

Oct-6 siRNA (m): sc-38775

BACKGROUND

POU homeodomain proteins are transcriptional regulators that function in various developmental processes (e.g. cell division, differentiation, specification and survival of specific cell types) and participate in the determination of cell fate. The POU transcription factor Oct-6 (also designated SCIP and Tst-1) is expressed by late embryonic Schwann cells of the peripheral nervous system and is also expressed by nonmyelinating Schwann cells in adults. Oct-6 is strongly upregulated in promyelinating cells because it is required for the timely differentiation of promyelinating cells into myelinating cells. Oct-6 functions during myelination and is required for the proper downregulation of its own gene when myelination proceeds. c-Myc can act synergistically with the POU domain of Oct-6 to produce myelin disease pathogenesis in the mammalian central nervous system.

REFERENCES

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2. Monuki, E.S., et al. 1990. Expression and activity of the POU transcription factor SCIP. *Science* 249: 1300-1303.
3. Blanchard, A.D., et al. 1996. Oct-6 (SCIP/Tst-1) is expressed in Schwann cell precursors, embryonic Schwann cells and postnatal myelinating Schwann cells: comparison with Oct-1, Krox-20 and Pax-3. *J. Neurosci. Res.* 46: 630-640.
4. Jaegle, M., et al. 1996. The POU factor Oct-6 and Schwann cell differentiation. *Science* 273: 507-510.
5. Jaegle, M., et al. 1998. Role of Oct-6 in Schwann cell differentiation. *Microsc. Res. Tech.* 41: 372-378.
6. Jensen, N.A., et al. 1998. Neurological disturbances, premature lethality and central myelination deficiency in transgenic mice overexpressing the homeodomain transcription factor Oct-6. *J. Clin. Invest.* 101: 1292-1299.
7. Levavasseur, F., et al. 1998. Comparison of sequence and function of the Oct-6 genes in zebrafish, chicken and mouse. *Mech. Dev.* 74: 89-98.
8. Jensen, N.A., et al. 1999. Oligodendrocyte programmed cell death and central myelination deficiency induced in transgenic mice by synergism between c-Myc and Oct-6. *J. Biol. Chem.* 274: 29921-29926.
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CHROMOSOMAL LOCATION

Genetic locus: Pou3f1 (mouse) mapping to 4 D2.2.

PRODUCT

Oct-6 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Oct-6 shRNA Plasmid (m): sc-38775-SH and Oct-6 shRNA (m) Lentiviral Particles: sc-38775-V as alternate gene silencing products.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Oct-6 siRNA (m) is recommended for the inhibition of Oct-6 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 μ M in 66 μ l. 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

Oct-6 (B-7): sc-376143 is recommended as a control antibody for monitoring of Oct-6 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Oct-6 gene expression knockdown using RT-PCR Primer: Oct-6 (m)-PR: sc-38775-PR (20 μ l, 416 bp). 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.