

MAP-1B (6): sc-135978

BACKGROUND

Microtubules, the primary component of the cytoskeletal network, interact with proteins called microtubule-associated proteins (MAPs). The microtubule-associated proteins can be divided into two groups, structural and dynamic. The structural microtubule-associated proteins, MAP-1A, MAP-1B, MAP-2A, MAP-2B and MAP-2C, stimulate tubulin assembly, enhance microtubule stability and influence the spatial distribution of microtubules within cells. Both MAP-1 and, to a greater extent, MAP-2 have been implicated as agents of microtubule depolymerization by suppressing the dynamic instability of the microtubules. The suppression of microtubule dynamic instability by the MAP proteins is thought to be associated with phosphorylation of the MAPs.

REFERENCES

1. Sloboda, R.D., et al. 1976. Microtubule-associated proteins and the stimulation of tubulin assembly *in vitro*. *Biochemistry* 15: 4497-4505.
2. Murphy, D.B., et al. 1977. Role of Tubulin-associated proteins in microtubule nucleation and elongation. *J. Mol. Biol.* 117: 33-52.
3. Hasegawa, M., et al. 1990. Immunochemical evidence that fragments of phosphorylated MAP-5 (MAP-1B) are bound to neurofibrillary tangles in Alzheimer's disease. *Neuron* 4: 909-918.
4. MacRae, T.H. 1992. Towards an understanding of microtubule function and cell organization: an overview. *Biochem. Cell Biol.* 70: 835-841.
5. Davis, R.J. 1993. The mitogen-activated protein kinase signal transduction pathway. *J. Biol. Chem.* 268: 14553-14556.
6. Maccioni, R.B. and Cambiazo, V. 1995. Role of microtubule-associated proteins in the control of microtubule assembly. *Physiol. Rev.* 75: 835-864.
7. Dhamodharan, R. and Wadsworth, P. 1995. Modulation of microtubule dynamic instability *in vivo* by brain microtubule associated proteins. *J. Cell Sci.* 108: 1679-1689.
8. Vandecastelaere, A., et al. 1996. Differences in the regulation of microtubule dynamics by microtubule-associated proteins MAP-1B and MAP-2. *Cell Motil. Cytoskeleton* 35: 134-146.

CHROMOSOMAL LOCATION

Genetic locus: MAP1B (human) mapping to 5q13.2; Mtap1b (mouse) mapping to 13 D1.

SOURCE

MAP-1B (6) is a mouse monoclonal antibody raised against amino acids 1745-1858 of MAP-1B of mouse origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

STORAGE

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

APPLICATIONS

MAP-1B (6) is recommended for detection of MAP-1B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for MAP-1B siRNA (h): sc-35851, MAP-1B siRNA (m): sc-35852, MAP-1B shRNA Plasmid (h): sc-35851-SH, MAP-1B shRNA Plasmid (m): sc-35852-SH, MAP-1B shRNA (h) Lentiviral Particles: sc-35851-V and MAP-1B shRNA (m) Lentiviral Particles: sc-35852-V.

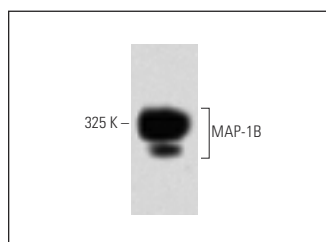
Molecular Weight (predicted) of MAP-1B heavy chain: 271 kDa.

Molecular Weight (observed) of MAP-1B heavy chain: 325 kDa.

Molecular Weight of MAP-1B light chain: 34 kDa.

Positive Controls: mouse fetus head tissue extract or PC-12 cell lysate: sc-2250.

DATA



MAP-1B (6): sc-135978. Western blot analysis of MAP-1B expression in mouse fetus head tissue extract.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2015. Mutations in the microtubule-associated protein 1A (Map1a) gene cause Purkinje cell degeneration. *J. Neurosci.* 35: 4587-4598.
2. Buscaglia, G., et al. 2022. Bridging the Gap: the importance of TUBA1A α -tubulin in forming midline commissures. *Front. Cell Dev. Biol.* 9: 789438.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.