

MOG (D-10): sc-166172



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-10) is a mouse monoclonal antibody raised against amino acids 176-247 mapping at the C-terminus of MOG of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MOG (D-10) is available conjugated to agarose (sc-166172 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166172 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166172 PE), fluorescein (sc-166172 FITC), Alexa Fluor® 488 (sc-166172 AF488), Alexa Fluor® 546 (sc-166172 AF546), Alexa Fluor® 594 (sc-166172 AF594) or Alexa Fluor® 647 (sc-166172 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166172 AF680) or Alexa Fluor® 790 (sc-166172 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MOG (D-10) is recommended for detection of 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).

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: mouse brain extract: sc-2253, rat brain extract: sc-2392 or human brain extract: sc-364375.

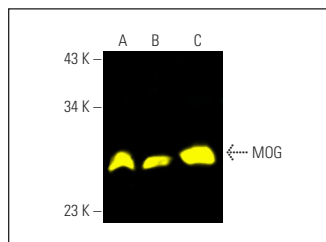
RESEARCH USE

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

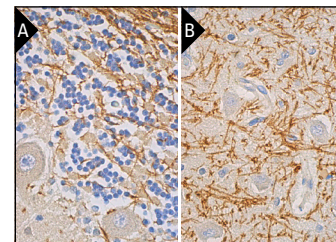
STORAGE

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

DATA



MOG (D-10) Alexa Fluor® 488: sc-166172 AF488. Direct fluorescent western blot analysis of MOG expression in mouse brain (A), rat brain (B) and human brain (C) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214.



MOG (D-10): sc-166172. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue (A) and human hippocampus tissue (B) showing membrane and cytoplasmic staining of oligodendrocytes.

SELECT PRODUCT CITATIONS

- Dhaunchak, A.S., et al. 2012. Implication of perturbed axoglial apparatus in early pediatric multiple sclerosis. *Ann. Neurol.* 71: 601-613.
- Boska, M.D., et al. 2014. Associations between brain microstructures, metabolites, and cognitive deficits during chronic HIV-1 infection of humanized mice. *Mol. Neurodegener.* 9: 58.
- González-Fernández, E., et al. 2018. PTEN negatively regulates the cell lineage progression from NG2⁺ glial progenitor to oligodendrocyte via mTOR-independent signaling. *Elife* 7: e32021.
- Zhang, Q., et al. 2019. The interleukin-4/PPAR γ signaling axis promotes oligodendrocyte differentiation and remyelination after brain injury. *PLoS Biol.* 17: e3000330.
- Khawaja, R.R., et al. 2021. GluA2 overexpression in oligodendrocyte progenitors promotes postinjury oligodendrocyte regeneration. *Cell Rep.* 35: 109147.
- Manabe, T., et al. 2021. Systemic inflammation induced the delayed reduction of excitatory synapses in the CA3 during ageing. *J. Neurochem.* 159: 525-542.
- Chen, L., et al. 2023. ANGPTL2 binds MAG to efficiently enhance oligodendrocyte differentiation. *Cell Biosci.* 13: 42.
- Baraibar, A.M., et al. 2024. Autoimmune inflammation triggers aberrant astrocytic calcium signaling to impair synaptic plasticity. *Brain Behav. Immun.* 121: 192-210.
- Melnik, M., et al. 2024. Simultaneous isolation of intact brain cells and cell-specific extracellular vesicles from cryopreserved Alzheimer's disease cortex. *J. Neurosci. Methods* 406: 110137.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.