

MIST1 (A-6): sc-166181

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.

CHROMOSOMAL LOCATION

Genetic locus: BHLHA15 (human) mapping to 7q21.3; Bhlha15 (mouse) mapping to 5 G2.

SOURCE

MIST1 (A-6) is a mouse monoclonal antibody raised against amino acids 63-102 mapping within an internal region of MIST1 of human origin.

PRODUCT

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

MIST1 (A-6) is available conjugated to agarose (sc-166181 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166181 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166181 PE), fluorescein (sc-166181 FITC), Alexa Fluor® 488 (sc-166181 AF488), Alexa Fluor® 546 (sc-166181 AF546), Alexa Fluor® 594 (sc-166181 AF594) or Alexa Fluor® 647 (sc-166181 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166181 AF680) or Alexa Fluor® 790 (sc-166181 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MIST1 (A-6) is recommended for detection of MIST1 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), 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 MIST1 siRNA (h): sc-89777, MIST1 siRNA (m): sc-108000, MIST1 shRNA Plasmid (h): sc-89777-SH, MIST1 shRNA Plasmid (m): sc-108000-SH, MIST1 shRNA (h) Lentiviral Particles: sc-89777-V and MIST1 shRNA (m) Lentiviral Particles: sc-108000-V.

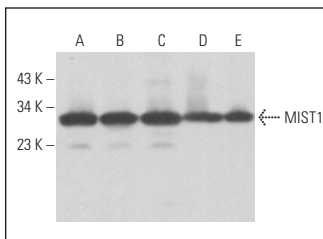
Molecular Weight of MIST1: 22 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

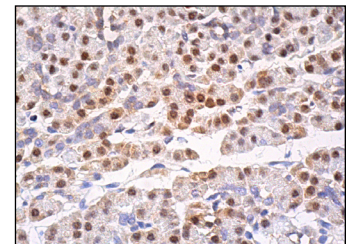
RECOMMENDED SUPPORT REAGENTS

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, 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 (A-6): sc-166181. Western blot analysis of MIST1 expression in K-562 (A), HeLa (B), Jurkat (C), NIH/3T3 (D) and 3T3-L1 (E) whole cell lysates.



MIST1 (A-6): sc-166181. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear staining of exocrine glandular cells.

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.