abcam

ab89780

# Anti-MAG/GMA antibody [3C7] - BSA and Azide free

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | pH: 7.4 Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Fragment Protein within Human MAG aa 100 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P20916 |
| **Carrier free** | Yes |
| **Clone number** | 3C7 |
| **Purification technique** | Affinity purification Protein A |
| **Light chain type** | kappa |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder → |

## Reactivity data

## ICC

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |

| | |
|---|---|
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Orangutan |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Recombinant fragment - Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |

### Predicted

| | |
|---|---|
| **Species** | Orangutan |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Recombinant fragment - Human |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Recombinant fragment - Human |
| **Dilution info** | - |
| **Notes** | Isoform a, 69 kDa; Isoform b, 63 kDa. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | Isoform a, 69 kDa; Isoform b, 63 kDa. |

### Predicted

| | |
|---|---|
| **Species** | Orangutan |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information MAG

**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).

## Storage

**Shipped at conditions** Blue Ice

| | |
|---|---|
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Notes

This product was changed from ascites to tissue culture supernatant on 4th April 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | MAG (Myelin-Associated Glycoprotein) sometimes referred to as 'MAG protein' 'MAG RAT' or 'MAG/GMA' weighs approximately 100 kDa. This protein is prominently expressed in the central and peripheral nervous systems. MAG localizes to the periaxonal region of myelinated axons making it essential for proper neuronal function. It plays an important role in maintaining the stability and structure of myelin sheaths which are important for the efficient transmission of nerve impulses. |
| **Biological function summary** | This protein acts as an adhesion molecule that contributes to the myelination process. It exists as part of a molecular complex that interacts with other oligodendrocyte and Schwann cell proteins. This interaction is important for nerve regeneration and the expansion of the myelin sheath during development and repair. MAG also assists in signaling between axons and glial cells improving cellular communication and myelin integrity. |
| **Pathways** | MAG significantly impacts pathways such as the Nogo receptor which is associated with inhibiting axonal growth and regeneration. MAG interacts with the NOGO protein and other members of the Nogo receptor signaling pathway where it functions to regulate neuronal growth and regeneration. Furthermore MAG's interplay with NOGO receptor components contributes to limiting excessive sprouting of axons balancing growth and stability of the nervous system. |
| **Associated diseases and disorders** | MAG is notably linked to neuropathies and multiple sclerosis. In neuropathies abnormal MAG expression can disrupt nerve conduction and lead to demyelinating conditions. Multiple sclerosis sees extensive involvement of MAG where its malfunction or reduced expression associates with the failure of remyelination processes. Additionally MAG's connection with proteins such as NOGO and other myelin-associated inhibitors implicates its role in the pathology of these disorders offering potential targets for therapeutic interventions. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

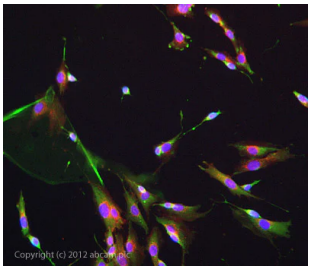
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

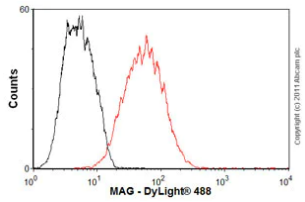
## 3 product images



### Immunocytochemistry - Anti-MAG/GMA antibody [3C7] - BSA and Azide free (ab89780)

MAG/GMA Immunocytochemistry staining using mouse Anti-MAG/GMA antibody

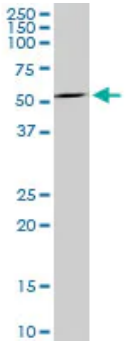
ab89780 stained SKNSH cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab89780 at 10µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- mouse (ab96879) IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
This image was generated using the ascites version of the product.




### Flow Cytometry - Anti-MAG/GMA antibody [3C7] - BSA and Azide free (ab89780)

MAG/GMA Flow Cytometry staining using mouse Anti-MAG/GMA antibody

Overlay histogram showing SH-SY5Y cells stained with ab89780 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab89780, 1µg/1x$10^6$ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x$10^6$ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 80% methanol (5 min) used under the same conditions.
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.
This image was generated using the ascites version of the product.




## Western blot - Anti-MAG/GMA antibody [3C7] - BSA and Azide free (ab89780)

MAG/GMA Western blot staining of Jurkat cell lysate using mouse Anti-MAG/GMA antibody

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-MAG/GMA antibody [3C7] - BSA and Azide free (ab89780) at 5 µg/mL

All lanes:
Jurkat cell lysate at 50 µg

Predicted band size: 69 kDa

Observed band size: 53 kDa

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