

# MAP-1A (G-20): sc-30532

## 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 micro-tubule 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., Dentler, W.L. and Rosenbaum, J.L. 1976. Microtubule-associated proteins and the stimulation of tubulin assembly *in vitro*. *Biochemistry* 15: 4497-4505.
2. Murphy, D.B., Johnson, K.A. and Borisy, G.G. 1977. Role of tubulin-associated proteins in microtubule nucleation and elongation. *J. Mol. Biol.* 117: 33-52.
3. Hasegawa, M., Arai, T. and Ihara, Y. 1990. Immunochemical evidence that fragments of phosphorylated MAP5 (MAP1B) 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. Vandecandelaere, A., Pedrotti, B., Utton, M.A., Calvert, R.A. and Bayley, P.M. 1996. Differences in the regulation of microtubule dynamics by microtubule-associated proteins MAP1B and MAP2. *Cell Motil. Cytoskeleton* 35: 134-146.

## CHROMOSOMAL LOCATION

Genetic locus: MAP1A (human) mapping to 15q15.3; Mtap1a (mouse) mapping to 2 E5.

## SOURCE

MAP-1A (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MAP-1A 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-30532 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MAP-1A (G-20) is recommended for detection of MAP-1A 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).

MAP-1A (G-20) is also recommended for detection of MAP-1A in additional species, including equine, canine and bovine.

Suitable for use as control antibody for MAP-1A siRNA (h): sc-43392, MAP-1A siRNA (m): sc-43393, MAP-1A shRNA Plasmid (h): sc-43392-SH, MAP-1A shRNA Plasmid (m): sc-43393-SH, MAP-1A shRNA (h) Lentiviral Particles: sc-43392-V and MAP-1A shRNA (m) Lentiviral Particles: sc-43393-V.

Molecular Weight of MAP-1A: 380 kDa.

Positive Controls: H4 cell lysate: sc-2408.

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