

# MAG siRNA (h): sc-35841

## BACKGROUND

Myelin-associated glycoprotein (MAG) is a nervous system cell-surface adhesion protein that is involved in linking myelinating glial cells to neuronal axons. MAG contains a sialic acid binding site and five IgG-like domains, thus identifying MAG as a member of a subgroup of the immunoglobulin superfamily. Like myelin, MAG inhibits axonal outgrowth and contributes to the inhibitory properties of myelin. Growth inhibition by MAG has been shown to be blocked when cerebellar neurons are pre-incubated with the neurotrophins BDNF or GDNF. It is suggested that this neurotrophin priming elevates cAMP and activates PKA.

## REFERENCES

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- Collins, B.E., et al. 1997. Sialic acid specificity of Myelin-associated glycoprotein binding. *J. Biol. Chem.* 272: 1248-1255.
- Shen, Y.J., et al. 1998. Myelin-associated glycoprotein in Myelin and expressed by Schwann cells inhibits axonal regeneration and branching. *Mol. Cell. Neurosci.* 12: 79-91.
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- Schachner, M., et al. 2000. Multiple functions of the Myelin-associated glycoprotein MAG (Siglec-4a) in formation and maintenance of Myelin. *Glia* 29: 154-165.
- Vyas, A.A., et al. 2002. Gangliosides are functional nerve cell ligands for myelin-associated glycoprotein (MAG), an inhibitor of nerve regeneration. *Proc. Natl. Acad. Sci. USA* 99: 8412-8417.

## CHROMOSOMAL LOCATION

Genetic locus: MAG (human) mapping to 19q13.12.

## PRODUCT

MAG siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAG shRNA Plasmid (h): sc-35841-SH and MAG shRNA (h) Lentiviral Particles: sc-35841-V as alternate gene silencing products.

For independent verification of MAG (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-35841A, sc-35841B and sc-35841C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MAG siRNA (h) is recommended for the inhibition of MAG expression in human cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

MAG (A-11): sc-166849 is recommended as a control antibody for monitoring of MAG gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAG gene expression knockdown using RT-PCR Primer: MAG (h)-PR: sc-35841-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.