SANTA CRUZ BIOTECHNOLOGY, INC.

# MAVS (E-6): sc-365334

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

MAVS (mitochondrial antiviral-signaling protein), also known as IPS1, KIAA1271, VISA or CARDIF, is a 540 amino acid protein that contains one CARD domain and several transmembrane domains and localizes to the outer mitochondrial membrane. Expressed throughout the body with highest expression in liver, heart, placenta, skeletal muscle and peripheral blood leukocytes, MAVS functions downstream of proteins, such as RIG-I, that detect double-stranded (ds) viral replication and is required for proper immune response against ds viral infection. MAVS is thought to activate pathways that lead to the induction of antiviral cytokines and may protect the cells from viral-induced apoptosis. MAVS function can be inactivated via cleavage by a protease complex that degrades the CARD and transmembrane domains, thereby preventing MAVS from interacting with other proteins. Three isoforms of MAVS are expressed due to alternative splicing events.

## CHROMOSOMAL LOCATION

Genetic locus: Mavs (mouse) mapping to 2 F1.

## SOURCE

MAVS (E-6) is a mouse monoclonal antibody raised against amino acids 1-300 mapping within an N-terminal cytoplasmic domain of MAVS of mouse origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAVS (E-6) is available conjugated to agarose (sc-365334 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365334 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365334 PE), fluorescein (sc-365334 FITC), Alexa Fluor® 488 (sc-365334 AF488), Alexa Fluor® 546 (sc-365334 AF546), Alexa Fluor® 594 (sc-365334 AF594) or Alexa Fluor® 647 (sc-365334 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365334 AF680) or Alexa Fluor® 790 (sc-365334 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

MAVS (E-6) is recommended for detection of MAVS of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAVS siRNA (m): sc-75756, MAVS shRNA Plasmid (m): sc-75756-SH and MAVS shRNA (m) Lentiviral Particles: sc-75756-V.

Molecular Weight of cleaved MAVS: 51-54 kDa.

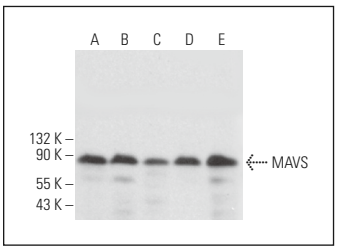
Molecular Weight of endogenous/aggregated MAVS: 57/75 kDa.

Positive Controls: BYDP whole cell lysate: sc-364368, F9 cell lysate: sc-2245 or Neuro-2A whole cell lysate: sc-364185.

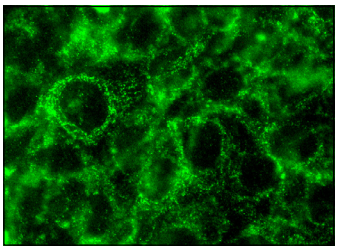
## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA




MAVS (E-6): sc-365334. Western blot analysis of MAVS expression in c4 (**A**), F9 (**B**), BYDP (**C**), TK-1 (**D**) and Neuro-2A (**E**) whole cell lysates.



MAVS (E-6): sc-365334. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS


1. Kusuma, A., et al. 2016. Hepacivirus NS3/4A proteases interfere with MAVS signaling in both their cognate animal hosts and humans: implications for zoonotic transmission. J. Virol. 90: 10670-10681.
2. Rivera-Serrano, E.E., et al. 2017. Spontaneous activation of a MAVS-dependent antiviral signaling pathway determines high basal interferon-β expression in cardiac myocytes. J. Mol. Cell. Cardiol. 111: 102-113.
3. Li, T., et al. 2018. O-GlcNAc transferase links glucose metabolism to MAVS-mediated antiviral innate immunity. Cell Host Microbe 24: 791-803.e6.
4. Zhang, W., et al. 2019. Lactate is a natural suppressor of RLR signaling by targeting MAVS. Cell 178: 176-189.e15.
5. Jena, K.K., et al. 2020. Autoimmunity gene IRGM suppresses cGAS-STING and RIG-I-MAVS signaling to control interferon response. EMBO Rep. 21: e50051.
6. Kim, S.H., et al. 2021. Mitochondrial antiviral signalling protein is crucial for the development of pulmonary fibrosis. Eur. Respir. J. 57: 2000652.
7. Liu, X., et al. 2021. The herpesvirus accessory protein $\gamma_1$34.5 facilitates viral replication by disabling mitochondrial translocation of RIG-I. PLoS Pathog. 17: e1009446.
8. Guo, E., et al. 2022. WEE1 inhibition induces anti-tumor immunity by activating ERV and the dsRNA pathway. J. Exp. Med. 219: e20210789.
9. He, B., et al. 2022. Mitochondrial cristae architecture protects against mtDNA release and inflammation. Cell Rep. 41: 111774.
10. Ren, Y., et al. 2024. CDK5-USP30 signaling pathway regulates MAVS-mediated inflammation via suppressing mitophagy in MPTP/$MPP^+$ PD model. Ecotoxicol. Environ. Saf. 279: 116446.


## RESEARCH USE

For research use only, not for use in diagnostic procedures.