SANTA CRUZ BIOTECHNOLOGY, INC.

Menin (H-300): sc-5566

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Menin (multiple endocrine neoplasia I, MEN1, MEAI, SCG2) is a nuclear tumor suppressor that is mutated in patients with multiple endocrine neoplasia type I (MEN1). Menin can activate the transcription of differentiation-regulating genes by covalent histone modification. In osteoblasts, the interaction of menin and the TGFβ/Smad3 pathway negatively regulates BMP2/Smad1/5- and Runx2-dependent transcription activities leading to inhibition of late-stage differentiation. Menin regulates the expression of IGFBP-2 by influencing the IGFBP-2 promoter. Ectopic overexpression of Menin via adenoviruses induces apoptosis in murine embryonic fibroblasts in a Bax/Bak-dependent manner. Two mRNA exist and two variants of the shorter mRNA have alternative splicing that changes the CDS. Five variants where alternative splicing takes place in the 5' UTR have been identified.

REFERENCES

1. Obungu, V.H., et al. 2003. Menin, a tumor suppressor, associates with nonmuscle myosin II-A heavy chain. Oncogene 22: 6347-6358.
2. Schnepp, R.W., et al. 2004. Menin induces apoptosis in murine embryonic fibroblasts. J. Biol. Chem. 279: 10685-10691.
3. Hughes, C.M., et al. 2004. Menin associates with a trithorax family histone methyltransferase complex and with the HoxC8 locus. Mol. Cell 13: 587-597.
4. La, P., et al. 2004. Tumor suppressor menin regulates expression of Insulin-like growth factor binding protein 2. Endocrinology 145: 3443-3450.
5. Sowa, H., et al. 2004. Menin is required for bone morphogenetic protein 2- and transforming growth factor β-regulated osteoblastic differentiation through interaction with Smads and Runx2. J. Biol. Chem. 279: 40267-40275.
6. La, P., et al. 2004. Direct binding of DNA by tumor suppressor menin. J. Biol. Chem. 279: 49045-49054.
7. Naito, J., et al. 2005. Menin suppresses osteoblast differentiation by antagonizing the AP-1 factor, JunD. J. Biol. Chem. 280: 4785-4791.
8. Milne, T.A., et al. 2005. Menin and MLL cooperatively regulate expression of cyclin-dependent kinase inhibitors. Proc. Natl. Acad. Sci. USA 102: 749-754.

CHROMOSOMAL LOCATION

Genetic locus: MEN1 (human) mapping to 11q13.1; Men1 (mouse) mapping to 19 A.

SOURCE

Menin (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mappping at the N-terminus of Menin of human origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

Menin (H-300) is recommended for detection of Menin of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

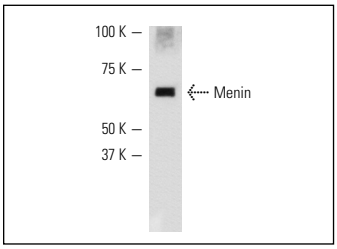
Menin (H-300) is also recommended for detection of Menin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Menin siRNA (h): sc-35922, Menin siRNA (m): sc-35923, Menin shRNA Plasmid (h): sc-35922-SH, Menin shRNA Plasmid (m): sc-35923-SH, Menin shRNA (h) Lentiviral Particles: sc-35922-V and Menin shRNA (m) Lentiviral Particles: sc-35923-V.

Molecular Weight of Menin: 67 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat + PMA nuclear extract: sc-2133 or A-431 nuclear extract: sc-2122.

DATA



Menin (H-300): sc-5566. Western blot analysis of Menin expression in K-562 nuclear extract.

SELECT PRODUCT CITATIONS

1. Yokoyama, A., et al. 2004. Leukemia proto-oncoprotein MLL forms a SET1-like histone methyltransferase complex with Menin to regulate Hox gene expression. Mol. Cell. Biol. 24: 2639-2649.
2. Smart, N.G., et al. 2006. Conditional expression of Smad7 in pancreatic β cells disrupts TGFβ signaling and induces reversible diabetes mellitus. PLoS Biol. 4: e39.
3. Arnold, C.N., et al. 2007. Analysis of molecular pathways in sporadic neuroendocrine tumors of the gastro-entero-pancreatic system. Int. J. Cancer 120: 2157-2164.
4. Uppal, A., et al. 2015. 14q32-encoded microRNAs mediate an oligometastatic phenotype. Oncotarget 6: 3540-3552.

STORAGE

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