SARS-CoV / SARS-CoV-2 (COVID-19) spike antibodies

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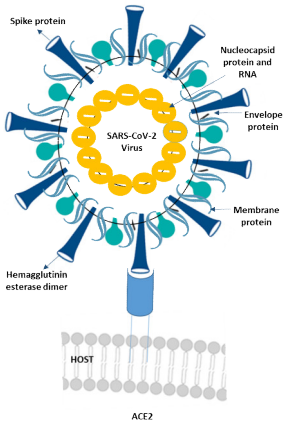
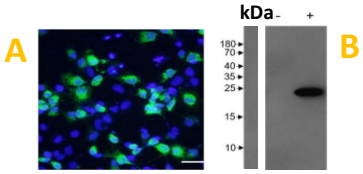
SARS-CoV-2 is a single-stranded RNA virus that causes severe acute respiratory syndrome. This new virus belongs to the beta coronavirus genus which includes SARS-CoV and MERS-CoV. Both SARS-CoV-2 and SARS-CoV share the same cellular receptor angiotensin-converting enzyme 2 (ACE2) on the host cell and with the help of S(spike) proteins they infect the host respiratory epithelial cells.



S proteins are large type I transmembrane proteins divided into two subunits S1 and S2. S1 contains the receptor-binding domain (RBD) which recognizes the cell surface receptor on the host cell, while S2 is responsible for membrane fusion.

Due to its role in virus entry, the viral surface spike (S) glycoprotein has been the target for the generation of monoclonal antibodies (mAb). These antibodies serve as important tools for vaccine and therapeutic discovery.

Hence three murine monoclonal antibodies (mAbs) (1A9, 7G12 and 1G10) were raised in a mammalian cell line to primarily target the fragment containing residues 1048 to 1206 of the S protein of SARS-CoV-2 expressed in COS-7 via transient transfection.



Immunofluorescence analysis performed on transiently transfected COS-7 cells showed binding of the 3 mAbs to this S fragment of SARS-CoV-2[1], (Fig A). Western blot analysis was carried out using the mAbS, followed by HRP-conjugated secondary antibody as shown in representative image[1] (Fig B).

Description	Mouse monoclonal antibody to SARS glycoprotein
Host Species	Mouse
Isotype	IgG
Hybridomas	1A9, 7G12, 1G10
Tested Applications	Western Blot, FACS, Immunoprecipitation, ELISA and other laboratory applications
Species Reactivity	SARS-CoV, SARS-CoV-2
Positive Control	Recombinant SARS-CoV-2 Spike protein (SP)
Form	Lyophilised (reconstitute in PBS)
Immunogen	SARS-CoV S protein (S2 domain)
Storage	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycles
Purity	Immunogen affinity purified

Ref: 1. Monoclonal antibodies for the S2 subunit of spike of SARS-CoV cross-react with the newly-emerged SARS-CoV-2 newly-emerged SARS-CoV-2. Zheng et al 2020

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