SANTA CRUZ BIOTECHNOLOGY, INC.

MAP-2 (C-2): sc-390543

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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; Map2 (mouse) mapping to 1 C3.

SOURCE

MAP-2 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1754-1777 of MAP-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390543 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% 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-2 (C-2) is recommended for detection of MAP-2A, MAP-2B and MAP-2C of mouse, rat and 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).

MAP-2 (C-2) is also recommended for detection of MAP-2A, MAP-2B and MAP-2C in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MAP-2 siRNA (h): sc-35853, MAP-2 siRNA (m): sc-35854, MAP-2 shRNA Plasmid (h): sc-35853-SH, MAP-2 shRNA Plasmid (m): sc-35854-SH, MAP-2 shRNA (h) Lentiviral Particles: sc-35853-V and MAP-2 shRNA (m) Lentiviral Particles: sc-35854-V.

Molecular Weight of MAP-2: 280 kDa.

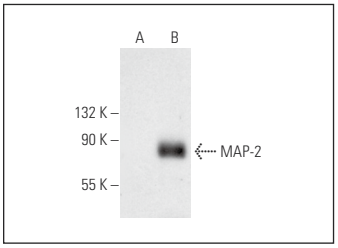
Molecular Weight of MAP-2 low molecular weight isoform: 70 kDa.

Positive Controls: MAP-2 (h): 293T Lysate: sc-115536.

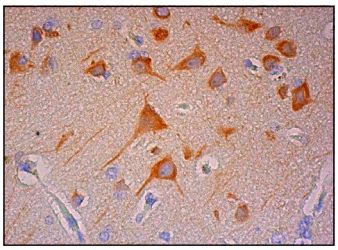
RECOMMENDED SUPPORT REAGENTS

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.

DATA



MAP-2 (C-2): sc-390543. Western blot analysis of MAP-2 expression in non-transfected: sc-117752 (**A**) and human MAP-2 transfected: sc-115536 (**B**) 293T whole cell lysates.



MAP-2 (C-2): sc-390543. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

1. Mustapic, M., et al. 2017. Plasma extracellular vesicles enriched for neuronal origin: a potential window into brain pathologic processes. Front. Neurosci. 11: 278.
2. Al Mamun, A., et al. 2021. IRF5 signaling in phagocytes is detrimental to neonatal hypoxic ischemic encephalopathy. Transl. Stroke Res. 12: 602-614.
3. Dienel, A., et al. 2021. Agonism of the α_7-acetylcholine receptor/PI3K/Akt pathway promotes neuronal survival after subarachnoid hemorrhage in mice. Exp. Neurol. 344: 113792.
4. Niemann, T., et al. 2023. EPO regulates neuronal differentiation of adult human neural-crest derived stem cells in a sex-specific manner. BMC Neurosci. 24: 19.
5. Chang, C.Y., et al. 2024. NMDA receptor blockade attenuates Japanese encephalitis virus infection-induced microglia activation. J. Neuroinflammation 21: 291.

RESEARCH USE

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