

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	<i>Spodoptera frugiperda</i> insect ovarian cell line SF21-derived MERS-CoV-2 Spike S1 Met1-Pro747 Accession # K9N5Q8.1
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.