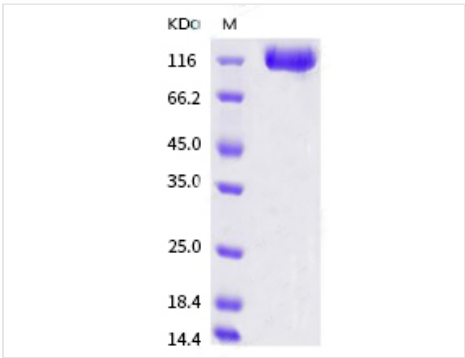
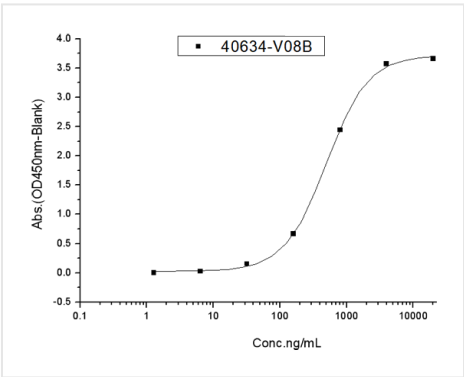
CATALOG # AAA258111	HOST Baculovirus-Insect Cells	REACTIVITY SARS
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PRODUCT SYNONYMS

SARS-CoV Spike S1+S2; SARS-CoV Spike S1+S2 ECD-His Recombinant Protein (S577A; Isolate Tor2); coronavirus s1 Protein; SARS; coronavirus s2 Protein; coronavirus spike Protein; cov spike Protein; ncov RBD Protein; ncov s1 Protein; ncov s2 Protein; ncov spike Protein; novel coronavirus RBD Protein; novel coronavirus s1 Protein; novel coronavirus s2 Protein; novel coronavirus spike Protein; RBD Protein; S1 Protein; s2 Protein; Spike RBD Protein; SARS-CoV active protein

PRODUCT SPECIFICATIONS

Host	Baculovirus-Insect Cells
Reactivity	SARS
Purity/Purification	>90% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile 20mM PB, 300mM NaCl, pH7.0, 10% glycerol. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Sequence	Met1-Pro11 95
Species	SARS
Endotoxin	<1.0EU per ug protein as determined by the LAL method.
Predicted N Terminal	Ser14
Tag	C-His
Protein Construction	A DNA sequence encoding the full-length ECD of SARS-CoV (isolate: Tor2) spike (NP_828851.1)(Met1-Pro1195) was expressed with a C-terminal polyhistidine tag.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Activity	Measured by its binding ability in a functional ELISA. Immobilized ACE2 Protein, Human, Recombinant (mFc Tag) at 2ug/mL (100uL/well) can bind SARS-CoV Spike S1+S2 ECD-His Recombinant Protein (S577A, Isolate Tor2), the EC50 of SARS-CoV Spike S1+S2 ECD-His Recombinant Protein (S577A, Isolate Tor2) is 300-900ng/mL.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.



SDS-PAGE

Application Data

Measured by its binding ability in a functional ELISA. Immobilized ACE2 Protein, Human, Recombinant (mFc Tag)(10108-H05H) at 2ug/mL (100uL/well) can bind SARS-CoV Spike S1+S2 ECD-His Recombinant Protein (S577A, Isolate Tor2)(40634-V08B), the EC50 of SARS-CoV Spike S1+S2 ECD-His Recombinant Protein (S577A, Isolate Tor2)(40634-V08B) is 300-900ng/mL.

ADDITIONAL INFORMATION

Related Product Information for SARS-CoV active protein

Background: The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell. Known receptors bind S1 are ACE2, angiotensin-converting enzyme 2; DPP4, dipeptidyl peptidase-4; APN, aminopeptidase N; CEACAM, carcinoembryonic antigen-related cell adhesion molecule 1; Sia, sialic acid; O-ac Sia, O-acetylated sialic acid. The spike is essential for both host specificity and viral infectivity. The term 'peplomer' is typically used to refer to a grouping of heterologous proteins on the virus surface that function together. 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. It's been reported that SARS-CoV-2 (COVID-19 coronavirus, 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. The main functions for the Spike protein are summarized as: Mediate receptor binding and membrane fusion; Defines the range of the hosts and specificity of the virus; Main component to bind with the neutralizing antibody; Key target for vaccine design; Can be transmitted between different hosts through gene recombination or mutation of the receptor binding domain (RBD), leading to a higher mortality rate.

References

Shen S, et al. (2007) Expression, glycosylation, and modification of the spike (S) glycoprotein of SARS CoV. Methods Mol Biol. 379: 127-35. Du L, et al. (2009) The spike protein of SARS-CoV--a target for vaccine and therapeutic development. Nat Rev Microbiol. 7 (3): 226-36. Xiao X, et al. (2004) The SARS-CoV S glycoprotein. Cell Mol Life Sci. 61 (19-20): 2428-30.

NCBI AND UNIPROT INFORMATION

Molecular Weight

The recombinant SARS-CoV (isolate: Tor2) spike S1+S2 ECD consists of 1193 amino acids and predicts a molecular mass of 132.58kDa.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.