abcam

ab290729

Anti-MAVS antibody [EPR26357-91]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26357-91
Purification technique	Affinity purification Protein A
Concentration	0.534 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-

Notes	-

Target data

See full target information MAVS

Function	Adapter required for innate immune defense against viruses (PubMed:16125763, PubMed:16127453, PubMed:16153868, PubMed:16177806, PubMed:19631370, PubMed:20127681, PubMed:20451243, PubMed:21170385, PubMed:23087404, PubMed:27992402, PubMed:33139700, PubMed:37582970, PubMed:39589880). 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) (PubMed:16125763, PubMed:16127453, PubMed:16153868, PubMed:16177806, PubMed:19631370, PubMed:20127681, PubMed:20451243, PubMed:20628368, PubMed:21170385, PubMed:23087404, PubMed:25636800, PubMed:27736772, PubMed:33110251, PubMed:40042308). Peroxisomal and mitochondrial MAVS act sequentially to create an antiviral cellular state (PubMed:20451243). 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 (PubMed:20451243). May activate the same pathways following detection of extracellular dsRNA by TLR3 (PubMed:16153868). May protect cells from apoptosis (PubMed:16125763). Involved in NLRP3 inflammasome activation by mediating NLRP3 recruitment to mitochondria (PubMed:23582325).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MAVS also known as mitochondrial antiviral-signaling protein is a critical adaptor protein involved in the innate immune response to viral infections. This protein with a molecular weight of approximately 56 kDa is expressed on the mitochondrial membrane. It plays a major role in antiviral defense by transmitting signals from cytosolic pattern recognition receptors like RIG-I-like receptors to initiate downstream immune responses. MAVS can also be referred to as IPS-1 VISA or CARDIF in scientific literature.
Biological function summary	The MAVS protein activates important signaling cascades to produce type I interferons and other cytokines which are essential in the antiviral response. MAVS forms a complex with other proteins on the mitochondrial membrane helping to coordinate a rapid immune reaction to viral pathogens. It acts by amplifying the signal from RIG-I and MDA5 facilitating their role in the recognition of viral RNA. By recruiting downstream signaling molecules MAVS enables the activation of transcription factors like IRF3 and NF-kB.
Pathways	MAVS plays a central role in the signaling pathways that regulate innate immunity including the RIG-I-like receptor signaling pathway and the NF-kB pathway. It interacts with various proteins such as TRIF and STING in the pathways to modulate immune responses. These pathways help trigger the production of antiviral substances and maintain homeostasis within the body's defense mechanisms. MAVS provides a platform for the assembly of signaling complexes which are necessary for the propagation and amplification of the immune response signal.
Associated diseases and disorders	MAVS is associated with conditions such as viral infections and autoimmune diseases. Dysregulation of MAVS activity has been linked to systemic lupus erythematosus where abnormal immune signaling may occur. MAVS also has connections with other proteins such as TRAF3 and TRAF6 which contribute to disease pathogenesis. Understanding the role of MAVS in these conditions may provide insights into therapeutic targets for improving disease outcomes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

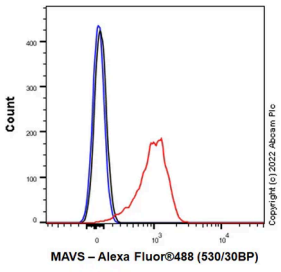
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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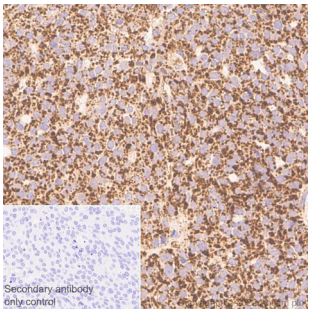
8 product images



Flow Cytometry (Intracellular) - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Flow Cytometry (Intracellular) staining of 293T (Human embryonic kidney epithelial cell) using rabbit Anti-MAVS antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized 293T (Human embryonic kidney epithelial cell) cells labelling MAVS with ab290729 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.

