SANTA CRUZ BIOTECHNOLOGY, INC.

MAP-1B (C-20): sc-8971

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.

CHROMOSOMAL LOCATION

Genetic locus: MAP1A (human) mapping to 15q15.3, MAP1B (human) mapping to 5q13.2; Mtap1a (mouse) mapping to 2 E5; Mtap1b (mouse) mapping to 13 D1.

SOURCE

MAP-1B (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MAP-1B 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-8971 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.

RESEARCH USE

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

APPLICATIONS

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

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 Heavy chain: 34 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

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.

SELECT PRODUCT CITATIONS

1. Opal, P., et al. 2003. Mapmodulin/leucine-rich acidic nuclear protein binds the light chain of microtubule-associated protein 1B and modulates neuritogenesis. J. Biol. Chem. 278: 34691-34699.
2. Opal, P., et al. 2004. Generation and characterization of LANP/pp32 null mice. Mol. Cell. Biol. 24: 3140-3149.
3. Maurer, M.H., et al. 2004. Cloning of a novel neuronally expressed orphan G protein-coupled receptor which is upregulated by erythropoietin, interacts with microtubule-associated protein 1b and colocalizes with the 5-hydroxytryptamine 2a receptor. J. Neurochem. 91: 1007-1017.
4. Ives, J.H., et al. 2004. Microtubule-associated protein light chain 2 is a stargazin-AMPA receptor complex-interacting protein *in vivo*. J. Biol. Chem. 279: 31002-31009.
5. Longhurst, D.M., et al. 2006. Interaction of PDZRhoGEF with microtubule-associated protein 1 light chains: link between microtubules, Actin cytoskeleton, and neuronal polarity. J. Biol. Chem. 281: 12030-12040.
6. Lee, S.Y., et al. 2008. Microtubule-associated protein 1B light chain (MAP1B-LC1) negatively regulates the activity of tumor suppressor p53 in neuroblastoma cells. FEBS Lett. 582: 2826-2832.
7. Liu, Y., et al. 2015. Mutations in the microtubule-associated protein 1A (Map1a) gene cause Purkinje cell degeneration. J. Neurosci. 35: 4587-4598.

PROTOCOLS

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