COVID 19 Spike S1+S2 ECD (D614G)-His Coronavirus Active Protein | COVID-19 active protein

SARS-CoV-2 (2019-nCoV) Spike S1+S2 ECD (D614G)-His Recombinant Protein

CATALOG #	HOST
AAA258079	**Baculovirus-Insect Cells**

PRODUCT SYNONYMS

COVID 19 Spike S1+S2 ECD (D614G)-His Coronavirus; SARS-CoV-2 (2019-nCoV) Spike S1+S2 ECD (D614G)-His Recombinant Protein; 2019 Novel Coronavirus; Coronavirus; CoV; COVID-19 virus; HCoV-2; Human Coronavirus 2019; SARS2; SARS-CoV-2; Severe acute respiratory syndrome coronavirus 2; Spike S1+S2 ECD (D614G)-His; COVID-19 active protein

PRODUCT SPECIFICATIONS

Host	Baculovirus-Insect Cells
Purity/Purification	>90% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile 20mM Tris, 300mM NaCl, 10% glycerol, pH8.0. 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-Pro12 13(D614G)
Species	SARS-CoV-2
Endotoxin	<1.0EU per ug protein as determined by the LAL method.
Predicted N Terminal	Val 16
Tag	C-His
Protein Construction	A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) Spike Protein (S1+S2 ECD)(YP_009724390.1)(Met1-Pro1213(D614G)) was expressed with a polyhistidine tag at the C-terminus.
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 human ACE2 protein (Fc tag) at 2ug/mL (100uL/well) can bind SARS-CoV-2 (2019-nCoV) Spike S1+S2 ECD (D614G)-His. The EC50 of SARS-CoV-2 (2019-nCoV) Spike S1+S2 ECD (D614G)-His is 0.5-1.2ug/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.

IMAGES

Application Data

Measured by its binding ability in a functional ELISA.Immobilized human ACE2 protein (Fc tag)(10108-H05H) at 2 ug/mL (100 uL/well) can bind SARS-CoV-2 (2019-nCoV) Spike S1+S2 ECD (D614G)-His(40589-V08B4), the EC50 of SARS-CoV-2 (2019-nCoV) Spike S1+S2 ECD (D614G)-His(40589-V08B4) is 0.5-1.2 ug/mL.

SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for COVID-19 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	51.5 kDa

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.

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Online datasheet: https://stage.aaabiotech.com/baculovirus-insect-cells-covid-19-active-protein/covid-19-spike-s1s2-ecd-d614g-his-coronavirus/258079