SANTA CRUZ BIOTECHNOLOGY, INC.

MBP (1.B.645): sc-71546

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 (1.B.645) is a mouse monoclonal antibody raised against amino acids 130-136 of MBP of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MBP (1.B.645) is recommended for detection of MBP (human 21.5 kDa and 18.5 kDa molecular forms) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

MBP (1.B.645) is also recommended for detection of MBP (human 21.5 kDa and 18.5 kDa molecular forms) in additional species, including rabbit, ovine, caprine and primate.

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: mouse brain extract: sc-2253, SK-N-SH cell lysate: sc-2410 or MBP (m): 293T Lysate: sc-121552.

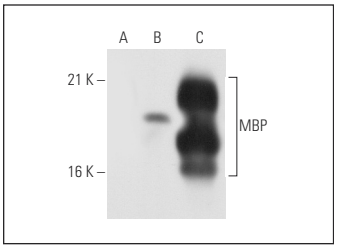
STORAGE

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 (1.B.645): sc-71546. Western blot analysis of MBP expression in non-transfected: sc-117752 (**A**) and mouse MBP transfected: sc-121552 (**B**) 293T whole cell lysates and mouse brain tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Tuzun, F., et al. 2012. Neuroprotective effect of neotrofin in a neonatal rat model of periventricular leukomalacia. Neurosci. Lett. 520: 6-10.
2. Dilek, M., et al. 2013. Protective effects of pentoxifylline on lipopolysaccharide-induced white matter injury in a rat model of periventricular leukomalasia. J. Matern. Fetal Neonatal Med. 26: 1865-1871.
3. Castorina, A., et al. 2014. PACAP and VIP increase the expression of myelin-related proteins in rat schwannoma cells: involvement of PAC1/VPAC2 receptor-mediated activation of PI3K/Akt signaling pathways. Exp. Cell Res. 322: 108-121.
4. Hunt, N.J., et al. 2016. Promotion of the unfolding protein response in orexin/dynorphin neurons in sudden infant death syndrome (SIDS): elevated pPERK and ATF4 expression. Mol. Neurobiol. 54: 7171-7185.
5. Kumral, A., et al. 2017. Intranasal surfactant protein D as neuroprotective rescue in a neonatal rat model of periventricular leukomalacia. J. Matern. Fetal Neonatal Med. 30: 446-451.
6. Skuja, S., et al. 2017. Structural and ultrastructural alterations in human olfactory pathways and possible associations with herpesvirus 6 infection. PLoS ONE 12: e0170071.
7. D'Andrea, M.R., et al. 2017. MAP2 IHC detection: a marker of antigenicity in CNS tissues. Biotech. Histochem. 92: 363-373.
8. Guizar-Sahagun, G., et al. 2017. Creation of an intramedullary cavity by hemorrhagic necrosis removal 24 h after spinal cord contusion in rats for eventual intralesional implantation of restorative materials. PLoS ONE 12: e0176105.

CONJUGATES

See **MBP (F-6): sc-271524** for MBP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.