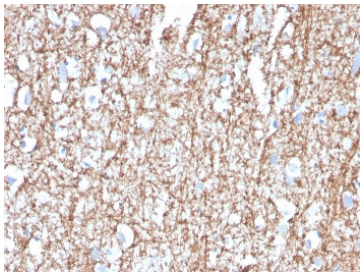
MBP Antibody / Myelin Basic Protein [clone MBP/4272] (V8676)

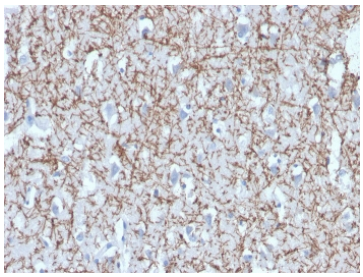
Catalog No.	Formulation	Size
V8676-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8676-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8676SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

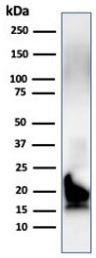
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1
Clone Name	MBP/4272
Purity	Protein G affinity chromatography
UniProt	P02686
Localization	Cell surface, cytoplasm
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT
Limitations	This MBP antibody is available for research use only.



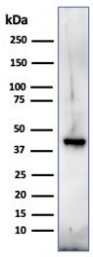
Immunohistochemistry analysis of MBP / Myelin Basic Protein antibody (clone MBP/4272) in human brain tissue. Formalin-fixed, paraffin-embedded human brain tissue was stained using MBP antibody (clone MBP/4272). Heat-induced epitope retrieval was performed by boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 20 minutes followed by cooling prior to antibody incubation. Strong cytoplasmic and fiber-like staining is observed throughout white matter regions, highlighting dense networks of myelinated axonal tracts, while neuronal cell bodies demonstrate minimal staining. The staining pattern is consistent with compact myelin distribution in central nervous system tissue.



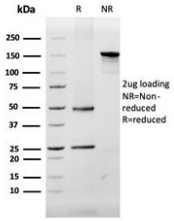
IHC staining of FFPE human brain with MBP antibody. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Western blot testing of human brain lysate with MBP antibody. Isoforms may be visualized from 20~37 kDa.



Western blot testing of human U-87 MG cell lysate with MBP antibody. Isoforms may be visualized from 20~37 kDa.



SDS-PAGE analysis of purified, BSA-free MBP antibody as confirmation of integrity and purity.

Description

MBP Antibody (clone MBP/4272) recognizes Myelin basic protein, a principal structural component of the myelin sheath in the central nervous system. MBP antibody is widely used as a definitive marker of compact myelin and mature oligodendrocytes. Encoded by the MBP gene, Myelin Basic Protein is essential for the formation, compaction, and stabilization of multilamellar myelin membranes that surround axons and enable rapid saltatory conduction. Because of its abundance in white matter tracts and its critical architectural role, MBP Antibody is a cornerstone reagent in neuroscience, demyelination, and white matter biology research.

Myelin Basic Protein localizes to the cytoplasmic face of the myelin membrane where it promotes adhesion between adjacent cytoplasmic leaflets, driving tight compaction of the myelin sheath. This structural compaction is necessary to generate the dense insulating layers required for efficient nerve impulse propagation. MBP is highly expressed in oligodendrocytes in the brain and spinal cord and in Schwann cells of peripheral nerves. In histological sections, MBP Antibody (clone MBP/4272) produces strong cytoplasmic and fiber-like staining within cerebellar white matter, corpus callosum, optic nerve, and spinal cord tracts, while neuronal cell bodies typically show minimal staining, reinforcing its specificity as a compact myelin marker.

Altered Myelin Basic Protein expression is closely associated with demyelinating conditions including multiple sclerosis,

leukodystrophies, neuromyelitis optica, and traumatic central nervous system injury. Decreased MBP immunoreactivity frequently correlates with myelin loss, whereas patchy or disrupted staining patterns may indicate active demyelination. During remyelination, restoration of MBP expression reflects oligodendrocyte maturation and repair of axonal insulation. For this reason, MBP Antibody is extensively used in experimental autoimmune encephalomyelitis models, toxin-induced demyelination systems, and therapeutic studies focused on white matter regeneration and neuroprotection.

Myelin Basic Protein exists in multiple alternatively spliced isoforms, including the widely studied 18.5 kDa isoform central to compact myelin architecture. Post-translational modifications such as phosphorylation and deimination influence MBP charge properties, membrane association, and structural stability, and have been implicated in immune recognition during inflammatory demyelinating disease. MBP Antibody (clone MBP/4272) therefore provides a reliable and biologically relevant tool for assessing oligodendrocyte differentiation, axonal insulation, neuroinflammation, and structural integrity of central and peripheral nervous system white matter in research applications.

For broader research on myelin structure and MBP expression, see our Myelin Basic Protein Antibody / CNS Myelin Marker page.

Application Notes

Optimal dilution of the MBP antibody should be determined by the researcher.

Immunogen

Amino acids GAEGQRPGFGYGG were used as the immunogen for the MBP antibody.

Storage

Store the MBP antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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