SANTA CRUZ BIOTECHNOLOGY, INC.

MDA5 (C-5): sc-365630

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.

REFERENCES

1. Kang, D.C., et al. 2002. MDA5: an interferon-inducible putative RNA helicase with double-stranded RNA-dependent ATPase activity and melanoma growth-suppressive properties. Proc. Natl. Acad. Sci. USA 99: 637-642.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606951. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Cocude, C., et al. 2003. A novel cellular RNA helicase, RH116, differentially regulates cell growth, programmed cell death and human immunodeficiency virus type 1 replication. J. Gen. Virol. 84: 3215-3225.
4. Andrejeva, J., et al. 2004. The V proteins of paramyxoviruses bind the IFN-inducible RNA helicase, MDA5, and inhibit its activation of the IFN-β promoter. Proc. Natl. Acad. Sci. USA 101: 17264-17269.

CHROMOSOMAL LOCATION

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

SOURCE

MDA5 (C-5) is a mouse monoclonal antibody raised against amino acids 957-1017 mapping near the C-terminus of MDA5 of human 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.

MDA5 (C-5) is available conjugated to agarose (sc-365630 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365630 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-365630 PE), fluorescein (sc-365630 FITC), Alexa Fluor® 488 (sc-365630 AF488) or Alexa Fluor® 647 (sc-365630 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

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APPLICATIONS

MDA5 (C-5) is recommended for detection of MDA5 isoform 1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

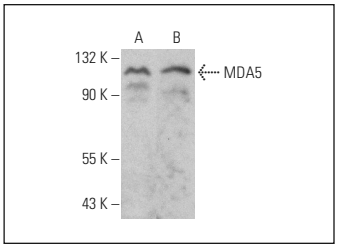
Molecular Weight of MDA5: 117 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, L8 whole cell lysate: sc-3807 or Jurkat whole cell lysate: sc-2204.

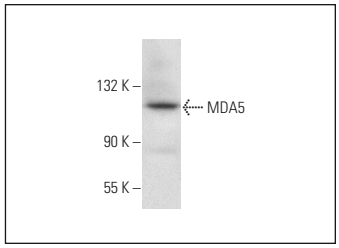
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MDA5 (C-5): sc-365630. Western blot analysis of MDA5 expression in Sol8 (**A**) and L8 (**B**) whole cell lysates.



MDA5 (C-5): sc-365630. Western blot analysis of MDA5 expression in Jurkat whole cell lysate.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.