SARS-CoV-2 Spike S2 Subunit Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2812A
Catalog Number: MAB11370

DESCRIPTION

Species Reactivity	SARS-CoV-2
Specificity	Detects SARS-CoV-2 Spike S2 Subunit in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2812A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived recombinant human SARS-CoV-2 Spike S2 Subunit Met697-Pro1213
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

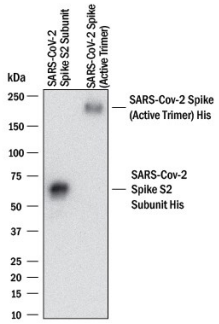
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant SARS2-S2, Recombinant SARS2-S
ELISA	This antibody functions as an ELISA capture antibody when paired with Rabbit Anti-SARS-CoV-2 Spike S2 Subunit Monoclonal Antibody (Catalog # MAB11362). This product is intended for assay development on various assay platforms requiring antibody pairs.	

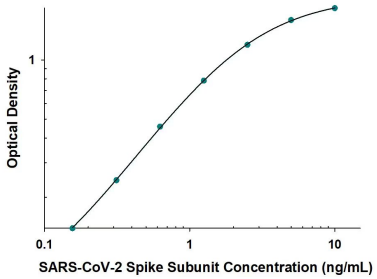
DATA

Western Blot



Detection of SARS-CoV-2 Spike S2 Subunit by Western Blot. Western blot shows lysates of Recombinant SARS2-S2, Recombinant SARS2-S. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-SARS-CoV-2 Spike S2 Subunit Monoclonal Antibody (Catalog # MAB11370) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). Specific bands were detected for Spike S2 Subunit at approximately 70, 200 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

ELISA



SARS-CoV-2 Spike S2 Subunit ELISA Standard Curve. Recombinant SARS-CoV-2 Spike S2 Subunit protein was serially diluted 2-fold and captured by Rabbit Anti-SARS-CoV-2 Spike S2 Subunit Monoclonal Antibody (Catalog # MAB11370) coated on a Clear Polystyrene Microplate (Catalog # DY990). Rabbit Anti-SARS-CoV-2 Spike S2 Subunit Monoclonal Antibody (Catalog # MAB11362) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

SARS-CoV-2, which causes the global pandemic coronavirus disease 2019 (Covid-19), belongs to a family of viruses known as coronaviruses that also include MERS and SARS-CoV-1. Coronaviruses are commonly comprised of four structural proteins: Spike protein(S), Envelope protein (E), Membrane protein (M) and Nucleocapsid protein (N) (1). SARS-CoV-2 Spike Protein (S Protein) is a glycoprotein that mediates membrane fusion and viral entry. The S protein is homotrimeric, with each ~180-kDa monomer consisting of two subunits, S1 and S2 (2). As with most coronaviruses, proteolytic cleavage of the S protein into two distinct peptides, S1 and S2 subunits, is required for activation. The S1 subunit is focused on attachment of the protein to the host receptor while the S2 subunit is involved with cell fusion (2-4). A metallopeptidase, angiotensin-converting enzyme 2 (ACE-2), has been identified as a functional receptor for SARS-CoV2, similar to SARS-CoV-1, through interaction with a receptor binding domain (RBD) located at the C-terminus of S1 subunit (5, 6). The S2 subunit of SARS-CoV-2 shares 90% and 41% amino acid sequence identity with the S2 subunit of SARS-CoV-1 and MERS, respectively. It has been demonstrated the S Protein can invade host cells through the CD147/EMMPRIN receptor and mediate membrane fusion (7, 8).

References:

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