

DESCRIPTION

Species Reactivity	MERS-CoV
Specificity	Detects Mouse MERS-CoV Nucleocapsid in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 1038729
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>Spodoptera frugiperda</i> insect ovarian cell line Sf21-derived mouse MERS-CoV Nucleocapsid Met1-Thr411 Accession # YP_007188586.1
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.

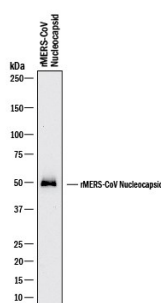
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant MERS-CoV Nucleocapsid protein
Simple Western	25 µg/mL	Recombinant MERS-CoV nucleocapsid

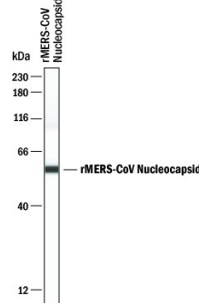
DATA

Western Blot



Detection of MERS-CoV Nucleocapsid by Western Blot. Western blot shows recombinant MERS-CoV Nucleocapsid protein. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Mouse MERS-CoV Nucleocapsid Monoclonal Antibody (Catalog # MAB10729) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for MERS-CoV Nucleocapsid at approximately 49 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Simple Western



Detection of Nucleocapsid by Simple Western™. Simple Western lane view shows recombinant MERS-CoV nucleocapsid, loaded at 0.2 mg/mL. A specific band was detected for Nucleocapsid at approximately 57 kDa (as indicated) using 25 µg/mL of Mouse Anti-MERS-CoV Nucleocapsid Monoclonal Antibody (Catalog # MAB10729). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



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. <ul style="list-style-type: none"> 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.

BACKGROUND

MERS-CoV, which causes the Middle East Respiratory Syndrome (MERS), belongs to a family of viruses known as coronaviruses that are commonly comprised of four structural proteins: Spike protein (S), Envelope protein (E), Membrane protein (M), and Nucleocapsid protein (N) (1). While the S, E and M proteins build up the viral envelope, the N protein is involved transcription, replication and packaging of the viral RNA genome into a helical ribonucleocapsid (RNP) (1, 2). The MERS-CoV N protein is a ~45 kDa protein composed of two independent structural domains connected by a linker region. The N-terminal region contains an Intrinsically Disordered Region (3) and an RNA binding domain (4), the linker region interacts with the M protein and the C-terminal region contains a self-association domain (1, 2). The MERS-CoV N protein shares 46.3% and 4.5% amino acid sequence identity with SARS-CoV-1 and SARS-CoV-2 N protein, respectively. MERS-CoV N proteins have been shown to inhibit Type I Interferon (IFN) production (1). In addition, the N protein is an abundant protein during coronavirus infection and displays high immunogenic activity, making it a promising therapeutic target (5-7).

References:

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