SANTA CRUZ BIOTECHNOLOGY, INC.

p-MAG (Tyr 620): sc-16598

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myelin-associated glycoprotein (MAG) is a nervous system specific, cell-surface adhesion protein that is involved in linking myelinating glial cells to neuronal axons. MAG contains a sialic acid binding site and five IgG-like domains, thus identifying MAG as a member of a subgroup of the immunoglobulin superfamily. Like Myelin, MAG inhibits axonal outgrowth and contributes to the inhibitory properties of Myelin. Growth inhibition by MAG can be blocked when cerebellar neurons are pre-incubated with the neurotrophins BDNF or GDNF. This effect may result from neurotrophin pirming, which elevates cAMP and activates PKA. MAG is phosphorylated at Tyr 620 in developing brain and subsequently associates with the SH2 domain of PLCγ. MAG also binds Fyn kinase, and the binding of phosphorylated MAG to both Fyn kinase and PLCγ suggests MAG serves as a docking protein for different signaling molecules.

REFERENCES

1. Lai, C., et al. 1987. Neural protein 1B236/Myelin-associated glycoprotein (MAG) defines a subgroup of the immunoglobulin superfamily. Immunol. Rev. 100: 129-151.
2. Jaramillo, M.L., et al. 1994. Identification of Tyrosine 620 as the major phosphorylation site of Myelin-associated glycoprotein and its implication in interacting with signaling molecules. J. Biol. Chem. 269: 27240-2725.
3. McKerracher, L., et al. 1994. Identification of myelin-associated glycoprotein as a major myelin-derived inhibitor ofneurite growth. Neuron 13: 805-811.
4. Quarles, R.H. 1997. Glycoproteins of Myelin sheaths. J. Mol. Neurosci. 8: 1-12.
5. Collins, B.E., et al. 1997. Sialic acid specificity of myelin-associated glycoprotein binding. J. Biol. Chem. 272: 1248-1255.
6. Shen, Y.J., et al. 1998. Myelin-associated glycoprotein in Myelin and expressed by Schwann cells inhibits axonal regeneration and branching. Mol. Cell. Neurosci. 12: 79-91.
7. Cai, D., et al. 1999. Prior exposure to neurotrophins blocks inhibition of axonal regeneration by MAG and Myelin via a cAMP-dependent mechanism. Neuron 22: 89-101.

CHROMOSOMAL LOCATION

Genetic locus: MAG (human) mapping to 19q13.12; Mag (mouse) mapping to 7 B1.

SOURCE

p-MAG (Tyr 620) is available as either goat (sc-16598) or rabbit (sc-16598-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 620 phosphorylated MAG 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 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16598 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-MAG (Tyr 620) is recommended for detection of Tyr 620 phosphorylated MAG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

p-MAG (Tyr 620) is also recommended for detection of correspondingly phosphorylated MAG in additional species, including equine, canine and bovine.

Suitable for use as control antibody for MAG siRNA (h): sc-35841, MAG siRNA (m): sc-35842, MAG shRNA Plasmid (h): sc-35841-SH, MAG shRNA Plasmid (m): sc-35842-SH, MAG shRNA (h) Lentiviral Particles: sc-35841-V and MAG shRNA (m) Lentiviral Particles: sc-35842-V.

Molecular Weight of p-MAG: 100 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16598): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-16598-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: for goat primary antibody (sc-16598): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-16598-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.