

MIB1 (D-19): sc-85059

BACKGROUND

The LIN-12/notch family of transmembrane receptors is believed to play a central role in development by regulating cell fate decisions. MIB1 (E3 ubiquitin-protein ligase MIB1), also known as mind bomb homolog 1 and DAPK-interacting protein 1, is a 1,006 amino acid E3 ubiquitin ligase that activates the notch ligand Delta. MIB1 ubiquitinates Delta by binding to its intracellular domain, leading to the endocytosis and eventual degradation of the Delta receptor, which, paradoxically, results in the up-regulation of receptor activity and enhances notch signaling. MIB1 also interacts with DAPK, a protein that plays an important role in the regulation of apoptosis. Ubiquitination of DAPK leads to inhibition of caspase-dependent apoptosis, therefore it is likely that overexpression of MIB1 can lead to tumor growth. Although it seems to be widely expressed at low levels, MIB1 is expressed at highest concentrations in the CNS and ovary. Both DAPK and MIB1 are overexpressed in epileptic brain tissue, suggesting that they probably cooperate as regulators of neuronal death in epilepsy.

REFERENCES

1. Jin, Y., et al. 2002. A death-associated protein kinase (DAPK)-interacting protein, DIP-1, is an E3 ubiquitin ligase that promotes tumor necrosis factor-induced apoptosis and regulates the cellular levels of DAPK. *J. Biol. Chem.* 277: 46980-46986.
2. Le Borgne, R., et al. 2003. Notch signaling: endocytosis makes Delta signal better. *Curr. Biol.* 13: R273-R275.
3. Itoh, M., et al. 2003. Mind bomb is a ubiquitin ligase that is essential for efficient activation of notch signaling by Delta. *Dev. Cell* 4: 67-82.
4. Henshall, D.C., et al. 2004. Death-associated protein kinase expression in human temporal lobe epilepsy. *Ann. Neurol.* 55: 485-494.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 608677. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Choe, E.A., et al. 2007. Neuronal morphogenesis is regulated by the interplay between cyclin-dependent kinase 5 and the ubiquitin ligase mind bomb 1. *J. Neurosci.* 27: 9503-9512.
7. Song, R., et al. 2008. Mind bomb 1 in the lymphopoietic niches is essential for T and marginal zone B cell development. *J. Exp. Med.* 205: 2525-2536.
8. Yoon, M.J., et al. 2008. Mind bomb 1 is essential for intraembryonic hematopoiesis in the aortic endothelium and the subaortic patches. *Mol. Cell. Biol.* 28: 4794-4804.
9. Yoon, K.J., et al. 2008. Mind bomb 1-expressing intermediate progenitors generate notch signaling to maintain radial glial cells. *Neuron* 58: 519-531.

CHROMOSOMAL LOCATION

Genetic locus: MIB1 (human) mapping to 18q11.2; Mib1 (mouse) mapping to 18 A1.

SOURCE

MIB1 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MIB1 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.

Blocking peptide available for competition studies, sc-85059 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MIB1 (D-19) is recommended for detection of MIB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MIB1 (D-19) is also recommended for detection of MIB1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MIB1 siRNA (h): sc-75781, MIB1 siRNA (m): sc-149419, MIB1 shRNA Plasmid (h): sc-75781-SH, MIB1 shRNA Plasmid (m): sc-149419-SH, MIB1 shRNA (h) Lentiviral Particles: sc-75781-V and MIB1 shRNA (m) Lentiviral Particles: sc-149419-V.

Molecular Weight of MIB1: 110 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.



Try **MIB1 (D-6): sc-393551** or **MIB1 (B-9): sc-393811**, our highly recommended monoclonal alternatives to MIB1 (D-19).