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Datasheet for ABIN6953042

Recombinant anti-SARS-CoV-2 Spike S1 antibody (RBD)

1 Image

Overview

Quantity:	50 µg
Target:	SARS-CoV-2 Spike S1
Binding Specificity:	RBD
Reactivity:	SARS Coronavirus-2 (SARS-CoV-2), SARS Coronavirus (SARS-CoV)
Host:	Human
Antibody Type:	Recombinant Antibody
Clonality:	Monoclonal
Application:	ELISA, Immunofluorescence (IF), Crystallization (Crys), Surface Plasmon Resonance (SPR)

Product Details

Purpose:	Recombinant monoclonal antibody to COVID-19 & SARS-CoV S glycoprotein.
Immunogen:	The original monoclonal antibody was generated by sequencing peripheral blood lymphocytes of a patient exposed to the SARS-CoV.
Clone:	CR3022
Isotype:	IgM kappa
Specificity:	<p>The antibody CR3022 binds the amino acids 318-510 in the S1 domain of the SARS-CoV Spike protein as well as SARS-CoV-2 (COVID-19) Spike protein. The antibody also binds to P462L-substituted S318-510 fragments of the SARS spike protein. The binding epitope is only accessible in the "open" conformation of the spike protein (Joyce et al. 2020).</p> <p>While most S-protein RBD binding antibodies compete for antigen binding with ACE2, the CR3022 epitope does not overlap with the ACE2-binding site. It does thus not hinder binding of</p>

Product Details

neutralizing antibodies. While CR3022 on its own exhibits only a weak neutralizing effect, it has been shown to synergize with other S-protein RBD binding antibodies to neutralize SARS-CoV. This effect still has to be confirmed in context with SARS-CoV-2 (Yuan et al. 2020).

Cross-Reactivity (Details): The anti-SARS-CoV-2 antibody CR3022 was originally discovered in a SARS patient, but it was shown to be a potent binder of SARS-CoV-2 spike protein (S1).

Characteristics: OriginalSpeciesName: Human
OriginalFormat: IgG1

Purification: Affinity Purified using a recombinant lectin column

Target Details

Target: SARS-CoV-2 Spike S1

Abstract: [SARS-CoV-2 Spike S1 Products](#)

Target Type: Viral Protein

Background: Spike protein, COVID19, COVID 19, S protein, SARS-CoV S protein, S glycoprotein, E2, Peplomer protein, Spike protein S1, SARS Coronavirus, SARS-CoV-2, SARS CoV 2, 2019-nCoV

UniProt: [P59594](#)

Application Details

Application Notes: This antibody (CR3022) binds to both SARS-CoV and SARS-CoV-2 with high affinity. The initial characterization of the binding of this antibody was performed by ELISA and indicates potential for the development of diagnostic assays, as both virus-capture assays, or as controls in serological assays measuring immune-responses to virus exposure. Human IgG1, IgG3, IgM and IgA isotypes are available to mimic antibody responses seen in COVID19 (Amanat et al. 2020). Human IgG2 is available to assess its yet unknown role in the response to SARS-CoV-2. The original human IgG1 version of the antibody works synergistically in combination with another non-competing SARS antibody CR3014 and is a potential candidate for passive immune prophylaxis of SARS-CoV infection (Meulen et al., 2006). The original antibody (human IgG1) was also reported to bind the 2019-nCoV RBD (KD of 6.3 nM). This antibody has been attributed a potential to be developed as a therapeutic agent, alone or in combination with other neutralizing antibodies for treatment of 2019-nCoV infections (Tian et al., 2020).

Comment: This reformatted human antibody was made using the variable domain sequences of the original Human IgG1 format, for improved compatibility with existing reagents, assays and

Application Details

techniques.

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: PBS with 0.02 % Proclin 300.

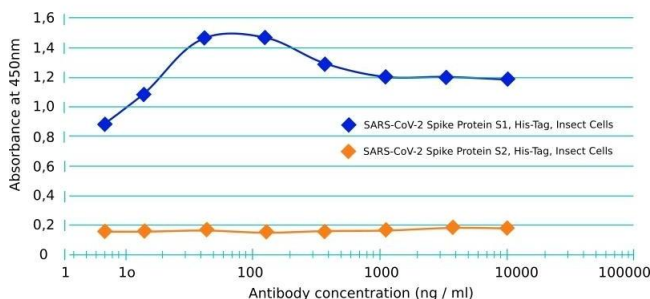
Preservative: ProClin

Precaution of Use: This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C,-20 °C

Storage Comment: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Images



ELISA

Image 1. Binding curve of anti-COVID-19 & SARS-CoV S glycoprotein antibody CR3022 to SARS-CoV-2 Spike Glycoprotein domains S1 and S2 (His-Tag (Insect Cells)). ELISA plate coated with SARS-CoV-2 Spike Glycoprotein (S1), His-Tag (Insect Cells, grey line) and SARS-CoV-2 Spike Glycoprotein (S2), His-Tag (Insect Cells, green line) at concentrations of 5 µg/mL. A 3-fold serial dilution from 10000 ng/mL was performed using ABIN6953042. Human IgM is HRP-conjugated.