

MAP2 Polyclonal Antibody

Catalog Number PA1-16751

Product data sheet

Details		Species Reactivity	
Size	50 µL	Species reactivity	Human, Mouse, Rat
Host/Isotope	Chicken / IgY	Published species	Non-human primate, Mouse, Human, Not Applicable, Chimpanzee
Class	Polyclonal		
Type	Antibody	Tested Applications	
Immunogen	Recombinant human construct of projection domain sequences, amino acids 377-1505	Immunohistochemistry (Frozen) (IHC (F))	1:1,000-1:5,000
Conjugate	Unconjugated	Immunohistochemistry (Paraffin) (IHC (P))	Assay-Dependent
Form	Liquid	Western Blot (WB)	1:10,000-1:20,000
Purification	IgY fraction	Immunocytochemistry (ICC/IF)	1:5,000-1:10,000
Storage buffer	PBS	Published Applications	
Contains	5mM sodium azide	Immunohistochemistry (IHC)	See 1 publications below
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.	Immunocytochemistry (ICC/IF)	See 1 publications below

\* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

In Western blot bands can be seen at approximately 280 kDa, representing MAP2a and MAP2b. Bands may also be seen at approximately 70 kDa, representing MAP2c.

Background/Target Information

MAP2 (Microtubule Associated Protein 2) exists in two high molecular weight forms (MAP2a & MAP2b) and a low molecular weight form. The expression of MAP2 is developmentally regulated and its multiple forms arise by alternative splicing of a single gene. MAP2 is involved in microtubule assembly, which is an essential step in neurogenesis. The products of similar genes in rat and mouse are neuron-specific cytoskeletal proteins that are enriched in dendrites, implicating a role in determining and stabilizing dendritic shape during neuron development. MAP2 is useful in studies of neuron structure in normal and malignant brain tissue as well as in degenerative diseases such as Alzheimer's Disease (AD).

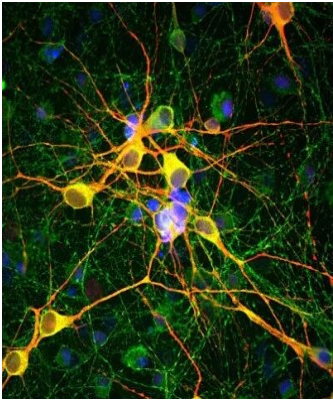
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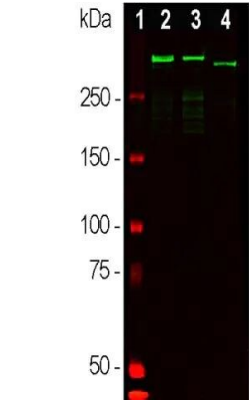
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Product Images For MAP2 Polyclonal Antibody



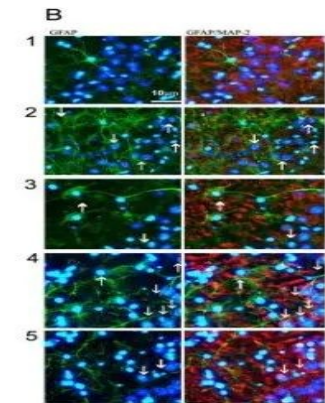
MAP2 Antibody (PA1-16751) in ICC/IF

Immunocytochemistry analysis of MAP2 in cortical neuron-glia cell culture from E20 rat. Samples were incubated in MAP2 polyclonal antibody (Product # PA1-16751) using a dilution of 1:10000. This antibody in red, and mouse mAb to MAP-tau dilution 1:2,000, in green. The blue is DAPI staining of nuclear DNA. This antibody stains dendrites and perikarya of neurons, while Tau antibody labels neuronal perikarya, dendrites and also axonal process. As a result perikarya and dendrites appears orange-yellow, since they contain both MAP2 and tau, while axons are green.



MAP2 Antibody (PA1-16751) in WB

Western blot analysis of MAP2 in whole brain tissue lysates. Samples were incubated in MAP2 polyclonal antibody (Product # PA1-16751 using a dilution of 1:50,000. Antibody in green: [1] protein standard (red), [2] adult rat brain, [3] embryonic E20 rat brain, [4] adult mouse brain. Strong band observed at ~280 kDa mark corresponds to two major isoforms of MAP2 protein referred to as MAP2A and MAP2B. Smaller fragments of these isoforms are also detected if the antibody is used at higher concentrations.



MAP2 Antibody (PA1-16751) in ICC/IF

Immunocytochemistry analysis of MAP2 in rat hippocampi. Samples were incubated in MAP2 polyclonal antibody (Product # PA1-16751). PEA decreases astrocyte activation in organotypic cultures of rat hippocampi and rescues neuronal CA3 damage caused by Abeta challenge. Abeta-challenged (1 µg/mL) slices of rat hippocampi were treated for 24 hours with PEA (0.1 µM) in the presence of the selective PPAR antagonist (GW9662, 9 nM) or the selective PPAR alpha antagonist (MK886, 3 µM). Representative photomicrographs of the CA3 region showing the results of immunofluorescence experiments aimed at investigating the effect of treatments on astrocyte activation and neuronal loss, as determined by immunostaining for GFAP (green) and MAP2 (red) alone or merged, respectively. Nuclei were stained with Hoechst (blue). Scale bar: 10 µm. Arrows in the photomicrographs indicate astrocyte infiltration events and apoptotic condensation in the nuclei of adjacent neurons.

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PubMed References For MAP2 Polyclonal Antibody

1 Immunohistochemistry References

Species / Dilution	Summary
Mouse / 1:1000	PA1-16751 was used in Immunohistochemistry to investigate the B-cell autoimmune response to leucine-rich glioma-inactivated 1 (LGI1) encephalitis.
	Annals of neurology ( 2020; 87: 405) <b>"Human Cerebrospinal Fluid Monoclonal LGI1 Autoantibodies Increase Neuronal Excitability."</b> Author(s):Kornau HC,Kreye J,Stumpf A,Fukata Y,Parthier D,Sammons RP,Imbrosci B,Kurpjuweit S,Kowski AB,Fukata M,Prüss H,Schmitz D PubMed Article URL: <a href="http://dx.doi.org/10.1002/ana.25666">http://dx.doi.org/10.1002/ana.25666</a>

1 Immunocytochemistry References

Species / Dilution	Summary
Mouse / 1:1000	PA1-16751 was used in Immunocytochemistry to conclude that combinations of allopregnanolone and midazolam were significantly more effective at normalizing TETS-triggered SCO patterns, ESA patterns, and more potently enhanced GABA-activated Cl- current, than either drug alone.
	Toxicological sciences : an official journal of the Society of Toxicology ( 2021; 180: 325) <b>"Structure-Activity Relationship of Neuroactive Steroids, Midazolam, and Perampanel Toward Mitigating Tetramine-Triggered Activity in Murine Hippocampal Neuronal Networks."</b> Author(s):Antrobus S,Pressly B,Nik AM,Wulff H,Pessah IN PubMed Article URL: <a href="http://dx.doi.org/10.1093/toxsci/kfab007">http://dx.doi.org/10.1093/toxsci/kfab007</a>

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