SANTA CRUZ BIOTECHNOLOGY, INC.

MAP-1A (N-18): sc-8969

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Microtubules, the primary component of the 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, -1B and -2 function to 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 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. Dhamodharan, R. and Wadsworth, P. 1995. Modulation of microtubule dynamic instability *in vivo* by brain microtubule associated proteins. J. Cell Sci. 108: 1679-1689.
7. Maccioni, R.B. and Cambiazo, V. 1995. Role of microtubule-associated proteins in the control of microtubule assembly. Physiol. Rev. 75: 835-864.

CHROMOSOMAL LOCATION

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

SOURCE

MAP-1A (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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-8969 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MAP-1A (N-18) 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), 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).

MAP-1A (N-18) is also recommended for detection of MAP-1A in additional species, including equine, canine, bovine and porcine.

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.

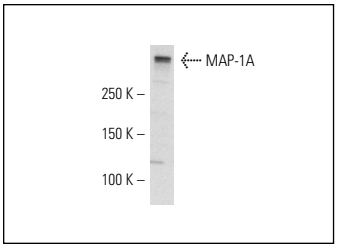
Molecular Weight of MAP-1A: 380 kDa.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MAP-1A (N-18): sc-8969. Western blot analysis of MAP-1A expression in H4 whole cell lysate.

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.

RESEARCH USE

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