

MOG (NYRMOG): sc-73330

BACKGROUND

Myelin oligodendrocyte glycoprotein (MOG) is a myelin component of the central nervous system that influences completion and maintenance of the myelin sheath, cell adhesion and oligodendrocyte microtubule stability. MOG localizes on the oligodendrocyte cell surface and on the outermost lamellae of mature myelin. MOG epitopes targeted by the autoimmune T cell response influence demyelination and contribute to multiple sclerosis (MS). Alternatively spliced transcript variants encoding different isoforms have been identified.

REFERENCES

- Roth, M.P., et al. 1995. The human myelin oligodendrocyte glycoprotein (MOG) gene: complete nucleotide sequence and structural characterization. *Genomics* 28: 241-250.
- Pham-Dinh, D., et al. 1995. Structure of the human myelin oligodendrocyte glycoprotein gene and multiple alternative spliced isoforms. *Genomics* 29: 345-352.
- Forsthuber, T.G., et al. 2001. T cell epitopes of human myelin oligodendrocyte glycoprotein identified in HLA-DR4 (DRB1*0401) transgenic mice are encephalitogenic and are presented by human B cells. *J. Immunol.* 167: 7119-7125.

CHROMOSOMAL LOCATION

Genetic locus: MOG (human) mapping to 6p22.1; Mog (mouse) mapping to 17 B1.

SOURCE

MOG (NYRMOG) is a mouse monoclonal antibody raised against synthetic MOG peptide corresponding to amino acids 35-55 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MOG (NYRMOG) is recommended for detection of MOG of broad species origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MOG siRNA (h): sc-44495, MOG siRNA (m): sc-44496, MOG shRNA Plasmid (h): sc-44495-SH, MOG shRNA Plasmid (m): sc-44496-SH, MOG shRNA (h) Lentiviral Particles: sc-44495-V and MOG shRNA (m) Lentiviral Particles: sc-44496-V.

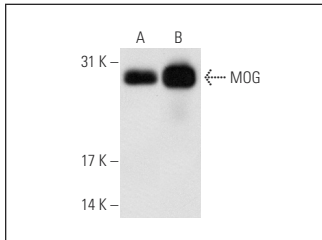
Molecular Weight of MOG: 28 kDa.

Positive Controls: rat cerebellum extract: sc-2398, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MOG (NYRMOG): sc-73330. Western blot analysis of MOG expression in rat cerebellum (A) and mouse brain (B) tissue extracts.

SELECT PRODUCT CITATIONS

- Lee, J.H., et al. 2010. Effects of dietary folic acid on the expression of myelin basic protein in the brain and spinal cord of pregnant and lactating rats. *Ann. Nutr. Metab.* 56: 83-90.
- Amadio, S., et al. 2010. P2Y12 receptor protein in cortical gray matter lesions in multiple sclerosis. *Cereb. Cortex* 20: 1263-1273.
- Rolyan, H., et al. 2015. Defects of lipid synthesis are linked to the age-dependent demyelination caused by lamin B1 overexpression. *J. Neurosci.* 35: 12002-12017.
- Vellosillo, L., et al. 2017. Adipose tissue-derived stromal cells (ADSC) express oligodendrocyte and myelin markers, but they do not function as oligodendrocytes. *Histochem. Cell Biol.* 148: 503-515.
- Lira-Diaz, E., et al. 2022. EGF-coupled gold nanoparticles increase the expression of CNPase and the myelin-associated proteins MAG, MOG, and MBP in the septal nucleus demyelinated by cuprizone. *Life* 12: 333.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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