SANTA CRUZ BIOTECHNOLOGY, INC.

Myelin P2 siRNA (m): sc-61114

BACKGROUND

Peripheral Myelin protein-2 (PMP2, Myelin P2, MP2), a small basic enzyme, is one of the principal proteins of peripheral Myelin and presumably participates in the transport of fatty acids or the metabolism of Myelin lipids. Myelin P2 is similar in amino acid sequence and tertiary structure to fatty acid binding proteins found in the liver, adipocytes and intestine, although its expression is restricted to the nervous system. Research indicates that Myelin P2 may play an important role in the organization of compact Myelin; the protein is detected only in Myelin-producing cells of the central and peripheral nervous systems. The 5' flanking region of the Myelin P2 gene contains a TA-rich element (TATA-like box) and a single, distinct transcription initiation site. The gene maps to 8q21.13 and encodes a cytosolic protein.

REFERENCES

1. Shin, H.C., et al. 1989. Induction of experimental allergic neuritis with synthetic peptides from Myelin P2 protein. Neurosci. Lett. 102: 309-312.
2. Narayanan, V., et al. 1991. Structure of the mouse Myelin P2 protein gene. J. Neurochem. 57: 75-80.
3. Bharucha, V.A., et al. 1993. Characterization of the *cis*-acting elements of the mouse Myelin P2 promoter. J. Neurosci. Res. 36: 508-519.
4. Narayanan, V., et al. 1994. Partial structure and mapping of the human Myelin P2 protein gene. J. Neurochem. 63: 2010-2013.
5. Weishaupt, A., et al. 1995. T cell antigenic and neuritogenic activity of recombinant human peripheral Myelin P2 protein. J. Neuroimmunol. 63: 149-156.
6. Xiao, J., et al. 2004. Evidence that a major site of expression of the RHO-GTPASE activating protein, oligophrenin-1, is peripheral myelin. Neuroscience 124: 781-787.
7. Csurhes, P.A., et al. 2005. T cell reactivity to P0, P2, PMP-22, and Myelin basic protein in patients with Guillain-Barre syndrome and chronic inflammatory demyelinating polyradiculoneuropathy. J. Neurol. Neurosurg. Psychiatry 76: 1431-1439.

CHROMOSOMAL LOCATION

Genetic locus: Pmp2 (mouse) mapping to 3 A1.

PRODUCT

Myelin P2 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 Myelin P2 shRNA Plasmid (m): sc-61114-SH and Myelin P2 shRNA (m) Lentiviral Particles: sc-61114-V as alternate gene silencing products.

For independent verification of Myelin P2 (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-61114A, sc-61114B and sc-61114C.

RESEARCH USE

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

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

Myelin P2 siRNA (m) is recommended for the inhibition of Myelin P2 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

Myelin P2 (A-3): sc-393173 is recommended as a control antibody for monitoring of Myelin P2 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 Myelin P2 gene expression knockdown using RT-PCR Primer: Myelin P2 (m)-PR: sc-61114-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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