

Product Specification Sheet

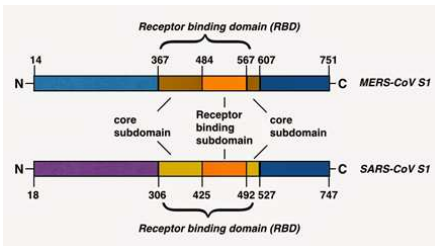
**Middle Eastern Respiratory syndrome Coronavirus (MERS-CoV) Spike protein antibodies**

Cat # MEFRS123-M

Mouse Monoclonal Anti MERS-Spike protein (S1) IgG, clone 1

Size: 100 ul

**MERS** is a viral respiratory infection caused by the newly identified **MERS-coronavirus (MERS-CoV)**. MERS-CoV is a betacoronavirus derived from bats. Camels have been shown to have antibodies to MERS-CoV. Early reports compared the virus to severe acute respiratory syndrome (SARS), and it has been referred to as Saudi Arabia's SARS-like virus. MERS has a high fatality rate, 77 deaths in 187 confirmed cases. MERS-CoV has been reported to spread by direct or indirect contact with MERS-infected patients. However, the origin of the infection in most cases remains unknown. Sera samples from European sheep, goats, cattle, and other camelids had no such antibodies. Human or animal diagnostic serology is based upon PCR or ELISA or antibody neutralization tests.



The virus MERS-CoV is a new member of the beta group of coronavirus, Betacoronavirus, lineage C. MERS-CoV genomes are phylogenetically classified into two clades, clade A and B. and is more

closely related to the bat coronaviruses HKU4 and HKU5 (lineage 2C) than it is to SARS-CoV (lineage 2B) (2, 9), sharing more than 90% sequence identity with their closest relationships, bat coronaviruses HKU4 and HKU5. Coronaviruses are a positive ssRNA genome of about 27-32kb that codes for structural protein genes - namely the **Spike (S)**, **Envelope (E)**, **Membrane (M)**, and **Nucleocapsid (N)** genes - as well as the Polymerase. The presence of MERS viral antibodies (N, E and S) have been used to detect the infected animal or humans. MERS-CoV utilizes receptor, dipeptidylpeptidase 4 (DPP4), for binding to DPP4-expressing cells via the Spike protein. S1 subunit mediates virus binding to cells expressing DPP4 through its **receptor-binding domain (RBD)**, 367-606 aa) region and an S2 subunit that mediates virus-cell membrane fusion. A truncated RBD domain (377-588)-Fc protein binds efficiently to DPP4. Antibodies to the RBD domain also protect animals from MERS infection.

**Source of Antigen and Antibodies**

<b>Antigen</b>	Recombinant novel coronavirus (HCoV-EMC/2012) full length S1 protein (18-725aa; protein accession # AFS88936)
<b>Ab Host/type</b>	Mouse, <b>monoclonal</b> IgG1, aff. pure (Cat# <b>MEFRS123-M</b> ) in PBS, pH 7.4 0.1% BSA. +40% glycerol and 0.1% azide
<b>2-Ab</b>	<b>Goat Anti-mouse IgG-HRP conjugate</b> Cat # 40320 (AP, biotin, FITC conjugates also available)
<b>-ve control</b>	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Mouse IgG1 isotype negative control**

20102-101	Mouse IgG1 isotype control, purified
20102-101-1	Mouse IgG1 isotype control, purified
20102-101-A488	Mouse IgG1-Alexa 488 conjugate (isotype control)
20102-101-A555	Mouse IgG1-Alexa 555 conjugate (isotype control)
20102-101-A647	Mouse IgG1-Alexa 647 conjugate (isotype control)
20102-101-APC	Mouse IgG1-APC conjugate (isotype control)
20102-101-B	Mouse IgG1-Biotin conjugate (isotype control)
20102-101-F	Mouse IgG1-FITC conjugate (isotype control)
20102-101-FP	Mouse IgG1-FITC-PE conjugate (isotype control)
20102-101-HP	Mouse IgG1-HRP conjugate (isotype control)
20102-101-PC5	Mouse IgG1-PE-Cy5 conjugate (isotype control)
20102-101-PE	Mouse IgG1-PE conjugate (isotype control)

**Stability:** 6-12 months at -20oC or below.

**Recommended Usage**

**Western Blotting:** An initial dilution of 1:500-1:2000 Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

**ELISA** (1:2000-1:10,000; using 50-100 ng antigen/well).

**Histochemistry & Immunofluorescence:** not tested.

**Specificity and cross reactivity:** This Antibody reacts with MERS-Cov spike protein (1-1297 a.a), and S1 (1-725aa). Cross reactivity with other coronaviruses have not been tested. MERS-CoV Spike protein ECD is conserved in the bat coronaviruses HKU4 (64%), HKU5 (59%) and BtCoV (58%), strains. Antibodies and recombinant proteins to various MERS proteins are available for control studies.

**General References:** Sandervan (2012) mBio.3:e00473-12.2; Muller MA (2012) mBio3(6):e00515-12.; ChanJF (2012) J Infect.65(6):477-89. Hemida, MG (2013) Euro Surveillance 18 (50). Guery B (2013) Lancet; 381:2265.

This product is for in vitro research use only.

**Related material available from ADI**

MERS121-A	Rabbit anti-MERS Spike protein (1-1297 a.a) IgG, aff pure
MERSS126-R-10	Recombinant (Sf9) Purified MERS Spike protein ECD (1-1297 a.a, His-tag, ~157 kda, low Endotoxin)
MERSS12-A	Rabbit Anti-MERS Spike protein S1 protein peptide, C-terminal IgG, aff pure
MERSS21-M	Mouse monoclonal Anti-MERS Spike protein S2 protein (726-1296 a.a) IgG, aff pure
MERSS22-A	Rabbit Anti-MERS-Spike protein S2 protein (726-1296 a.a) IgG,
RV-402200-1	Recombinant Human Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit
RV-402210-1	Recombinant Camel Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit
RV-402220-1	Recombinant Bat Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit
RV-402230-1	Recombinant Pig Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit
RV-402240-1	Recombinant Cow Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit
RV-402250-1	Recombinant Goat/Sheep Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit
RV-402300-1	Recombinant Human Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit
RV-402310-1	Recombinant Camel Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit
RV-402320-1	Recombinant Bat Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit
RV-402330-1	Recombinant Pig Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit
RV-402340-1	Recombinant Cow Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit
RV-402350-1	Recombinant Goat/Sheep Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit

MEFRS123-M-Anti-MERS-S-IgG-Neutralizing

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