SANTA CRUZ BIOTECHNOLOGY, INC.

MBP (201): sc-66064

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 (201) 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 (201) 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 (201) 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, MBP (m): 293T Lysate: sc-121552 or rat brain extract: sc-2392.

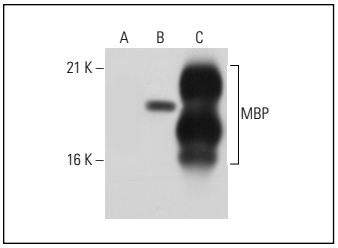
STORAGE

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 (201): sc-66064. 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. Dawson, L.F., et al. 2011. Expression of α1-adrenoceptors on peripheral nociceptive neurons. Neuroscience 175: 300-314.
2. Drummond, P.D., et al. 2014. Upregulation of α1-adrenoceptors on cutaneous nerve fibres after partial sciatic nerve ligation and in complex regional pain syndrome type II. Pain 155: 606-616.
3. Cudré-Cung, H.P., et al. 2016. Ammonium accumulation is a primary effect of 2-methylcitrate exposure in an *in vitro* model for brain damage in methylmalonic aciduria. Mol. Genet. Metab. 119: 57-67.
4. Fu, Q., et al. 2017. TRIM32 affects the recovery of motor function following spinal cord injury through regulating proliferation of glia. Oncotarget 8: 45380-45390.
5. Cudré-Cung, H.P., et al. 2019. Ammonium accumulation and chemokine decrease in culture media of $Gcdh^{-/-}$ 3D reaggregated brain cell cultures. Mol. Genet. Metab. 126: 416-428.
6. Zheng, J., et al. 2021. Ceria nanoparticles ameliorate white matter injury after intracerebral hemorrhage: microglia-astrocyte involvement in remyelination. J. Neuroinflammation 18: 43.
7. Luan, W., et al. 2021. Microglia impede oligodendrocyte generation in aged brain. J. Inflamm. Res. 14: 6813-6831.
8. Schuster, K.H., et al. 2023. Disease-associated oligodendrocyte signatures are spatiotemporally dysregulated in spinocerebellar ataxia type 3. Front. Neurosci. 17: 1118429.
9. Zheng, J., et al. 2023. Temporal dynamics of microglia-astrocyte interaction in neuroprotective glial scar formation after intracerebral hemorrhage. J. Pharm. Anal. 13: 862-879.

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.