

Product Specification Sheet

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

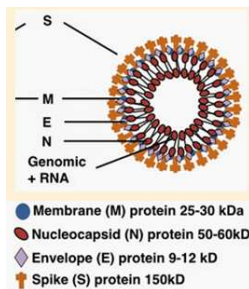
Cat # MERS122-M

Rabbit Monoclonal Anti MERS-Spike protein (S1/RBD) IgG (neutralizing)

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 have 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 animals 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 Spike Protein (cat# MERSS126-R-10)
<b>Ab Host/type</b>	Rabbit, <b>monoclonal</b> IgG, aff. pure (Cat# <b>MERS122-M</b> ) in PBS, pH 7.4 0.1% BSA. Add 0.1% azide or other preservative for long term storage.
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control</b>	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage**

**pure IgG**

100 ul solution lyophilized powder  
Buffer: PBS pH 7.4, with 0.1% BSA  
**Reconstitute powder** in 100 ul water.

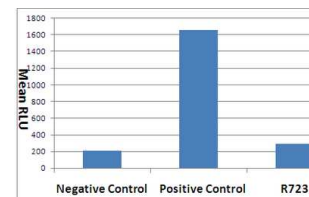
**Stability:** 6-12 months at -20oC or below.

**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.



**MERS pseudo virus neutralization:** Antibody neutralized the MERS-pseudovirus in 293/DPP4 cells.

**Specificity and cross reactivity:** This Antibody reacts with MERS-Cov spike protein (1-1297 a.a), S1 (1-725aa) or S1-RBD (367-606aa) and minimal reactivity with S2 (726-1296aa). 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
MERS126-R-10	Recombinant (S19) Purified MERS Spike protein ECD (1-1297 a.a, His-tag, ~157 kda, low Endotoxin)
MERS12-A	Rabbit Anti-MERS Spike protein S1 protein peptide, C-terminal IgG, aff pure
MERS21-M	Mouse monoclonal Anti-MERS Spike protein S2 protein (726-1296 a.a) IgG, aff pure
MERS22-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, 96 tests
RV-402210-1	Recombinant Camel Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402220-1	Recombinant Bat Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402230-1	Recombinant Pig Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402240-1	Recombinant Cow Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402250-1	Recombinant Goat/Sheep Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402300-1	Recombinant Human Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit, 96 tests
RV-402310-1	Recombinant Camel Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit, 96 tests
RV-402320-1	Recombinant Bat Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit, 96 tests
RV-402330-1	Recombinant Pig Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit, 96 tests
RV-402340-1	Recombinant Cow Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit, 96 tests
RV-402350-1	Recombinant Goat/Sheep Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 2 (S2) antibody (IgG) ELISA kit, 96 tests

MERS122-M-Anti-MERS-S-IgG-Neutralizing

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