SANTA CRUZ BIOTECHNOLOGY, INC.

MDFIC (D-9): sc-515212

BACKGROUND

MDFIC (myoD family inhibitor domain-containing protein), also known as HIC, is a 355 amino acid protein that exists as two alternatively spliced isoforms, known as p40 and p32, which localize predominately to the nucleolus and cytoplasm, respectively. Expressed in prostate, thymus, spleen and small intestine, MDFIC functions to modulate the expression of viral genomes, specifically down-regulating the transcription of HIV-1 and up-regulating the expression of HTLV-1 (T-cell leukemia virus type I). Additionally, MDFIC is able to adjust the amount of β-catenin within the cell and may also function to regulate the Wnt and JNK signaling pathways. The gene encoding MDFIC maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Thebault, S., et al. 2000. Sequence requirement for the nucleolar localization of human I-mfa domain-containing protein (HIC p40). Eur. J. Cell Biol. 79: 834-838.
2. Thebault, S., et al. 2000. Molecular cloning of a novel human I-mfa domain-containing protein that differently regulates human T-cell leukemia virus type I and HIV-1 expression. J. Biol. Chem. 275: 4848-4857.
3. Kusano, S. and Raab-Traub, N. 2002. I-mfa domain proteins interact with Axin and affect its regulation of the Wnt and c-Jun N-terminal kinase signaling pathways. Mol. Cell. Biol. 22: 6393-6405.
4. Young, T.M., et al. 2003. The human I-mfa domain-containing protein, HIC, interacts with cyclin T1 and modulates P-TEFb-dependent transcription. Mol. Cell. Biol. 23: 6373-6384.
5. Gautier, V.W., et al. 2005. Direct interaction of the human I-mfa domain-containing protein, HIC, with HIV-1 Tat results in cytoplasmic sequestration and control of Tat activity. Proc. Natl. Acad. Sci. USA 102: 16362-16367.
6. Wang, Q., et al. 2007. Developmental regulators containing the I-mfa domain interact with T cyclins and Tat and modulate transcription. J. Mol. Biol. 367: 630-646.
7. Cigognini, D., et al. 2007. HIC gene, a candidate suppressor gene within a minimal region of loss at 7q31.1 in myeloid neoplasms. Leuk. Res. 31: 477-482.

CHROMOSOMAL LOCATION

Genetic locus: MDFIC (human) mapping to 7q31.1.

SOURCE

MDFIC (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 181-199 within an internal region of MDFIC of human origin.

RESEARCH USE

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

PRODUCT

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

MDFIC (D-9) is available conjugated to agarose (sc-515212 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515212 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515212 PE), fluorescein (sc-515212 FITC), Alexa Fluor® 488 (sc-515212 AF488), Alexa Fluor® 546 (sc-515212 AF546), Alexa Fluor® 594 (sc-515212 AF594) or Alexa Fluor® 647 (sc-515212 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515212 AF680) or Alexa Fluor® 790 (sc-515212 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515212 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MDFIC (D-9) is recommended for detection of MDFIC 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

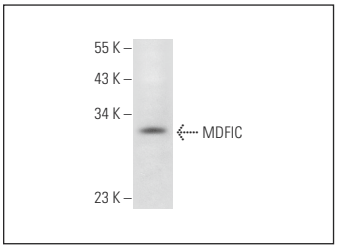
Suitable for use as control antibody for MDFIC siRNA (h): sc-89686, MDFIC shRNA Plasmid (h): sc-89686-SH and MDFIC shRNA (h) Lentiviral Particles: sc-89686-V.

Molecular Weight of MDFIC p32 isoform: 32 kDa.

Molecular Weight of MDFIC p40 isoform: 40 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

DATA



MDFIC (D-9): sc-515212. Western blot analysis of MDFIC expression in MCF7 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.