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10-2004: Recombinant Anti-SARS-CoV-2 Spike RBD antibody (CR3022)

Clonality :	Monoclonal
Clone Name :	CR3022
Application :	Functional Assay,ELISA
Gene :	S
Uniprot ID :	P0DTC2
Isotype :	Human IgG1 kappa
Immunogen Information :	Tissue, cells or virus corresponding to Human coronavirus SARS-CoV-2 Spike Glycoprotein S1. The original monoclonal antibody was generated by sequencing peripheral blood lymphocytes of a patient exposed to the SARS-CoV.

Description

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 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 Info

Amount :	100 µg
Purification :	Affinity purified
Content :	0.5 mg/ml, 100 µg in sterile PBS
Storage condition :	Store the antibody at 4°C, stable for 6 months. For long-term storage, store at -20°C. Avoid repeated freeze and thaw cycles.

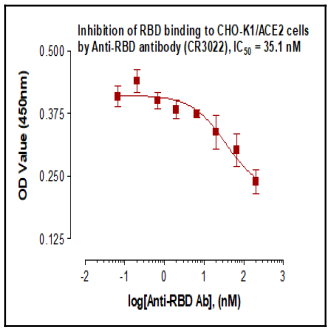


Fig-1: Neutralization of binding between SARS-Cov-2 Spike RBD protein and CHO-K1/ACE2 cells by the Recombinant Anti-SARS-CoV-2 Spike RBD antibody (CR3022). CHO-K1/ACE2 stable cells (Abeomics, Cat. No. 14-523ACL) were incubated with various concentrations of RBD antibody (CR3022) in the presence of biotinylated SARS-Cov-2 Spike RBD protein (Abeomics, Cat. No. 21-1005-B) and analyzed through In-Cell ELISA using HRP-Streptavidin for detection.

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