

# MAP-4 (E-1): sc-365492

## 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 MAP proteins function to stimulate tubulin assembly, enhance microtubule stability, influence the spatial distribution of microtubules within cells and utilize microtubule polarity to translocate cellular components. MAP-4 is a non-neuronal microtubule-associated protein that contains three, 18 amino acid repeats that are homologous to the repeats found in several other MAP proteins. Studies have shown that MAP-4 is involved with interphase microtubule, mitotic spindle fibers and mitotic movements. The protein, which promotes microtubule assembly, is primarily expressed in kidney, lung, liver, testis and spleen.

## REFERENCES

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2. West, R.R., et al. 1991. A model for microtubule-associated protein 4 structure. Domains defined by comparisons of human, mouse, and bovine sequences. *J. Biol. Chem.* 266: 21886-21896.
3. Mangan, M.E., et al. 1996. A muscle-specific variant of microtubule-associated protein 4 (MAP-4) is required in myogenesis. *Development* 122: 771-781.
4. Kumarapeli, A.R. and Wang, X. 2004. Genetic modification of the heart: chaperones and the cytoskeleton. *J. Mol. Cell. Cardiol.* 37: 1097-1109.
5. Kokkinakis, D.M., et al. 2004. Modulation of gene expression in human central nervous system tumors under methionine deprivation-induced stress. *Cancer Res.* 64: 7513-7525.
6. Li, C., et al. 2004. *In vitro* study of cell-promoting multiple-armed peptides. *J. Biomed. Mater. Res. A* 71: 134-142.
7. Liang, Y.C., et al. 2005. Characterization of long-term potentiation of primary afferent transmission at trigeminal synapses of juvenile rats: essential role of subtype 5 metabotropic glutamate receptors. *Pain* 114: 417-428.
8. Cheng, G., et al. 2005. Inhibition of  $\beta$ -adrenergic receptor trafficking in adult cardiocytes by MAP4 decoration of microtubules. *Am. J. Physiol. Heart Circ. Physiol.* 288: H1193-H1202.

## CHROMOSOMAL LOCATION

Genetic locus: MAP4 (human) mapping to 3p21.31.

## SOURCE

MAP-4 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 433-461 within an internal region of MAP-4 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgM 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-365492 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MAP-4 (E-1) is recommended for detection of MAP-4 isoforms 1 and 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for MAP-4 siRNA (h): sc-106198, MAP-4 shRNA Plasmid (h): sc-106198-SH and MAP-4 shRNA (h) Lentiviral Particles: sc-106198-V.

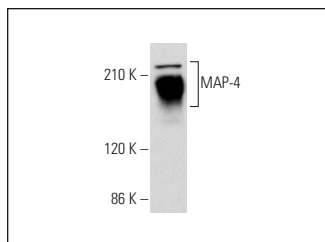
Molecular Weight of MAP-4: 210 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

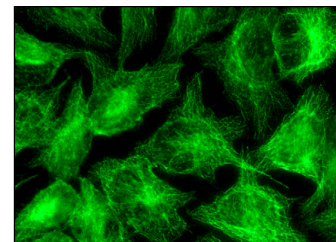
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-4 (E-1): sc-365492. Western blot analysis of MAP-4 expression in A549 whole cell lysate.



MAP-4 (E-1): sc-365492. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

## RESEARCH USE

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