Anti-MAVS Antibody

HA500530

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 56 kDa

Description: Required for innate immune defense against viruses. Acts downstream of DHX33, RIGI and IFIH1/MDA5, which detect intracellular dsRNA produced during viral replication, to coordinate pathways leading to the activation of NF-kappa-B, IRF3 and IRF7, and to the subsequent induction of antiviral cytokines such as IFNB and RANTES (CCL5). Peroxisomal and mitochondrial MAVS act sequentially to create an antiviral cellular state. Upon viral infection, peroxisomal MAVS induces the rapid interferon-independent expression of defense factors that provide short-term protection, whereas mitochondrial MAVS activates an interferon-dependent signaling pathway with delayed kinetics, which amplifies and stabilizes the antiviral response. May activate the same pathways following detection of extracellular dsRNA by TLR3. May protect cells from apoptosis. Present in T-cells, monocytes, epithelial cells and hepatocytes (at protein level). Ubiquitously expressed, with highest levels in heart, skeletal muscle, liver, placenta and peripheral blood leukocytes.

Immunogen: Synthetic peptide within human MAVS aa 1-540 / 540.

Positive control: A549 cell lysate, MCF7 cell lysate, Jurkat cell lysate, HeLa cell lysate, A431 cell lysate, THP-1 cell lysate, HCT 116 cell lysate, HepG2 cell lysate, A431, human pancreas tissue.

Subcellular location: Membrane, Mitochondrion, Mitochondrion outer membrane, Peroxisome.

Database links: SwissProt: Q7Z434 Human

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:200
IHC-P	1:1,000
FC	1:1,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

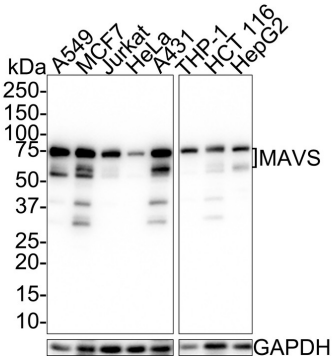

Fig1: Western blot analysis of MAVS on different lysates with Rabbit anti-MAVS antibody (HA500530) at 1/1,000 dilution.

Lane 1: A549 cell lysate
Lane 2: MCF7 cell lysate
Lane 3: Jurkat cell lysate
Lane 4: HeLa cell lysate
Lane 5: A431 cell lysate
Lane 6: THP-1 cell lysate
Lane 7: HCT 116 cell lysate
Lane 8: HepG2 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 56 kDa
Observed band size: 56/75 kDa

Exposure time: 17 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500530) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:50,000 dilution was used for 1 hour at room temperature.

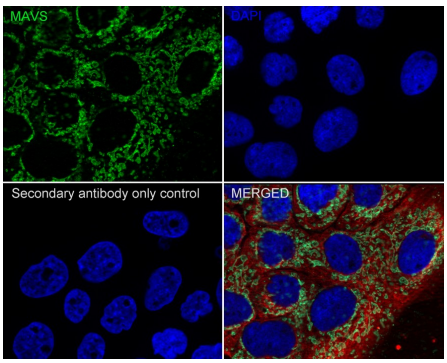

Fig2: Immunocytochemistry analysis of A431 cells labeling MAVS with Rabbit anti-MAVS antibody (HA500530) at 1/200 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-MAVS antibody (HA500530) at 1/200 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

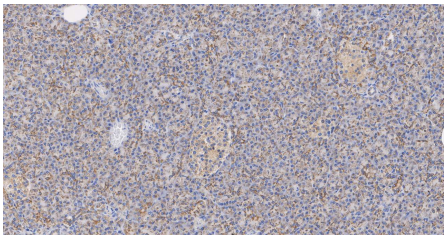

Fig3: Immunohistochemical analysis of paraffin-embedded human pancreas tissue with Rabbit anti-MAVS antibody (HA500530) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500530) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

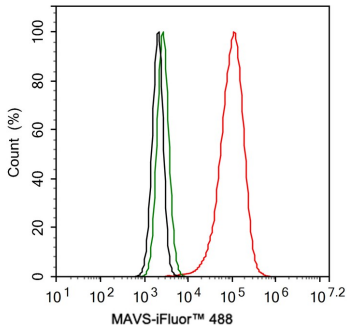

Fig4: Flow cytometric analysis of A431 cells labeling MAVS.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA500530, 1μg/mL) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Seth R.B., Sun L., Ea C.-K., Chen Z.J. Identification and characterization of MAVS, a mitochondrial antiviral signaling protein that activates NF-kappaB and IRF 3. Cell 122:669-682 (2005).
2. Dixit E., Boulant S., Zhang Y., Lee A.S., Odendall C., Shum B., Hacohen N., Chen Z.J., Whelan S.P., Fransen M., Nibert M.L., Superti-Furga G., Kagan J.C. Peroxisomes are signaling platforms for antiviral innate immunity. Cell 141:668-681 (2010).