

## MAG Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	myelin associated glycoprotein;siglec-4a;Gma
Protein Construction:	A DNA sequence encoding the mouse Mag (NP_034888.1) (Met1-Pro516) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gly 20
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P20917-2
Molecular Weight:	56.3 kDa (predicted)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

The myelin-associated glycoprotein (MAG) contains five immunoglobulin-like domains and belongs to the sialic-acid-binding subgroup of the Ig superfamily. MAG is a transmembrane glycoprotein of 100kDa localized in myelin sheaths of Periaxonal Schwann cell and oligodendroglial membranes where it functions in glia-axon interactions. It appears to function both as a receptor for an axonal signal that promotes the differentiation, maintenance, and survival of oligodendrocytes and as a ligand for an axonal receptor that is needed for the maintenance of

myelinated axons. MAG contains a carbohydrate epitope shared with other glycoconjugates that is a target antigen in autoimmune peripheral neuropathy associated with IgM gammopathy and has been implicated in a dying back oligodendroglipathy in multiple sclerosis. MAG is considered as a transmembrane protein of both CNS and PNS myelin and it strongly inhibits neurite outgrowth in both developing cerebellar and adult dorsal root ganglion neurons. In contrast, MAG promotes neurite outgrowth from newborn DRG neurons. Thus, MAG may be responsible for the lack of CNS nerve regeneration and may influence both temporally and spatially regeneration in the PNS.

### Reference

- Quarles RH. (2007) Myelin-associated glycoprotein (MAG): past, present and beyond. *J Neurochem.* 100(6):1431-48.
- Mukhopadhyay G, et al. (1994) A novel role for myelin-associated glycoprotein as an inhibitor of axonal regeneration. *Neuron.* 13(3): 757-67.

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