SANTA CRUZ BIOTECHNOLOGY, INC.

MIST1 (1H1): sc-80983

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MIST1 (muscle, intestine and stomach expression 1), also known as bHLHB8 (basic helix-loop-helix domain containing, class B, 8), is a 189 amino acid nuclear protein expressed in liver, brain, skeletal muscle and spleen. MIST1 contains a basic helix-loop-helix (bHLH) domain and belongs to the bHLH family of transcription factors. Members of this family bind to the E-box motifs present in the promoter or enhancer regions of a variety of developmentally regulated genes and function as either transcriptional activators or transcriptional repressors. MIST1 is capable of binding to E-box motifs as a homodimer or a heterodimer with E-proteins (E12 and E47) and is believed to play a role regulating the transcriptional activity of MyoD, a protein involved in the regulation of muscle cell development. More specifically, MIST1 functions as a repressor of MyoD activity, ensuring that myoblast populations do not differentiate. In addition, MIST1 is expressed in mammary epithelial cells and is essential for the regulation of mammary gland development.

REFERENCES

1. Lemercier, C., et al. 1997. MIST1: a novel basic helix-loop-helix transcription factor exhibits a developmentally regulated expression pattern. Dev. Biol. 182: 101-113.
2. Yoshida, S., et al. 2001. Sgn1, a basic helix-loop-helix transcription factor delineates the salivary gland duct cell lineage in mice. Dev. Biol. 240: 517-530.
3. Pin, C.L., et al. 2001. The bHLH transcription factor MIST1 is required to maintain exocrine pancreas cell organization and acinar cell identity. J. Cell Biol. 155: 519-530.
4. McLellan, A.S., et al. 2002. Exhaustive identification of human class II basic helix-loop-helix proteins by virtual library screening. Mech. Dev. 119: S285-S291.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608606. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Bhlhb8 (mouse) mapping to 5 G2.

SOURCE

MIST1 (1H1) is a mouse monoclonal antibody raised against amino acids 1-20 corresponding to the N-terminus of MIST1 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.

STORAGE

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

APPLICATIONS

MIST1 (1H1) is recommended for detection of MIST1 of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MIST1 siRNA (m): sc-108000, MIST1 shRNA Plasmid (m): sc-108000-SH and MIST1 shRNA (m) Lentiviral Particles: sc-108000-V.

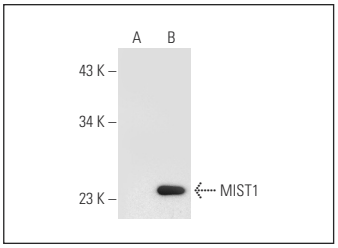
Molecular Weight of MIST1: 22 kDa.

Positive Controls: MIST1 (m2): 293T Lysate: sc-121666.

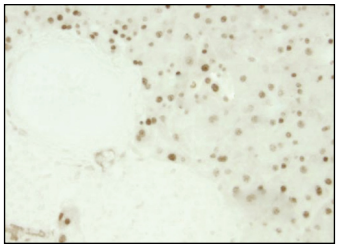
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MIST1 (1H1): sc-80983. Western blot analysis of MIST1 expression in non-transfected: sc-117752 (**A**) and mouse MIST1 transfected: sc-121666 (**B**) 293T whole cell lysates.



MIST1 (1H1): sc-80983. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse pancreas tissue showing nuclear staining of acinar cells. Kindly provided by Daniel DiRenzo and Stephen Konieczny, Purdue University.

RESEARCH USE

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

CONJUGATES

See **MIST1 (6E8): sc-80984** for MIST1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.