Sheep antibody to MBP (68-86): whole serum

Catalogue No.: S-023-100

Description: Myelin is a membrane characteristic of the nervous tissue and functions as an insulator to increase the velocity of the stimuli being transmitted between a nerve cell body and its target. Myelin isolated from human and bovine nervous tissue is composed of approximately 80% lipid and 20% protein, and 30% of the protein fraction constitutes myelin basic protein (MBP). MBP is an 'intrinsically unstructured' protein with a high proportion (approximately 75%) of random coil, but postulated to have core elements of beta-sheet and alpha-helix. MBP is a major protein in CNS myelin and is expressed specifically in the nervous system. A detailed immunochemical examination of monoclonal and polyclonal antibody responses to MBP and its peptides has revealed the existence of as many as 27 antigenic determinants, many of them conformational. Topological mapping of the potential antigenic determinants onto a model of MBP secondary structure places these determinants within 11 separate regions of the molecule, including those portions that have been found to be encephalitogenic. The message for myelin basic protein is selectively translocated to the ends of the cell processes. Immunization with myelin-associated antigens including MBP significantly promotes recovery after spinal cord contusion injury in the rat model. FUNCTION: Is, with PLP, the most abundant protein component of the myelin membrane in the CNS. Has a role in both the formation and stabilization of this compact multilayer arrangement of bilayers. Each splice variant and charge isomer may have a specialized function in the assembly of an optimized, biochemically functional myelin membrane (By similarity). SUBUNIT: Homodimer (By similarity). SUBCELLULAR LOCATION: Myelin membrane; peripheral membrane protein; cytoplasmic side. Cytoplasmic side of myelin. TISSUE SPECIFICITY: Found in both the central and the peripheral nervous system. PTM: At least 5 charge isomers; C1 (the most cationic, least modified, and most abundant form), C2, C3, C4 and C5 (the least cationic form); are produced as a result of optional posttranslational modifications such as phosphorylation of serine or threonine residues, deamidation of glutamine or asparagine residues, citrullination and methylation of arginine residues. C1 and C2 are unphosphorylated, C3 and C4 are monophosphorylated and C5 is phosphorylated at two positions. SIMILARITY: Belongs to the myelin basic protein family.

Batch No.: See product label

Unit size: 100 uL

Antigen: A synthetic peptide (YG SLPQKSQRSQ DENPVV, aa: 68-86) as part of guinea pig MBP protein conjugated to KLH

Other Names: Myelin Basic Protein

Accession: MBP_CAVPO

Produced in: Sheep

Purity: Whole serum

Applications: IHC. A dilution of 1:1000 to 1:4000 is recommended. Immunostaining for MBP of abnormal appearing oligodendrocytic process and cell bodies in demyelinating areas. This antibody recognises only areas of myelin degeneration when tested in injured spinal cord and lesioned

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	sciatic nerves. It also stains discrete white matter in the brain of multiple system atrophy. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	This antiserum recognizes MBP in demyelinated nerve tissues. Immunohistochemical analysis of lesioned rat spinal cord indictaes a high level of specificity for this antiserum.
Cross-reactivity:	This antiserum reacts with human and rat MBP.
Form:	Lyophilised
Reconstitution:	Reconstitute in 100 uL of sterile water. Centrifuge to remove any insoluble material.
Storage:	After reconstitution keep aliquots at -20C for a higher stability, and at 2-8C with an appropriate antibacterial agent. Glycerol (1:1) may be added for an additional stability. Avoid repetitive freeze/thaw cycles.
Expiry Date:	12 months after purchase
References:	1. Schwartz, et al., Prog Brain Res 137, 401-6 (2002) 2. Hauben, et al., J Clin Invest 108, 591-9 (Aug, 2001) 3. Yoles, et al., J Neurosci 21, 3740-8 (Jun 1, 2001) 4. Hauben, et al., J Neurosci 20, 6421-30 (Sep 1, 2000) 5. Harauz, et al., Nature 389, 783-4 (1997). Micron 35, 503-42 (2004) 6. Givogri, et al., J Neurosci Res 59, 153-9 (Jan 15, 2000) 7. Kim, et al., Int J Biochem Cell Biol 29, 743-51 (May, 1997) 8. Kalwy, et al., Mol Membr Biol 11, 67-78 (Apr-Jun, 1994) 9. Wajgt, et al., Acta Neurol Scand 68, 337-43 (Nov, 1983) 10. Day, et al., J Neuroimmunol 10, 289-312 (Feb, 1986) 11. Mikoshiba, et al., Comp Biochem Physiol C 98, 51-61 (1991) 12. Brophy, et al., Trends Neurosci 16, 515-21 (Dec, 1993) 13. Matsuo, A. et al. (1997) Am. J. Pathol. 150(4): 1253-1266

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