10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MBP Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1638a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P02686
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2H9
Isotype	IgG1
Calculated MW	33117
Description	The protein encoded by the classic MBP gene is a major constituent of the myelin sheath of oligodendrocytes and Schwann cells in the nervous system. However, MBP-related transcripts are also present in the bone marrow and the immune system. These mRNAs arise from the long MBP gene (otherwise called"Golli-MBP") that contains 3 additional exons located upstream of the classic MBP exons. Alternative splicing from the Golli and the MBP transcription start sites gives rise to 2 sets of MBP-related transcripts and gene products. The Golli mRNAs contain 3 exons unique to Golli-MBP, spliced in-frame to 1 or more MBP exons. They encode hybrid proteins that have N-terminal Golli aa sequence linked to MBP aa sequence. The second family of transcripts contain only MBP exons and produce the well characterized myelin basic proteins. This complex gene structure is conserved among species suggesting that the MBP transcription unit is an integral part of the Golli transcription unit and that this arrangement is important for the function and/or regulation of these genes.
Immunogen	Purified recombinant fragment of human MBP expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	4155
Other Names	Myelin basic protein, MBP, Myelin A1 protein, Myelin membrane encephalitogenic protein, MBP
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions	MBP Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MBP
Function	The classic group of MBP isoforms (isoform 4-isoform 14) are with PLP the most abundant protein components of the myelin membrane in the CNS. They have a role in both its formation and stabilization. The smaller isoforms might have an important role in remyelination of denuded axons in multiple sclerosis. The non-classic group of MBP isoforms (isoform 1-isoform 3/Golli-MBPs) may preferentially have a role in the early developing brain long before myelination, maybe as components of transcriptional complexes, and may also be involved in signaling pathways in T-cells and neural cells. Differential splicing events combined with optional post-translational modifications give a wide spectrum of isomers, with each of them potentially having a specialized function. Induces T-cell proliferation.
Cellular Location	Myelin membrane; Peripheral membrane protein; Cytoplasmic side. Note=Cytoplasmic side of myelin
Tissue Location	MBP isoforms are found in both the central and the peripheral nervous system, whereas Golli-MBP isoforms are expressed in fetal thymus, spleen and spinal cord, as well as in cell lines derived from the immune system.

References

1. Cancer Epidemiol Biomarkers Prev. 2009 May;18(5):1651-8. 2. Biochemistry. 2009 Jun 9;48(22):4720-7.

Images

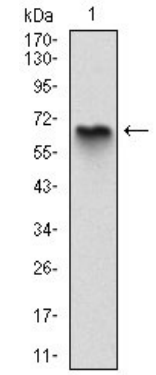


Figure 1: Western blot analysis using MBP mAb against human MBP (AA: 1-197) recombinant protein. (Expected MW is 47 kDa)

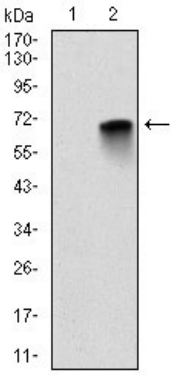


Figure 2: Western blot analysis using MBP mAb against HEK293 (1) and MBP-hIgGFc transfected HEK293 (2) cell lysate.

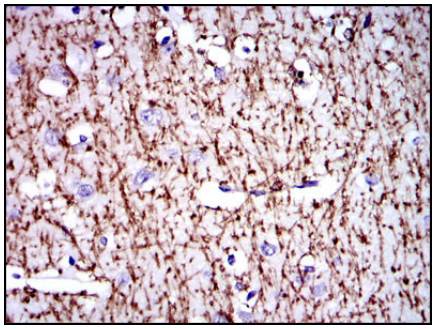


Figure 3: Immunohistochemical analysis of paraffin-embedded brain tissues using MBP mouse mAb with DAB staining.

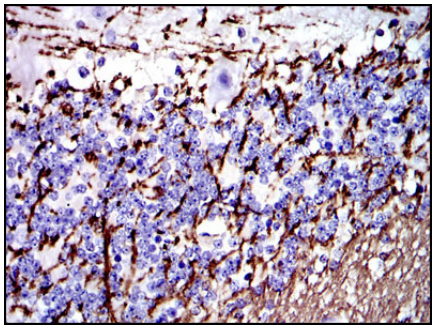


Figure 4: Immunohistochemical analysis of paraffin-embedded cerebellum tissues using MBP mouse mAb with DAB staining.

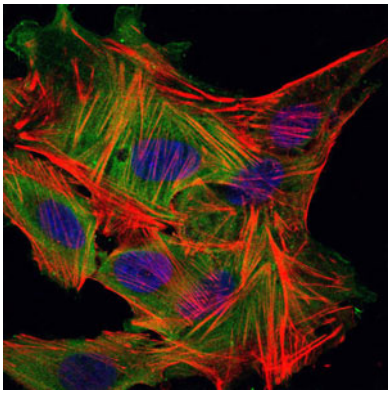


Figure 5: Immunofluorescence analysis of MSCS cells using MBP mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

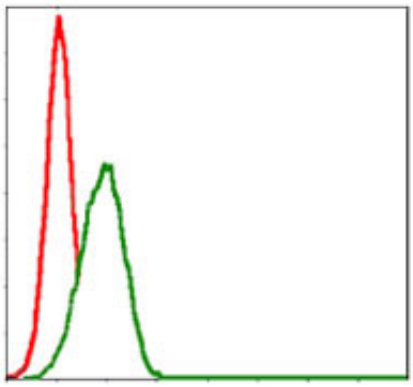


Figure 6: Flow cytometric analysis of HepG2 cells using MBP mouse mAb (green) and negative control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.