SANTA CRUZ BIOTECHNOLOGY, INC.

MDA5 (C-16): sc-48031

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The gene that encodes MDA5 (interferon induced with helicase C domain protein 1, IFIH1, melanoma differentiation-associated gene 5) is induced during differentiation, cancer reversion and programmed cell death (apoptosis) and contains both a caspase recruitment domain and supposed DExH group RNA helicase domains. The irregular helicase motifs of MDA5 avert from consensus sequences but are well conserved in a potentially new group of cloned and hypothetical proteins. MDA5 is an early response gene which is activated by IFN and tumor necrosis factor α, and responds primarily to IFN-β. Expression of MDA5 is upregulated in the presence of MEZ (a protein kinase C activating compound). Expression of MDA5 in tissues is low overall, with highest levels observed in the placenta, pancreas and spleen; MDA5 is undetectable in brain, lung and testis tissues. MDA5 also recognizes polyinosine-polycytidylic acid and RNA viruses while a playing critical role in picornavirus detection.

CHROMOSOMAL LOCATION

Genetic locus: IFIH1 (human) mapping to 2q24.2; Ifih1 (mouse) mapping to 2 C1.3.

SOURCE

MDA5 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MDA5 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-48031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MDA5 (C-16) is recommended for detection of MDA5 isoform 1 only of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MDA5 (C-16) is also recommended for detection of MDA5 isoform 1 only in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MDA5 siRNA (h): sc-61010, MDA5 siRNA (m): sc-61011, MDA5 shRNA Plasmid (h): sc-61010-SH, MDA5 shRNA Plasmid (m): sc-61011-SH, MDA5 shRNA (h) Lentiviral Particles: sc-61010-V and MDA5 shRNA (m) Lentiviral Particles: sc-61011-V.

Molecular Weight of MDA5: 117 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

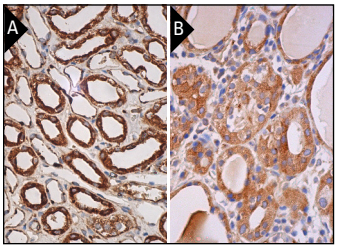
RESEARCH USE

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

STORAGE

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

DATA



MDA5 (C-16): sc-48031. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sehba, F.A., et al. 2004. Nitric oxide synthase in acute alteration of nitric oxide levels after subarachnoid hemorrhage. Neurosurgery 55: 671-677.
2. Kocic, G.M., et al. 2009. Possible impact of impaired double-stranded RNA degradation and nitrosative stress on immuno-inflammatory cascade in type 2 diabetes. Exp. Clin. Endocrinol. Diabetes 117: 480-485.
3. Xing, Z., et al. 2010. Host immune and apoptotic responses to avian influenza virus H9N2 in human tracheobronchial epithelial cells. Am. J. Respir. Cell Mol. Biol. 44: 24-33.
4. Fu, J., et al. 2010. MDA5 is SUMOylated by PIAS2β in the upregulation of Type I interferon signaling. Mol. Immunol. 48: 415-422.
5. Kocic, G., et al. 2010. Circulating nucleic acids as possible damage-associated molecular patterns in different stages of renal failure. Ren. Fail. 32: 486-492.
6. Kocic, G., et al. 2010. Hyperglycemia, oxidative and nitrosative stress affect antiviral, inflammatory and apoptotic signaling of cultured thymocytes. Redox Rep. 15: 179-184.
7. Kocic, G., et al. 2011. Circulating ribonucleic acids and metabolic stress parameters may reflect progression of autoimmune or inflammatory conditions in juvenile type 1 diabetes. ScientificWorldJournal 11: 1496-1508.
8. Estornes, Y., et al. 2012. dsRNA induces apoptosis through an atypical death complex associating TLR3 to caspase-8. Cell Death Differ. 19: 1482-1494.