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Anti-MAP2 Antibody (Monoclonal, HM-2)

Catalog Number: MA1057

About Map2

MAP2, a 280-kD protein, is highly concentrated in neuronal somata and dendrites. Microtubule-associated protein 2 (MAP2)is a neurosteroid receptor. MAP2 gene contains 19 exons, and located in segment 2q34-q35. The transgenic MAP2c was present in dendrites but not in axons but transgenic MAP2c messenger RNA was limited to cell bodies.

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Overview

Product Name	Anti-MAP2 Antibody (Monoclonal, HM-2)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-MAP2 Antibody (Monoclonal, HM-2) catalog # MA1057. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IHC, WB
Clonality	Monoclonal HM-2
Formulation	Mouse IgG in stabilizing components, 1.2% sodium acetate and 0.01mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Mouse
Uniprot ID	P15146

Technical Details

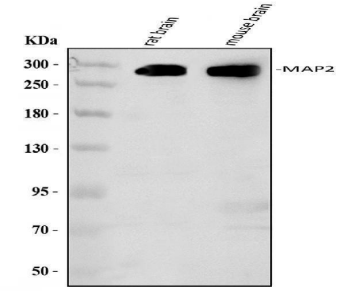
Immunogen	Rat brain microtubule-associated proteins (MAPs).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Mouse IgG1

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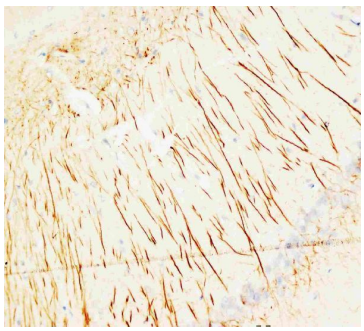
Form	Lyophilized
Concentration	Adding 1 ml of PBS buffer will yield a concentration of 100 ug/ml.
Purification	Ascites
Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 1-2ug/ml, Human, Mouse, Rat Western blot, 0.5-2ug/ml, Mouse, rat

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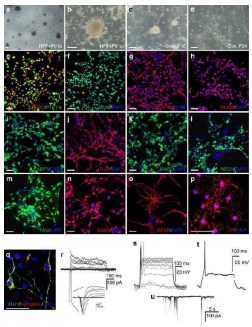
Anti-MAP2 Antibody (Monoclonal, HM-2) (MA1057) Images



Western blot analysis of MAP2 using anti-MAP2 antibody (MA1057). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-MAP2 antigen affinity purified monoclonal antibody (MA1057) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MAP2 at approximately 280 kDa. The expected band size for MAP2 is at 200 kDa.



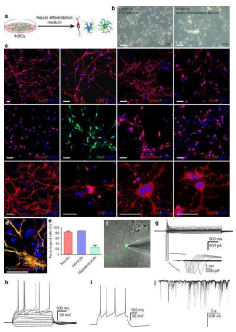
Anti-MAP2 antibody (monoclonal), MA1057, IHC(P)IHC(P): Rat Brain Tissue



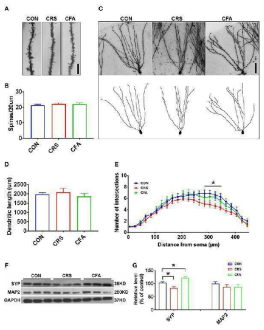
Ptf1a reprograms human foreskin fibroblasts (HFF) into tripotent iNSCs. a , b Ectopic expression of Ptf1a in HFFs by lentiviruses induced the formation of neurospheres. c , d In the absence of doxycycline (Dox), Ptf1a-induced neurosphere cells were capable of forming neurospheres before passage 20 (c), but lost the capacity after passage 20 and became monolayered (d). e – i Ptf1a-induced human neural stem cells (hiNSCs) were highly immunoreactive for PTF1A, SOX2, PAX6, NESTIN, OLIG2, and FABP7. j – p Ptf1a-induced hiNSCs were capable of differentiating into neurons immunoreactive for TUJ1, MAP2, NEUN, TAU, or GABA, astrocytes labeled by GFAP, or oligodendrocytes marked by O1. q Neurons differentiated from hiNSCs were immunoreactive for both Tuj1 and synapsin. Cells in f – q were counterstained with nuclear DAPI. r Voltage-clamp recordings indicated fast activated and inactivated inward sodium currents as well as outward potassium currents on a differentiated neuron. s Current-clamp recordings revealed action potential responses of a differentiated neuron under current injection. t An action potential was induced after depolarization of the neuron. u Spontaneous postsynaptic currents recorded from a differentiated neuron. Scale bars, 80 um (a – d) and 40 um (e – q) Index in PubMed under a CC BY license. PMID:

