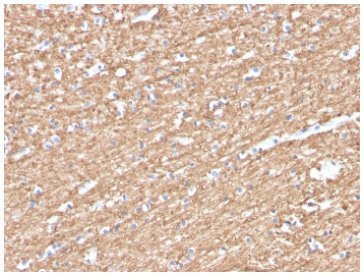
Myelin Basic Protein Antibody / MBP [clone MBP/4276] (V8680)

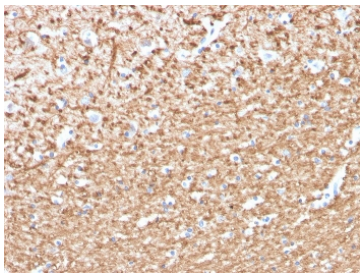
Catalog No.	Formulation	Size
V8680-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8680-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8680SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a
Clone Name	MBP/4276
Purity	Protein G affinity chromatography
UniProt	P02686
Localization	Cytoplasm
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This Myelin Basic Protein antibody is available for research use only.



IHC staining of FFPE human brain with Myelin Basic Protein antibody (clone MBP/4276). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



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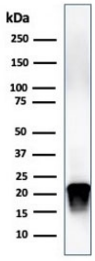
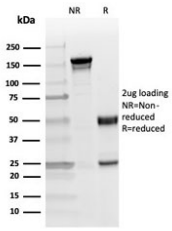


Western blot testing of human brain lysate with Myelin Basic Protein antibody (clone MBP/4276). Isoforms may be visualized from 20~37 kDa.



SDS-PAGE analysis of purified, BSA-free Myelin Basic Protein antibody (clone MBP/4276) as confirmation of integrity and purity.

Description

Myelin Basic Protein Antibody / MBP (clone MBP/4276) 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 in neuroscience research. Encoded by the MBP gene, Myelin basic protein is essential for compaction and stabilization of multilamellar myelin membranes that surround axons and enable rapid saltatory nerve conduction. Due to its abundance in white matter and critical architectural function, Myelin Basic Protein Antibody is routinely applied in studies of myelin development, maintenance, and degeneration.

Myelin basic protein localizes to the cytoplasmic surface of the myelin membrane where it promotes adhesion between adjacent cytoplasmic leaflets, driving formation of dense compact myelin. MBP is highly expressed in oligodendrocytes in the brain and spinal cord and in Schwann cells of peripheral nerves. In histological sections, MBP antibody produces strong cytoplasmic and fiber-like staining patterns highlighting myelinated axonal tracts within cerebellar white matter, corpus callosum, internal capsule, and spinal cord pathways. Neuronal cell bodies generally exhibit minimal staining, reinforcing the specificity of Myelin basic protein as a myelin sheath marker. Clone MBP/4276 is designed to detect Myelin basic protein expression in research applications evaluating white matter integrity and oligodendrocyte distribution.

Alterations in Myelin basic protein expression are closely associated with demyelinating disorders including multiple sclerosis, leukodystrophies, neuromyelitis optica, and traumatic central nervous system injury. Reduced MBP immunoreactivity frequently correlates with myelin loss, while disrupted or patchy staining patterns may indicate active demyelination. Restoration of MBP expression during repair reflects remyelination and oligodendrocyte maturation. 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.

Myelin basic protein exists in multiple alternatively spliced isoforms, including the commonly studied 18.5 kDa isoform that is central to compact myelin structure. Post-translational modifications such as phosphorylation and deimination influence MBP charge properties, membrane association, and structural stability. These biochemical characteristics are particularly

relevant in inflammatory demyelinating conditions where modified MBP may contribute to immune recognition. Myelin Basic Protein Antibody / MBP (clone MBP/4276) therefore provides a reliable tool for investigating oligodendrocyte biology, axonal insulation, neuroinflammation, and structural integrity of central nervous system white matter in both normal and disease contexts.

Application Notes

Optimal dilution of the Myelin Basic Protein antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to the amino acids surrounding phosphorylated threonine 98 were used as the immunogen for the Myelin Basic Protein antibody.

Storage

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