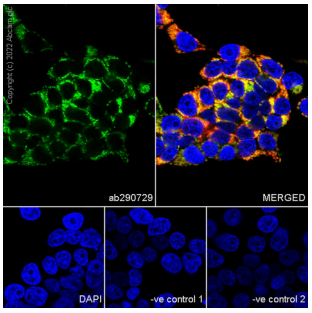


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human ovarian carcin using rabbit Anti-MAVS antibody

Immunohistochemical analysis of paraffin-embedded Human ovarian carcin tissue labeling MAVS with ab290729 at 1/500 (1.032 ug/ml) followed by a ready to use LeicaDS9800 (Bond Polymer

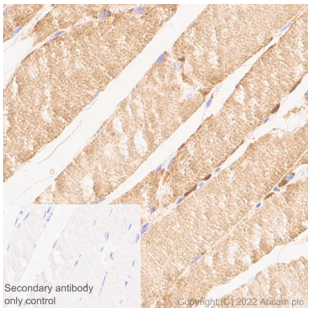
Refine Detection) was used. Cytoplasmic staining on human ovarian carcinoma (PMID: 34722508).The section was incubated with ab290729 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Immunocytochemistry/ Immunofluorescence staining of 293T (human embryonic kidney epithelial cell) using rabbit Anti-MAVS antibody

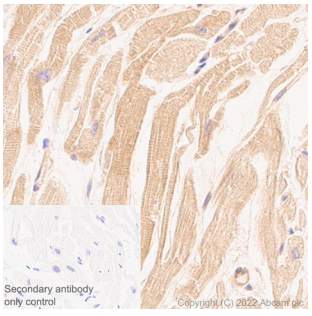
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labelling MAVS with ab290729 at 1/50 (10.32 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing mitochondrial staining in the 293T cell line is observed. ab33985 Anti-COX IV mouse monoclonal antibody - Mitochondrial Marker was used to counterstain tubulin at 1/1000 1 ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human skeletal muscl using rabbit Anti-MAVS antibody

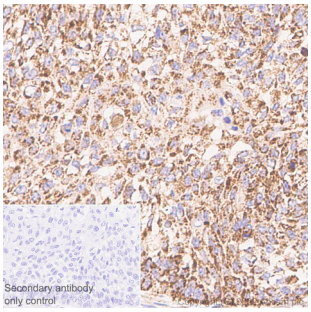
Immunohistochemical analysis of paraffin-embedded Human skeletal muscl tissue labeling MAVS with ab290729 at 1/500 (1.032 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Cytoplasmic staining on human skeletal muscle (PMID: 16153868).The section was incubated with ab290729 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cardiac muscle using rabbit Anti-MAVS antibody

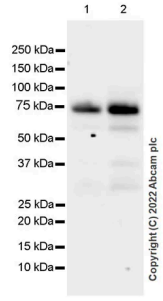
Immunohistochemical analysis of paraffin-embedded Human cardiac muscle tissue labeling MAVS with ab290729 at 1/500 (1.032 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Cytoplasmic staining on human cardiac muscle (PMID: 16153868).The section was incubated with ab290729 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human lung carcinoma using rabbit Anti-MAVS antibody

Immunohistochemical analysis of paraffin-embedded Human lung carcinoma tissue labeling MAVS with ab290729 at 1/500 (1.032 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Cytoplasmic staining on human lung carcinoma (PMID: 29285267).The section was incubated with ab290729 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection) was used. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Western blot - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Western blot staining using rabbit Anti-MAVS antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST The molecular weight observed is consistent with that described in the literature (PMID: 16125763 and 30460894) Lysates were prepared from fresh materials and used for Western blotting immediately to minimize protein degradation.
All lanes:
Western blot - Anti-MAVS antibody [EPR26357-91] (ab290729) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell fresh lysate 20 µg

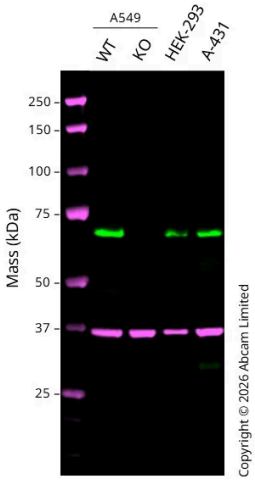
Lane 2:
293T (human embryonic kidney epithelial cell) whole cell fresh lysate 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 75 kDa, 52 kDa, 37 kDa, 30 kDa

Exposure time: 37s



Western blot - Anti-MAVS antibody [EPR26357-91] (ab290729)

MAVS Western blot staining using rabbit Anti-MAVS antibody

Western blot: Anti-MAVS antibody [EPR26357-91] ab290729 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 70 kDa in Wild-type A549 cell lysates with no signal observed at this size in MAVS knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-MAVS antibody [EPR26357-91] (ab290729) at 1/1000 dilution

Lane 1:
Wild-type A549 cell lysates at 20 µg

Lane 2:
Western blot - Human MAVS knockout A549 cell line (ab282354) at 20 µg

Lane 3:
HEK-293 cell lysates at 20 µg

Lane 4:
A-431 cell lysates at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 70 kDa

Observed band size: 70 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.