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

Anti-MAG Antibody
Catalog # ABO11060

Specification

Anti-MAG Antibody - 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.

Anti-MAG Antibody - Additional Information

Gene ID 4099

Other Names
Myelin-associated glycoprotein, Siglec-4a, MAG, GMA

Calculated MW
69069 MW KDa

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.

Protein Name
Myelin-associated glycoprotein

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

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 r˚Constitution, 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.

Anti-MAG Antibody - 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)

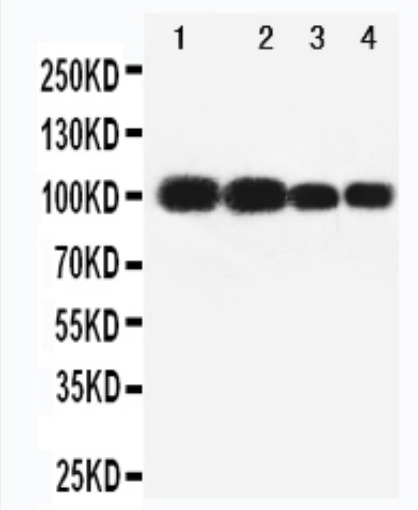
Anti-MAG Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

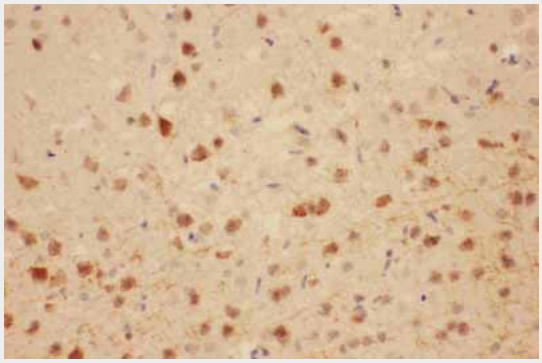
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

- Immunoprecipitation
- Flow Cytomety
- Cell Culture

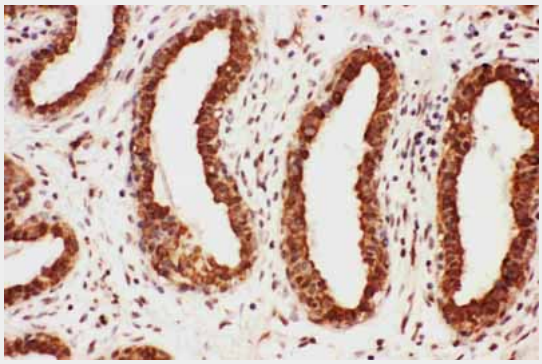
Anti-MAG Antibody - Images



Anti-MAG antibody, ABO11060, Western blottingLane 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

Anti-MAG Antibody - 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 though 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.