SANTA CRUZ BIOTECHNOLOGY, INC.

# MAVS (E-3): sc-166583

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 *trans*-membrane 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 (human) mapping to 20p13.

## SOURCE

MAVS (E-3) is a mouse monoclonal antibody raised against amino acids 1-135 mapping within an N-terminal cytoplasmic domain of MAVS of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAVS (E-3) is available conjugated to agarose (sc-166583 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166583 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166583 PE), fluorescein (sc-166583 FITC), Alexa Fluor® 488 (sc-166583 AF488), Alexa Fluor® 546 (sc-166583 AF546), Alexa Fluor® 594 (sc-166583 AF594) or Alexa Fluor® 647 (sc-166583 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166583 AF680) or Alexa Fluor® 790 (sc-166583 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

MAVS (E-3) is recommended for detection of MAVS of human 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), immunohistochemistry (including paraffin-embedded sections) (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 (h): sc-75755, MAVS shRNA Plasmid (h): sc-75755-SH and MAVS shRNA (h) Lentiviral Particles: sc-75755-V.

Molecular Weight of cleaved MAVS: 51-54 kDa.

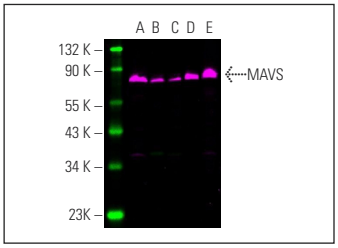
Molecular Weight of endogenous MAVS: 57 kDa.

Molecular Weight of aggregated MAVS: 75 kDa.

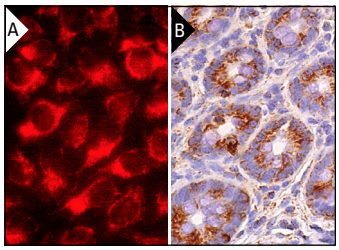
## STORAGE

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

## DATA




MAVS (E-3) Alexa Fluor® 546: sc-166583 AF546. Direct fluorescent western blot analysis of MAVS expression in K-562 (**A**), A-431 (**B**), A549 (**C**), Hep G2 (**D**) and SK-BR-3 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 680: sc-516730.




MAVS (E-3): sc-166583. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells (**B**).

## SELECT PRODUCT CITATIONS


1. Kok, K.H., et al. 2011. The double-stranded RNA-binding protein PACT functions as a cellular activator of RIG-I to facilitate innate antiviral response. Cell Host Microbe 9: 299-309.
2. Guan, K., et al. 2013. MAVS regulates apoptotic cell death by decreasing K48-linked ubiquitination of voltage-dependent anion channel 1. Mol. Cell. Biol. 33: 3137-3149.
3. Ye, J.S., et al. 2014. Lysine 63-linked TANK-binding kinase 1 ubiquitination by mindbomb E3 ubiquitin protein ligase 2 is mediated by the mitochondrial antiviral signaling protein. J. Virol. 88: 12765-12776.
4. Hwang, K.Y. and Choi, Y.B. 2015. Modulation of mitochondrial antiviral signaling by human herpesvirus 8 interferon regulatory factor 1. J. Virol. 90: 506-520.
5. Hashimoto, S., et al. 2016. Mumps virus induces protein-kinase-R-dependent stress granules, partly suppressing type III interferon production. PLoS ONE 11: e0161793.
6. Bist, P., et al. 2017. ArfGAP domain-containing protein 2 (ADAP2) integrates upstream and downstream modules of RIG-I signaling and facilitates type I interferon production. Mol. Cell. Biol. 37: e00537-16.
7. Sheng, W., et al. 2018. LSD1 Ablation stimulates anti-tumor immunity and enables checkpoint blockade. Cell 174: 549-563.e19.
8. Liu, C., et al. 2019. The otubain YOD1 suppresses aggregation and activation of the signaling adaptor MAVS through Lys63-linked deubiquitination. J. Immunol. 202: 2957-2970.


## RESEARCH USE

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