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# MOG shRNA (h) Lentiviral Particles: sc-44495-V

## 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

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- 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.
- Burns, J.B., et al. 2002. *In vivo* activation of myelin oligodendrocyte glycoprotein-specific T cells in healthy control subjects. *Clin. Immunol.* 105: 185-191.
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## CHROMOSOMAL LOCATION

Genetic locus: MOG (human) mapping to 6p22.1.

## PRODUCT

MOG shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see MOG siRNA (h): sc-44495 and MOG shRNA Plasmid (h): sc-44495-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^{\circ}$  C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^{\circ}$  C for up to one week. Avoid repeated freeze thaw cycles.

## APPLICATIONS

MOG shRNA (h) Lentiviral Particles is recommended for the inhibition of MOG expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

MOG (D-2): sc-376138 is recommended as a control antibody for monitoring of MOG 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MOG gene expression knockdown using RT-PCR Primer: MOG (h)-PR: sc-44495-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^{\circ}$  C and the extension temperature should be  $68-72^{\circ}$  C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## PROTOCOLS

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