

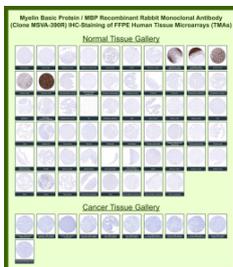
Myelin sheath protein Antibody / Myelin basic protein [clone MSVA-390R] (V5939)

Catalog No.	Formulation	Size
V5939-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5939-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant **RABBIT MONOCLONAL**

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Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-390R
UniProt	P02686
Localization	Myelin membrane, Nucleus
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This recombinant Myelin sheath protein/Myelin basic protein antibody is available for research use only.



Immunohistochemistry analysis of Myelin sheath protein / Myelin basic protein antibody (clone MSVA-390R) in human normal and cancer tissues. Formalin-fixed, paraffin-embedded human tissue microarrays were stained using recombinant rabbit monoclonal Myelin sheath protein antibody (clone MSVA-390R). Strong cytoplasmic and fiber-like staining is observed in central nervous system tissues, including cerebellum and cerebral white matter, highlighting myelinated axonal tracts. Neuronal cell bodies show minimal staining, while non-neural tissues including epithelial, stromal, and lymphoid organs demonstrate little to no immunoreactivity. In cancer tissues, most carcinomas and non-neural malignancies are negative for Myelin basic protein expression. The staining pattern is consistent with myelin-restricted expression and aligns with Human Protein Atlas data.

Description

Myelin sheath protein Antibody (clone MSVA-390R) recognizes Myelin basic protein, a major structural component of the myelin sheath in the central nervous system. Myelin basic protein antibody is commonly referred to in the literature as

MBP antibody and is widely used as a marker of myelinating oligodendrocytes and intact myelin. Encoded by the MBP gene, Myelin basic protein plays a critical role in the formation, compaction, and long-term stabilization of multilamellar myelin membranes that surround axons and enable rapid saltatory nerve conduction. Because of its abundance in white matter tracts and its essential architectural function, Myelin sheath protein Antibody is a foundational tool in neuroscience and demyelination research.

Myelin basic protein localizes primarily to the cytoplasmic face of the myelin membrane, where it promotes adhesion between adjacent cytoplasmic leaflets and drives compaction of the multilayered myelin structure. This compaction is necessary to create the dense insulating sheath required for efficient electrical impulse propagation. MBP is highly expressed in oligodendrocytes in the central nervous system and in Schwann cells in the peripheral nervous system. In histological sections, Myelin sheath protein Antibody (clone MSVA-390R) highlights myelinated axonal bundles with strong cytoplasmic and fiber-like staining patterns, particularly in cerebellar white matter, corpus callosum, and spinal cord tracts, while neuronal cell bodies show minimal staining.

Altered Myelin basic protein expression has been closely associated with demyelinating disorders including multiple sclerosis, leukodystrophies, inflammatory encephalopathies, and traumatic central nervous system injury. Reduced MBP immunoreactivity often correlates with myelin loss, while fragmented or patchy staining patterns may indicate active demyelination. Restoration of MBP expression is frequently used as a readout of remyelination and oligodendrocyte maturation in regenerative therapy studies. For this reason, Myelin sheath protein Antibody is commonly applied in experimental autoimmune encephalomyelitis models, toxin-induced demyelination systems, and investigations of neuroinflammation and white matter repair.

At the molecular level, Myelin basic protein exists in multiple alternatively spliced isoforms, including the extensively studied 18.5 kDa isoform central to compact myelin architecture. Post-translational modifications such as phosphorylation, deimination, and citrullination influence MBP charge properties, membrane association, and structural stability. These biochemical features are particularly relevant in autoimmune demyelinating disease where modified MBP may contribute to immune recognition. Myelin sheath protein Antibody (clone MSVA-390R) therefore provides a reliable tool for assessing oligodendrocyte differentiation, axonal insulation, demyelination processes, and structural integrity of central and peripheral nervous system white matter in research applications.

Application Notes

1. Optimal dilution of the recombinant Myelin sheath protein/Myelin basic protein antibody should be determined by the researcher.
2. This recombinant Myelin sheath protein/Myelin basic protein antibody is recombinantly produced by expression in human HEK293 cells.
3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121°C in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37°C for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 150-250) of human MBP (exact sequence is proprietary) was used as the immunogen for the recombinant Myelin sheath protein/Myelin basic protein antibody.

Storage

Recombinant Myelin sheath protein/Myelin basic protein antibody with sodium azide - store at 2 to 8°C; antibody without sodium azide - store at -20 to -80°C.

