



Anti –Phospho –MBP , Human (Rabbit) Antibody

(Rabbit polyclonal IgG, serum)

Cat.No. SML-ROA001-EX

Size

200µl

Background: Myelin basic proteins (MBPs) are a major component of the myelin sheath. The MBPs are the product of at least six mRNAs that are obtained by alternative splicing of single primary transcript of the MBP gene, which contains seven exons. Four major isoforms of MBP, producing proteins of 14.0, 17.0, 18.5 and 21.5^{kDa}, are generated by alternative (de Ferra et al. 1974). The fact that MBPs are phosphorylated has been known for a long time, although the reasons for this phosphorylation are far from clear (Carnegie et al, 1974). There is some evidence for a possible role for phosphorylated MBPs in the stage of myelin formation (Nakahara et al. 2003, Seiwa et al. 2007).

Source / Purification: Polyclonal antibodies are produced by immunizing rabbits with a synthetic peptide (KLH coupled) corresponding to residues surrounding Thr98 (PO₃H₂) of human myelin basic protein.

Immunogen: CKNIVTPRT (PO₃) PPPSQGK.

Antibodies are purified by protein A and peptide affinity chromatography. The product is provided as serum with 0.01% sodium azide as a preservative.

Specificity / Sensitivity: Phospho–MBP antibody react strongly with the phosphorylated MBPs.

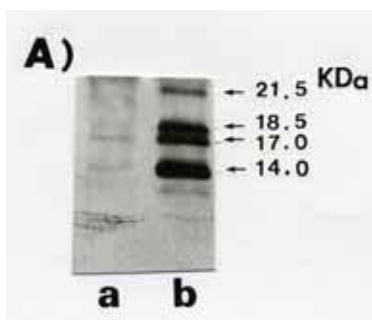
Species Cross-reactivity: mouse, rat

Apparent Molecular weight: 21.5, 18.5, 17.0, 14.0 kDa

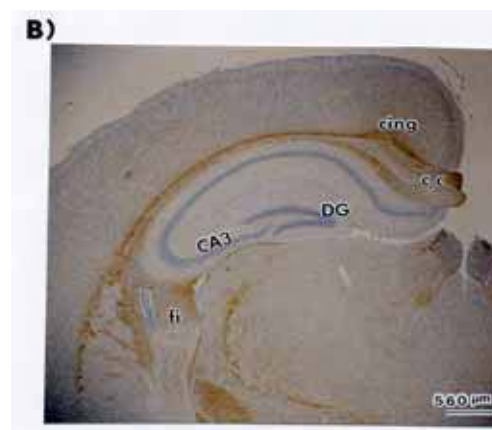
Applications: Western blotting, immunohistochemistry, ELISA

Uses: Polyclonal anti phospho-MBP may be used for the localization of phosphorylated MBP using immunoblotting, ELISA, immunohistochemistry (immunocytochemistry) and dot blotting.

Recommended Antibody Dilutions: Western blotting Minimum 1:500
Immunohistochemistry (paraffin) Minimum 1:200



A) western blot analysis of MBP extracts from the myelin sheath with anti- phospho MBP antibody.
a) dephosphorylated MBP (produced from bovine brain)
b) myelin basic protein (bovine, ultra pure)



B) immunohistochemical staining of phosphorylated MBP in paraffin-embedded mouse brain showing positive staining myelinated fibers, using phospho-MBP (Thr⁹⁸) antibody.

CC: corpus callosum DG: dentate gyrus, CA3: field CA3, Ammon's horn Ci



Storage: For continuous use, store at 4°C for several months. For extended storage the solution may be frozen in working aliquots. Repeated freezing and thawing. It slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Storage and Stability: Stable for 2 years at -20°C from date of shipment. Aliquot to avoid repeated freezing and thawing.

Formulation: 200µg of protein A purified IgG in 200µl of 0.07M Tris-glycine, pH 7.4, 0.105M NaCl, 0.01% Sodium azide with 30% glycerol. Liquid at -20°C.

Selected Application Reference:

- 1) de Ferra F, Engh H, Hudson L, Kanmholz J, Puckett C, Molineaux S Lazzarini RA, (1985), Alternative aplicing accounts for the four forms of myelin basic protein: Cell,. 43: 721-727
- 2) Nakahara J, Tan-Takeuchi K, Seiwa C, Gotoh M, Kaifu T, Ujike A, Inui M, Yagi T, Ogawa M, Aiso S, Takai T, Asou H. (2003) Signaling via immunoglobulin Fc receptors induces oligodendrocyte precursor cell differentiation. Dev Cell.;4(6):841-52.
- 3) Seiwa C, Yamamoto M, Tanaka K, Fukutake M, Ueki T, Takeda S, Sakai R, Ishige A, Watanabe K, Akita M, Yagi T, Tanaka K, Asou H. (2007) Restoration of FcRgamma/Fyn signaling repairs central nervous system demyelination. J Neurosci Res.;85:954-66.

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