

MAP-2 (AA6): sc-80013

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.

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 MAP-5 (MAP-1B) are bound to neurofibrillary tangles in Alzheimer's disease. *Neuron* 4: 909-918.

CHROMOSOMAL LOCATION

Genetic locus: MAP2 (human) mapping to 2q34; Mtap2 (mouse) mapping to 1 C3.

SOURCE

MAP-2 (AA6) is a mouse monoclonal antibody raised against Taxol-stabilized microtubules derived from brain of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MAP-2 (AA6) is recommended for detection of MAP-2 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

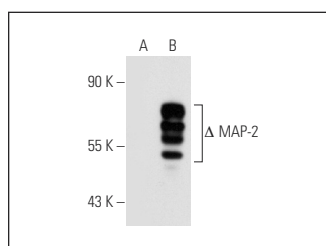
Molecular Weight of MAP-2 low molecular weight isoform: 70 kDa.

Positive Controls: MAP-2 (m): 293T Lysate: sc-121505, MAP-2 (h): 293T Lysate: sc-115536 or mouse brain extract: sc-2253.

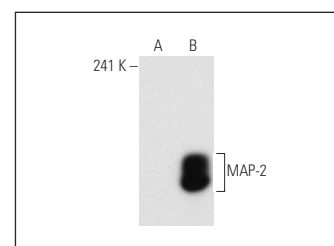
RECOMMENDED SUPPORT REAGENTS

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.

DATA



MAP-2 (AA6): sc-80013. Western blot analysis of MAP-2 expression in non-transfected: sc-117752 (A) and truncated mouse MAP-2 transfected: sc-121505 (B) 293T whole cell lysates.



MAP-2 (AA6): sc-80013. 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.

SELECT PRODUCT CITATIONS

1. Wei, J., et al. 2010. Regulation of AMPA receptor trafficking and function by glycogen synthase kinase 3. *J. Biol. Chem.* 285: 26369-26376.
2. Ji, C. and Kosman, D.J. 2015. Molecular mechanisms of non-transferrin-bound and transferrin-bound iron uptake in primary hippocampal neurons. *J. Neurochem.* 133: 668-683.
3. Wei, J., et al. 2016. Histone modification of Nedd4 ubiquitin ligase controls the loss of AMPA receptors and cognitive impairment induced by repeated stress. *J. Neurosci.* 36: 2119-2130.
4. Litwa, E., et al. 2016. RXRα, PXR and CAR xenobiotic receptors mediate the apoptotic and neurotoxic actions of nonylphenol in mouse hippocampal cells. *J. Steroid Biochem. Mol. Biol.* 156: 43-52.

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.

CONJUGATES

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.