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Oct-3/4 shRNA (h2) Lentiviral Particles: sc-43980-V

BACKGROUND

POU5F1 (POU domain, class 5, transcription factor 1), also known as octamer-binding transcription factor-3 (Oct-3, Otf-3), octamer-binding transcription factor-4 (Oct-4, Otf-4) and Oct-3/4, modulates embryonic stem (ES) cell populations by influencing lineage commitment. Oct-3/4 sustains stem-cell self-renewal and differentiation pathways. Transcription factors containing the POU homeodomain regulate tissue-specific gene expression in lymphoid and pituitary differentiation and in early mammalian development. Oct-3/4 is capable of inducing rapid proliferation and tumorigenic properties of ES cells through activation of the UTF1 gene. In humans, two Oct-3/4 isoforms contribute to influencing the undifferentiated phenotype of ES cells. Oct-3/4 pseudogenes localizing to human chromosomes 10 and 8 are reported to be transcribed in certain cancer cell lines and tissues.

REFERENCES

1. Takeda, J., et al. 1992. Human Oct3 gene family: cDNA sequences, alternative splicing, gene organization, chromosomal location, and expression at low levels in adult tissues. *Nucleic Acids Res.* 20: 4613-4620.
2. Nichols, J., et al. 1998. Formation of pluripotent stem cells in the mammalian embryo depends on the POU transcription factor Oct4. *Cell* 95: 379-391.
3. Niwa, H., et al. 2000. Quantitative expression of Oct-3/4 defines differentiation, dedifferentiation or self-renewal of ES cells. *Nat. Genet.* 24: 372-376.
4. Nishimoto, M., et al. 2005. Oct-3/4 maintains the proliferative embryonic stem cell state via specific binding to a variant octamer sequence in the regulatory region of the UTF1 locus. *Mol. Cell. Biol.* 25: 5084-5094.
5. Yang, H.M., et al. 2005. Characterization of putative *cis*-regulatory elements that control the transcriptional activity of the human Oct4 promoter. *J. Cell Biochem.* 96: 821-830.
6. Suo, G., et al. 2005. Oct4 pseudogenes are transcribed in cancers. *Biochem. Biophys. Res. Commun.* 337: 1047-1051.

CHROMOSOMAL LOCATION

Genetic locus: POU5F1 (human) mapping to 6p21.33.

PRODUCT

Oct-3/4 shRNA (h2) 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 μ l frozen stock containing 1.0×10^6 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 Oct-3/4 siRNA (h2): sc-43980 and Oct-3/4 shRNA Plasmid (h2): sc-43980-SH as alternate gene silencing products.

STORAGE

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

APPLICATIONS

Oct-3/4 shRNA (h2) Lentiviral Particles is recommended for the inhibition of Oct-3/4 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 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

Oct-3/4 (A-9): sc-365509 is recommended as a control antibody for monitoring of Oct-3/4 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 Oct-3/4 gene expression knockdown using RT-PCR Primer: Oct-3/4 (h2)-PR: sc-43980-PR (20 μ l, 512 bp). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

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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