



MONOCLONAL ANTI-MYELIN PROTEOLIPID PROTEIN

Clone p1pc1
Mouse Ascites Fluid

Product Number **M 9809**

Product Description

Monoclonal Anti-Myelin Proteolipid Protein (PLP) (mouse IgG_{2a} isotype) is derived from the hybridoma produced by the fusion of SP2/0 myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide (CGRGTKF) corresponding to the C-terminal region of myelin proteolipid.

Monoclonal Anti-Myelin Proteolipid Protein recognizes PLP from mammalian tissue by immunohistochemistry and immunoblotting. This antibody also reacts with DM20.

The myelin sheath is essential for rapid and effective propagation of action potentials within the axon. Mutations identified in several myelin-related genes reportedly lead to severe demyelinating neuropathies.¹ Recent evidence also suggests that the autoimmune disease Multiple Sclerosis (MS) is mediated by T cells with specificity for antigens in the myelin sheath.²

Myelin proteins are among the most abundant proteins in the nervous system. One of the two major classes of myelin proteins is the myelin basic proteins (MBPs) a family of proteins derived from alternative splicing of the MBP gene. In mice and rats, four major size isoforms of MBP (14, 17, 18.5, and 21.5 kDa) are present. The 21.5 and 17 kDa forms are expressed early in myelination and in immature oligodendrocytes while the 18.5 and 14 kDa forms are expressed later in myelination, in mature oligodendrocytes and adult myelin. MBP is located at the major dense line of myelin^{3,4} and it causes lipid vesicles containing negatively charged lipids to aggregate. MBP is thought to mediate the thickness of myelin by facilitating the adhesion of the intracellular surfaces of the compact, multilayered myelin sheath.⁵

Product Information

Reagent

Monoclonal Anti-Myelin Proteolipid Protein is supplied as 250 µl of ascites fluid containing 0.1% sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling

Storage/Stability

Store at 4 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution for this antibody is 1:10 for all suggested applications.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

1. Scherer, S.S., *Neuron*, **18**, 13-16 (1997).
2. Stinissen, P. et al., *Crit. Rev. Immunol.*, **17**, 33-75 (1997).
3. Smith, R., *Biochim. Biophys. Acta*, **470**, 170-184 (1977).
4. Lampe, P.D. et al., *Biochemistry*, **22**, 1594-1599 (1983).
5. Boggs, J.M. et al., *Biochim. Biophys. Acta*, **1463**, 81-87 (2000).

mje 12/00

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.