

MAP-2 (B-8): sc-74420

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.

CHROMOSOMAL LOCATION

Genetic locus: MAP2 (human) mapping to 2q34.

SOURCE

MAP-2 (B-8) is a mouse monoclonal antibody raised against amino acids 1-300 of MAP-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MAP-2 (B-8) is recommended for detection of MAP-2 of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAP-2 siRNA (h): sc-35853, MAP-2 shRNA Plasmid (h): sc-35853-SH and MAP-2 shRNA (h) Lentiviral Particles: sc-35853-V.

Molecular Weight of MAP-2: 280 kDa.

Molecular Weight of MAP-2 low molecular weight isoform: 70 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or SK-N-SH cell lysate: sc-2410.

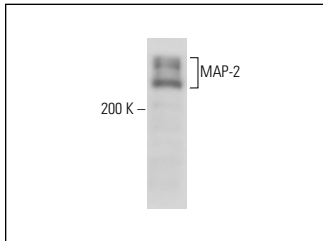
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

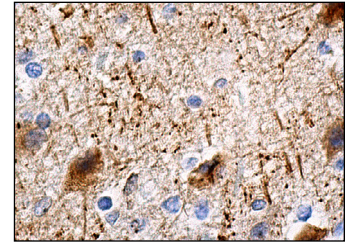
STORAGE

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

DATA



MAP-2 (B-8): sc-74420. Western blot analysis of MAP-2 expression in IMR-32 whole cell lysate.



MAP-2 (B-8): sc-74420. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing neuropil and cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

- Zhou, Y., et al. 2010. Astrocytes express N-methyl-D-aspartate receptor subunits in development, ischemia and post-ischemia. *Neurochem. Res.* 35: 2124-2134.
- Gallego Romero, I., et al. 2015. A panel of induced pluripotent stem cells from chimpanzees: a resource for comparative functional genomics. *Elife* 4: e07103.
- Gori, M., et al. 2016. Expression of microtubule associated protein 2 and synaptophysin in endometrium: high levels in deep infiltrating endometriosis lesions. *Fertil. Steril.* 105: 435-443.
- Luddi, A., et al. 2019. Increased expression of neurogenic factors in uterine fibroids. *Hum. Reprod.* 34: 2153-2162.
- Xu, R., et al. 2019. OLIG2 drives abnormal neurodevelopmental phenotypes in human iPSC-based organoid and chimeric mouse models of Down syndrome. *Cell Stem Cell* 24: 908-926.e8.
- Jin, M., et al. 2022. Type-I-interferon signaling drives microglial dysfunction and senescence in human iPSC models of Down syndrome and Alzheimer's disease. *Cell Stem Cell* 29: 1135-1153.e8.

RESEARCH USE

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

PROTOCOLS

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



See **MAP-2 (A-4): sc-74421** for MAP-2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.