MERS-CoV Spike RBD Antibody

Monoclonal Mouse IgG_{2A} Clone # 1038345

Catalog Number: MAB107073

DESCRIPTION

Species Reactivity	MERS-CoV
Specificity	Detects MERS-CoV Spike RBD in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 1038345
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived MERS-CoV Spike RBD Glu367-Tyr606 Accession # YP_007188579.1
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.

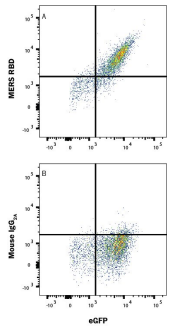
APPLICATIONS

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
Flow Cytometry	0.25 µg/10^6 cells	MERS-CoV Spike protein bound to CD26 in HEK293 Human Cell Line Transfected with Human CD26 and eGFP

DATA

Flow Cytometry



Detection of MERS-CoV Spike protein bound to CD26 in HEK293 Human Cell Line Transfected with Human CD26 and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with human CD26 and eGFP was incubated with Recombinant MERS-CoV Spike S1 Fc protein (Catalog # 10606-CV), then stained with (A) Mouse Anti-MERS-CoV-2 Spike Monoclonal Antibody (Catalog # MAB107073) or (B) Mouse IgG2A Isotype Control Antibody (Catalog # MAB003) followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). Staining was performed using our Staining Membrane-associated Proteins protocol.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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

MERS-CoV (also known as HCoV-EMC), which causes the Middle East Respiratory Syndrome (MERS), was first reported in Saudi Arabia in 2012 as a novel coronavirus (1). Coronaviruses are a family of viruses that are commonly comprised of a large plus-strand RNA genome and four structural proteins: Spike protein (S), Envelope protein (E), Membrane protein (M), and Nucleocapsid protein (N). There are two well-known human coronavirus families that infect humans: Alpha coronaviruses which includes HCoV-229E and HCoV-NL63; beta coronaviruses that includes MERS-CoV, HCov-OC43, Severe Acute Respiratory Syndrome (SARS-CoV), and global pandemic Covid-19 (SARS-CoV2) (2). The MERS-CoV Spike Protein (S Protein) is a glycoprotein that mediates membrane fusion and viral entry, and it consists of two subunits, S1 and S2. The S1 subunit is focused on attachment of the protein to the host receptor while the S2 subunit is involved with cell fusion (3). Located within the S1 subunit is the receptor binding domain (RBD). The RBD is responsible for the binding of MERS-CoV to dipeptidyl peptidase IV (DPP4, also known as human CD26) (4). The RBD of MERS-CoV shares 24% and 21% amino acid sequence (aa) identity with SARS-CoV RBD and SARS-Cov2 RBD, respectively. The low aa sequence identity is consistent with the finding that MERS-CoV and SARS-CoV bind different cellular receptors (4). The S1 subunit, especially the RBD region, of MERS-CoV was commonly targeted for vaccinations or antiviral therapies (5-7).

References:

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4. Raj, V.S. *et al.* (2013) Nature **495**:251.
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6. Tang, X.C. *et al.* (2014) Proc. Natl. Acad. Sci. USA **111**:E2018.
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