

COVID 19 (BA.2.12.1) Spike S1+S2 trimer Coronavirus Active Protein | COVID-19 active protein

SARS-CoV-2 (BA.2.12.1) Spike S1+S2 trimer Protein (ECD, His & AVI Tag), Biotinylated

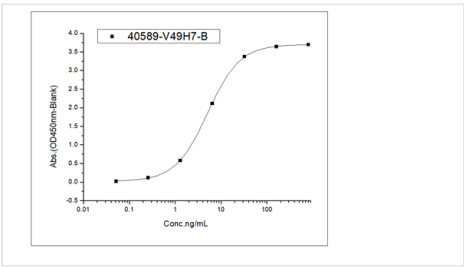
CATALOG # AAA258593	HOST HEK293 Cells
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PRODUCT SYNONYMS

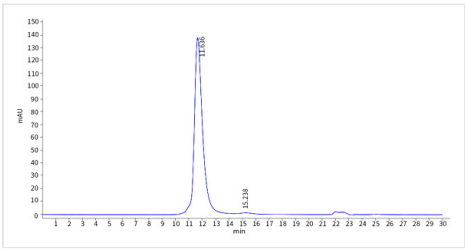
COVID 19 (BA.2.12.1) Spike S1+S2 trimer Coronavirus; SARS-CoV-2 (BA.2.12.1) Spike S1+S2 trimer Protein (ECD; His & AVI Tag); Biotinylated; 2019 Novel Coronavirus; Coronavirus; CoV; COVID-19 virus; HCoV-2; Human Coronavirus 2019; SARS2; SARS-CoV-2; Severe acute respiratory syndrome coronavirus 2; (BA.2.12.1) Spike S1+S2 trimer; COVID-19 active protein

PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>90% as determined by SDS-PAGE. >95% as determined by SEC-HPLC.
Form/Format	Lyophilized from sterile 25mM Sodium Citrate, 200mM NaCl, 0.02% tween80, pH 6.0.
Sequence	Met1-Gln12 08
Species	SARS-CoV-2
Endotoxin	<1.0EU per ug protein as determined by the LAL method.
Tag	C-His-AVI
Predicted N Terminal	Val 16
Protein Construction	A DNA sequence encoding the SARS-CoV-2 (BA.2.12.1) Spike S1+S2 trimer (YP_009724390.1, with mutations T19I, L24S, del25-27, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, L452Q, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, S704L, N764K, D796Y, F817P, A892P, A899P, A942P, Q954H, N969K, K986P, V987P and furin cleavage site mutants) was expressed with bacteriophage T4 fibrin and a C-terminal polyhistidine tag followed by an AVI tag. The mutations were identified in the SARS-CoV-2 variant (known as variant BA.2.12.1). The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed.
Activity	Immobilized human ACE2 protein (Fc tag) at 2 ug/mL (100 uL/well) can bind Recombinant SARS-CoV-2 (BA.2.12.1) Spike S1+S2 trimer Protein (ECD, His&AVI Tag), the EC50 is 3-10 ng/mL.
Preparation and Storage	Store it under sterile conditions at -20 to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

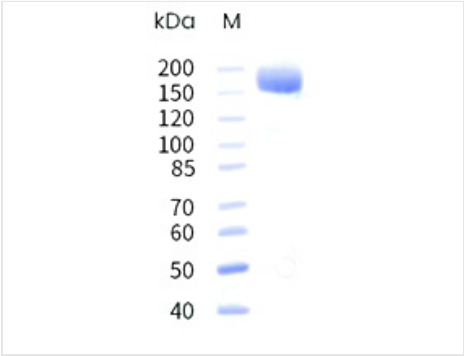


Application Data



Application Data

Immobilized human ACE2 protein (Fc tag)(Cat: 10108-H05H) at 2 ug/mL (100 uL/well) can bind Recombinant SARS-CoV-2 (BA.2.12.1) Spike S1+S2 trimer Protein(ECD,His&AVI Tag)(Cat: AAA258593), the EC50 is 3-10 ng/mL.



Application Data

ADDITIONAL INFORMATION

Related Product Information for COVID-19 active protein	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.
Product Categories/Family for COVID-19 active protein	virus

NCBI AND UNIPROT INFORMATION

Molecular Weight	51.5 kDa
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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.