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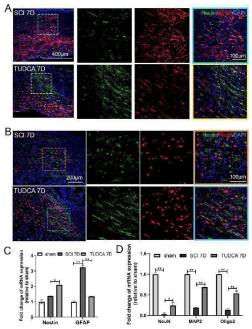
In vitro differentiation potential of Ptf1a-reprogrammed miNSCs. a Schematic showing that miNSCs reprogrammed directly from MEFs by Ptf1a are able to differentiate into neurons, astrocytes, and oligodendrocytes under proper culture conditions. b miNSC10 cells underwent drastic morphological changes to form neuron-like cells when the culture medium was switched from NSC medium to neural differentiation medium. c miNSC10 cells could be differentiated into neurons immunoreactive for Tuj1, Map2, Dcx, NeuN, Tau, Peripherin, or GABA. They were also capable of differentiating into astrocytes (immunoreactive for GFAP) and oligodendrocytes (immunoreactive for O1, CNP, or MBP). d In vitro differentiated neurons were immunoreactive for both Tuj1 and synapsin. Cells in c and d were counterstained with nuclear DAPI. e Quantification of Map2 + neurons, GFAP+ astrocytes, and O1+ oligodendrocytes differentiated from miNSC10 cells under different differentiation conditions. f A merged micrograph showing a typical GFP-tagged neuron differentiated from miNSCs that was chosen for patch-clamp recording. g Voltage-clamp recordings indicated fast activated and inactivated inward sodium currents as well as outward potassium currents on a differentiated neuron. h Current-clamp recordings revealed action potential responses of the differentiated neuron under current injection. i Multiple action potentials were induced after depolarization of the neuron. j Spontaneous postsynaptic currents recorded from an in vitro differentiated neuron. Scale bars, 80 um (b) and 40 um (c , d) Index in PubMed under a CC BY license. PMID: 30030434



Granule cell morphology and synaptic integrity changes between anxiety-like and depression-like behaviors. (A,B) Representative Golgi-Cox staining images of dendritic spines and spine density in the hippocampal DG granule cells in CRS-treated rats, CFA-treated rats, and the controls. n = 10 for each group, bar = 10 um. (C) Representative images of Golgi-Cox -stained granule cells in the DG area (top) and the reconstruction of its dendritic branches (bottom) from each group. Bar = 50 um. (D) There were no significant effects of CRS and CFA injection on the dendritic length of the DG granule cells. (E) Sholl analysis of dendritic length in DG granule cells. CRS reduced dendrite intersection in the region 285–345 mm away from the soma compared with the control group. A repeated measures analysis of variance (ANOVA), * $p < 0.05$ vs. CON, n = 10 for each group; all graphs represent mean ± SEM. (F,G) Expression of SYP and MAP2 in the hippocampus was evaluated by Western blotting. Semi-quantitative analyses of SYP and MAP2 expression were performed. Note that the expression of SYP was significantly reduced in CRS-treated rats but was increased in CFA -treated rats. DG: dentate gyrus; CFA: complete Freund's adjuvant; CRS, chronic restraint stress; SYP, synaptophysin; MAP2, microtubule-associated protein 2. * $p < 0.05$, vs. control group (one-way ANOVA). All of the data are presented as mean ± SEM.Index in PubMed under a

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TUDCA promoted neuron regeneration along endogenous NSCs migration at day 7 after SCI. (A) Co-immunofluorescence showed endogenous NSCs (Nestin, green) and reactive astrocytes (GFAP, red) at the margin of the lesion site at day 7 after SCI. (B) Endogenous NSCs (Nestin, green) and neuron (NeuN, red) at the margin of the lesion site at day 7 after SCI. (C, D) Quantitative polymerase chain reaction (qPCR) showing the expression of Nestin, GFAP, NeuN, MAP2 and Oligo 2 at day 7 after SCI. All experiments were performed in triplicated and data were presented means ± SEM, n = 3 per group. *P < 0.05, **P < 0.01.Index in PubMed under a CC BY license. PMID: 40276612

39 Publications Citing This Product

1. PubMed ID: -,

Tauroursodeoxycholic Acid Alleviates Secondary Injury in Spinal Cord Injury Mice Through Reducing Oxidative Stress

Authors: Yonghui Hou,Jiyao Luan,Tiancheng Deng et al.

2. PubMed ID: 33582188, Wu K,Yue J,Shen K,He J,Zhu G,Liu S,Yang H,Zhang C.Expression and cellular distribution of FGF13 in cortical tubers of the tuberous sclerosis complex.Neurosci Lett. 2021 Feb 11:135714.doi:10.1016/j.neulet.2021.135714.Epub ahead of print.PMID:33582188.

3. PubMed ID: 31996007, Yu Q,Li X,Li Y,Fu J,Xiao Z.Effects of combined electroacupuncture and exercise training on motor function and microtubule-associated protein 2 expression in the middle and late stages of cerebral infarction in rats.Acupunct Med.2020 Jun;38(3):175-180.doi:

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