

Anti-MAG Antibody

Catalog # ABO11060

Product Information

Application	WB, IHC-P
Primary Accession	P20916
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Myelin-associated glycoprotein(MAG) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	4099
Other Names	Myelin-associated glycoprotein, Siglec-4a, MAG, GMA
Calculated MW	69069
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat
Subcellular Localization	Membrane; Single-pass type I membrane protein.
Source	Eukaryota
Protein Name	Myelin-associated glycoprotein
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Thimerosal, 0.05mg NaN ₃ .
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human MAG(114-132aa KYYFRGDLGGYNQYTFSEH), identical to the related rat and mouse sequences.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20 °C for one year. After reconstitution, at 4 °C for one month. It can also be aliquotted and stored frozen at -20 °C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities	Belongs to the immunoglobulin superfamily. SIGLEC (sialic acid binding Ig-like lectin) family.
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Protein Information

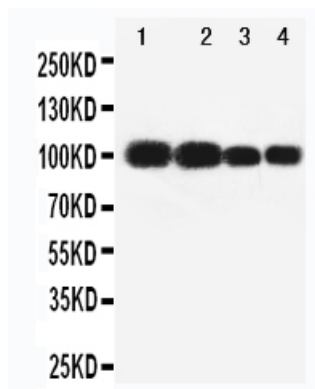
Name	MAG
Synonyms	GMA
Function	Adhesion molecule that mediates interactions between myelinating cells and neurons by binding to neuronal sialic acid- containing gangliosides and to the glycoproteins RTN4R and RTN4RL2 (By similarity). Not required for initial myelination, but seems to play a role in the maintenance of normal axon myelination. Protects motoneurons against apoptosis, also after injury; protection against apoptosis is probably mediated via interaction with neuronal RTN4R and RTN4RL2. Required to prevent degeneration of myelinated axons in adults; this probably depends on binding to gangliosides on the axon cell membrane (By similarity). Negative regulator of neurite outgrowth; in dorsal root ganglion neurons the inhibition is mediated primarily via binding to neuronal RTN4R or RTN4RL2 and to a lesser degree via binding to neuronal gangliosides. In cerebellar granule cells the inhibition is mediated primarily via binding to neuronal gangliosides. In sensory neurons, inhibition of neurite extension depends only partially on RTN4R, RTN4RL2 and gangliosides. Inhibits axon longitudinal growth (By similarity). Inhibits axon outgrowth by binding to RTN4R (By similarity). Preferentially binds to alpha-2,3-linked sialic acid. Binds ganglioside Gt1b (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein Membrane raft {ECO:0000250 UniProtKB:P07722}
Tissue Location	Both isoform 1 and isoform 2 are detected in myelinated structures in the central and peripheral nervous system, in periaxonal myelin and at Schmidt-Lanterman incisures (PubMed:6200494, PubMed:9495552). Detected in optic nerve, in oligodendroglia and in periaxonal myelin sheaths (PubMed:6200494). Detected in compact myelin (at protein level) (PubMed:6200494). Both isoform 1 and isoform 2 are detected in the central and peripheral nervous system (PubMed:9495552)

Background

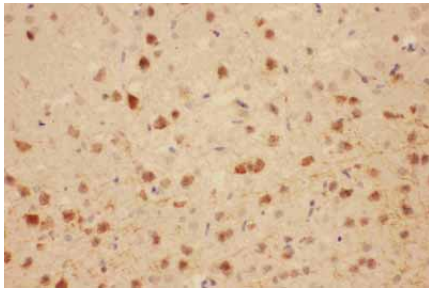
MAG(Myelin-associated glycoprotein),also known as SIGLEC4A, is a cell membrane glycoprotein that is a member of the SIGLEC family of proteins and is a functional ligand of the Nogo-66 receptor, NgR. It is thought to be involved in the process of myelination. MAG is a sialic acid-binding SIGLEC protein and is a functional ligand for the Nogo receptor.The MAG gene is mapped on 19q13.12. Cleavage of GPI-linked proteins from axons protects growth cones from MAG-induced collapse, and dominant-negative NgR eliminates MAG inhibition of neurite outgrowth. MAG-resistant embryonic neurons were rendered MAG-sensitive by expression of NgR. MAG binds specifically to an NgR-expressing cell line in a GPI-dependent and sialic acid-independent manner. Experiments blocking NgR from interacting with MAG prevented inhibition of neurite outgrowth by MAG. In cultured human embryonic kidney(HEK) cells expressing the Nogo receptor, p75(NTR) was required for MAG-induced intracellular calcium elevation.

Images

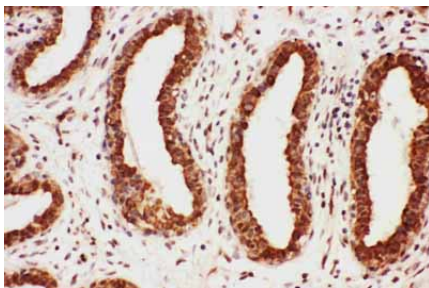
Anti-MAG antibody, ABO11060, Western blotting
Lane 1: Rat Brain Tissue Lysate
Lane 2: Rat Brain Tissue Lysate



Lane 3: Mouse Brain Tissue Lysate Lane 4: Mouse Brain Tissue Lysate



Anti-MAG antibody, ABO11060, IHC(P)IHC(P): Rat Brain Tissue



Anti-MAG antibody, ABO11060, IHC(P)IHC(P): Human Mammary Cancer Tissue

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