Anti-Microtubule Associated Protein 2 C/D (MAP2C/D) Antibody

Catalog #: 1101-MAP2C  Size: 100 µl
Isotype: IgG₂a  Clone: 2C4

Cite this Antibody: PhosphoSolutions Cat# 1101-MAP2C, RRID:AB_2571638

Product Description: Protein G purified mouse monoclonal antibody.

Biological Significance: Microtubules are 25 nm diameter protein rods found in most kinds of eukaryotic cells. Microtubules are associated with a family of proteins called microtubule associated proteins (MAPs), which includes the protein τ (tau) and a group of proteins referred to as MAP1, MAP2, MAP3, MAP4 and MAP5 (Kindler & Gardner 1994). MAP2 is made up of two ~280 kDa bands referred to as MAP2a and MAP2b. A third lower molecular weight form, MAP2C and MAP2D, corresponds to a pair of protein bands running at ~70kDa on SDS-PAGE gels. All these MAP2 forms are derived from a single gene by alternate transcription, and all share a C-terminal sequence which includes either three or four microtubule binding peptide sequences, which are very similar to those found in the related microtubule binding protein τ (tau). MAP2 isoforms are expressed only in neuronal cells and specifically in the perikarya and dendrites of these cells. MAP2C and MAP2D are expressed earlier in development than the MAP2a and MAP2b isoforms, so that this antibody is a more useful marker of neuronal development. MAP2 has been recently shown to be the specific receptor for the neurosteroid pregnenolone (Fontaine-Lenore V. et al., 2006).

Antigen: Full length recombinant human MAP2D protein.

Antibody Specificity: Specific for endogenous levels of the ~70 kDa MAP2C/D isoforms as well as the ~280 kDa MAP2A/B. The antibody will bind all known MAP2 isoforms.

Purification Method: Protein G purified culture supernatant.

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl PBS + 50% glycerol and 5 mM sodium azide.

Storage and Stability: Shipped on blue ice. Store at −20°C in undiluted aliquots; stable for at least 1 year. Avoid freeze/thaw cycles.

Western blot of neonatal rat brain lysate showing specific immunolabeling of the ~70 kDa MAP2C/D protein.

Immunostaining of mixed neuron and glial cultures showing specific cytoplasmic labeling of dendrites and perikarya of neuronal cells with anti-microtubule-associated protein 2C/D (catalog #1101-MAP2C, red, 1:2500) and specific fibroblast, astrocyte labeling with anti-vimentin (catalog # 2105-VIM, green, 1:500). The blue stain is DAPI to identify nuclei.
General References:
