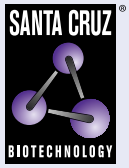
SANTA CRUZ BIOTECHNOLOGY, INC.

MOG (D-2): sc-376138



The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

MOG (D-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 223-257 within a C-terminal extracellular domain of MOG of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MOG (D-2) is available conjugated to agarose (sc-376138 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376138 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376138 PE), fluorescein (sc-376138 FITC), Alexa Fluor® 488 (sc-376138 AF488), Alexa Fluor® 546 (sc-376138 AF546), Alexa Fluor® 594 (sc-376138 AF594) or Alexa Fluor® 647 (sc-376138 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376138 AF680) or Alexa Fluor® 790 (sc-376138 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, MOG (D-2) is available conjugated to biotin (sc-376138 B), 200 µg/ml, for WB, IHC(P) and ELISA.

Blocking peptide available for competition studies, sc-376138 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MOG (D-2) is recommended for detection of precursor and mature MOG of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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). MOG (D-2) is also recommended for detection of precursor and mature MOG in additional species, including equine, bovine and porcine.

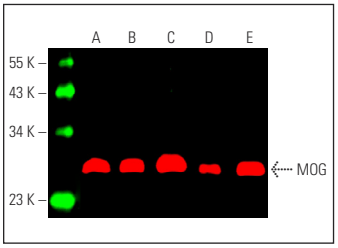
Suitable for use as control antibody for MOG siRNA (h): sc-44495, MOG siRNA (m): sc-44496, MOG shRNA Plasmid (h): sc-44495-SH, MOG shRNA Plasmid (m): sc-44496-SH, MOG shRNA (h) Lentiviral Particles: sc-44495-V and MOG shRNA (m) Lentiviral Particles: sc-44496-V.

Molecular Weight of MOG: 28 kDa.

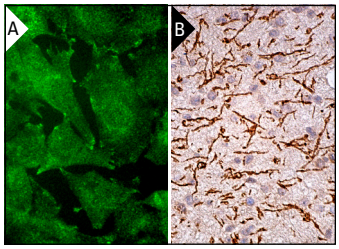
RECOMMENDED SUPPORT REAGENTS

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 (D-2) Alexa Fluor® 790: sc-376138 AF790. Direct near-infrared western blot analysis of MOG expression in mouse brain (**A**), rat brain (**B**), human brain (**C**), rat cerebellum (**D**) and mouse cerebellum (**E**) tissue extracts. Blocked with UltraCruz® Blocking Reagent:



MOG (D-2): sc-376138. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing neuropil staining (**B**).

SELECT PRODUCT CITATIONS

1. Satoh, J., et al. 1987. Experimental allergic encephalomyelitis mediated by murine encephalitogenic T cell lines specific for myelin proteolipid apoprotein. J. Immunol. 138: 179-184.
2. Kanakasabai, S., et al. 2012. PPARγ agonists promote oligodendrocyte differentiation of neural stem cells by modulating stemness and differentiation genes. PLoS ONE 7: e50500.
3. Dutta, S., et al. 2021. α-synuclein in blood exosomes immunoprecipitated using neuronal and oligodendroglial markers distinguishes Parkinson's disease from multiple system atrophy. Acta Neuropathol. 142: 495-511.
4. Piatek, P., et al. 2022. Natural fish oil improves the differentiation and maturation of oligodendrocyte precursor cells to oligodendrocytes *in vitro* after interaction with the blood-brain barrier. Front. Immunol. 13: 932383.

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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA