SANTA CRUZ BIOTECHNOLOGY, INC.

MBP (C-16): sc-13914

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myelin basic protein (MBP) is the major extrinsic membrane protein of central nervous system myelin. MBP phosphorylation at Threonine 125 is a complex regulatory process that modulates the contribution of MBP to the stability of the myelin sheath. Mitogen-activated protein kinases modulate MBP phosphorylation during myelinogenesis and in the demyelinating disease multiple sclerosis. MBP phosphorylation is regulated by high-frequency stimulation but not low-frequency stimulation of the alveus, the myelinated output fibers of the hippocampus. It is proposed that during periods of increased neuronal activity, calcium activates axonal nitric oxide synthase, which generates the intercellular messengers nitric oxide and superoxide and regulates the phosphorylation state of MBP by MAPK.

CHROMOSOMAL LOCATION

Genetic locus: MBP (human) mapping to 18q23; Mbp (mouse) mapping to 18 E3.

SOURCE

MBP (C-16) is available as either goat (sc-13914) or rabbit (sc-13914-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of MBP of human origin.

PRODUCT

Each vial contains either 100 µg (sc-13914) or 200 µg (sc-13914-R) in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13914 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MBP (C-16) is recommended for detection of MBP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MBP (C-16) is also recommended for detection of MBP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MBP siRNA (h): sc-35871, MBP siRNA (m): sc-35872, MBP shRNA Plasmid (h): sc-35871-SH, MBP shRNA Plasmid (m): sc-35872-SH, MBP shRNA (h) Lentiviral Particles: sc-35871-V and MBP shRNA (m) Lentiviral Particles: sc-35872-V.

Molecular Weight of MBP isoforms: 14-22 kDa.

Positive Controls: MBP (m): 293T Lysate: sc-121552, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

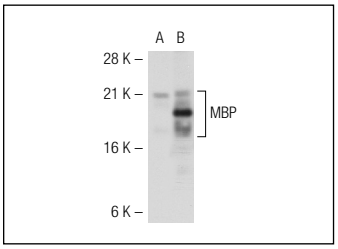
STORAGE

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

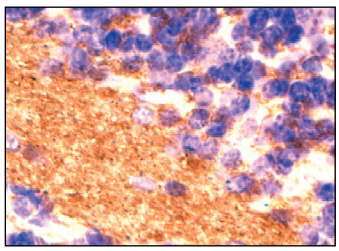
RESEARCH USE

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

DATA



MBP (C-16)-R: sc-13914-R. Western blot analysis of MBP expression in non-transfected: sc-117752 (**A**) and mouse MBP transfected: sc-121552 (**B**) 293T whole cell lysates.



MBP (C-16): sc-13914. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain showing myelin staining.

SELECT PRODUCT CITATIONS

1. Hagemann, T.L., et al. 2006. Alexander disease-associated glial fibrillary acidic protein mutations in mice induce Rosenthal fiber formation and a white matter stress response. J. Neurosci. 26: 11162-11173.
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3. Yu, Y., et al. 2009. Evaluation of blastomere biopsy using a mouse model indicates the potential high risk of neurodegenerative disorders in the offspring. Mol. Cell. Proteomics 8: 1490-1500.
4. Christophi, G.P. and Massa, P.T. 2009. Central neuroinvasion and demyelination by inflammatory macrophages after peripheral virus infection is controlled by SHP-1. Viral Immunol. 22: 371-387.
5. Joubert, L., et al. 2010. Chemical inducers and transcriptional markers of oligodendrocyte differentiation. J. Neurosci. Res. 88: 2546-2557.
6. Valluet, A., et al. 2010. B-raf alternative splicing is dispensable for development but required for learning and memory associated with the hippocampus in the adult mouse. PLoS ONE 5: e15272.
7. Lai, P.C., et al. 2011. Ceftriaxone attenuates hypoxic-ischemic brain injury in neonatal rats. J. Biomed. Sci. 18: 69.
8. Defaux, A., et al. 2011. Minocycline promotes remyelination in aggregating rat brain cell cultures after interferon-γ plus lipopolysaccharide-induced demyelination. Neuroscience 187: 84-92.
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