SANTA CRUZ BIOTECHNOLOGY, INC.

MOG siRNA (m): sc-44496

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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2. Pham-Dinh, D., et al. 1995. Structure of the human myelin oligodendrocyte glycoprotein gene and multiple alternative spliced isoforms. Genomics 29: 345-352.
3. 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.
4. 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.
5. Lyons, J.A., et al. 2002. Critical role of antigen-specific antibody in experimental autoimmune encephalomyelitis induced by recombinant myelin oligodendrocyte glycoprotein. Eur. J. Immunol. 32: 1905-1913.
6. Weissert, R., et al. 2002. High immunogenicity of intracellular myelin oligodendrocyte glycoprotein epitopes. J. Immunol. 169: 548-556.
7. Oliver, A.R., et al. 2003. Rat and human myelin oligodendrocyte glycoproteins induce experimental autoimmune encephalomyelitis by different mechanisms in C57BL/6 mice. J. Immunol. 171: 462-468.
8. Guggenmos, J., et al. 2004. Antibody cross-reactivity between myelin oligodendrocyte glycoprotein and the milk protein butyrophilin in multiple sclerosis. J. Immunol. 172: 661-668.

CHROMOSOMAL LOCATION

Genetic locus: Mog (mouse) mapping to 17 B1.

PRODUCT

MOG siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MOG shRNA Plasmid (m): sc-44496-SH and MOG shRNA (m) Lentiviral Particles: sc-44496-V as alternate gene silencing products.

For independent verification of MOG (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-44496A, sc-44496B and sc-44496C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MOG siRNA (m) is recommended for the inhibition of MOG expression in mouse 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 µM in 66 µl. 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

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 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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MOG gene expression knockdown using RT-PCR Primer: MOG (m)-PR: sc-44496-PR (20 µl). 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 for detailed protocols and support products.