

# MIST1 (1H1): sc-80983

## 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. Lemerrier, 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.

## CHROMOSOMAL LOCATION

Genetic locus: Bhlha15 (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<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

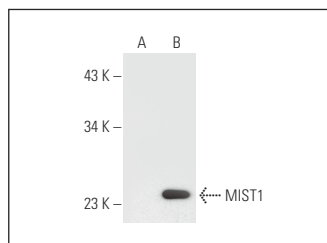
Positive Controls: MIST1 (m2): 293T Lysate: sc-121666.

## RECOMMENDED SUPPORT REAGENTS

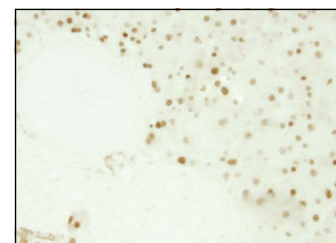
To ensure optimal results, the following support reagents are recommended:

- 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.

## SELECT PRODUCT CITATIONS

1. Vanhoutte, D., et al. 2021. Thbs1 induces lethal cardiac atrophy through PERK-ATF4 regulated autophagy. *Nat. Commun.* 12: 3928.

## 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](http://www.scbt.com) for detailed protocols and support products.



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