MERS-CoV Spike S1 Subunit Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 1038459

Catalog Number: FAB10707N

100 µg

DESCRIPTION

Species Reactivity	MERS-CoV
Specificity	Detects MERS-CoV-2 Spike S1 in ELISA.
Source	Monoclonal Mouse IgG_1 Clone # 1038459
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*Spodoptera frugiperda* insect ovarian cell line *Sf*21-derived MERS-CoV-2 Spike S1 Met1-Pro747 Accession # K9N5Q8.1
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

MERS-CoV (also known as HCoV-EMC), which causes the Middle East Respiratory Syndrome (MERS), belongs to a family of viruses known as coronaviruses 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) (1,2). Other well-known human coronaviruses include several viruses that cause relatively mild respiratory disease, plus two viruses that caused the Severe Acute Respiratory Syndrome (SARS-CoV) and the global pandemic Covid-19 (SARS-CoV2). 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). Based on amino acid (aa) sequence homology, the MERS-CoV S1 subunit shares 23% and 22% identity with SARS-CoV S1 subunit and SARS-Cov2 S1 subunit, respectively. The low aa sequence homology is consistent with the finding that MERS-CoV and SARS-CoV bind different cellular receptors (4). Unlike SARS-CoV and SARS-CoV2, which engage ACE2 as their receptors for cell entry, MERS-CoV employs Dipeptidyl Peptidase 4 (DPP4; also known as CD26) as its functional receptor (4). Based on structural biology studies, the receptor binding domain (RBD) of MERS-CoV spike protein is located in the C-terminal region of S1 subunit and consists of a core subdomain and a receptor-binding subdomain (5, 6). The S1 subunit, especially the RBD region, was commonly targeted for vaccinations or antiviral therapy against MERS (7-9).

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Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475