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SANTA CRUZ BIOTECHNOLOGY, INC.

OST-PTP siRNA (m): sc-151334

BACKGROUND

OST-PTP, also known as embryonic stem cell protein-tyrosine phosphatase, ES cell phosphatase or Ptprv, is a 1,705 amino acid protein belonging to the protein-Tyrosine phosphatase family. OST-PTP catalyzes the removal of phosphate groups from phosphorylated Tyrosine residues on proteins. Down-regulated during differentiation, OST-PTP may be involved in the maintenance of pluripotency. OST-PTP is present in the epiblast of oocytes and is detectable throughout embryo development. In adult tissues, OST-PTP has localized expression to gonadal germ cells. OST-PTP is a single-pass type I membrane protein and contains ten Fibronectin type-III domains and two tyrosine-protein phosphatase domains.

REFERENCES

1. Lee, K., et al. 1996. Identification of a developmentally regulated protein tyrosine phosphatase in embryonic stem cells that is a marker of pluripotential epiblast and early mesoderm. Mech. Dev. 59: 153-164.
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3. Morrison, D.F. and Mauro, L.J. 2000. Structural characterization and chromosomal localization of the mouse cDNA and gene encoding the bone tyrosine phosphatase, mOST-PTP. Gene 257: 195-208.
4. Dacquin, R., et al. 2004. Knock-in of nuclear localised β-galactosidase reveals that the tyrosine phosphatase Ptprv is specifically expressed in cells of the bone collar. Dev. Dyn. 229: 826-834.
5. Yunker, L.A., et al. 2004. The tyrosine phosphatase, OST-PTP, is expressed in mesenchymal progenitor cells early during skeletogenesis in the mouse. J. Cell. Biochem. 93: 761-773.
6. Doumont, G., et al. 2005. G_1 checkpoint failure and increased tumor susceptibility in mice lacking the novel p53 target Ptprv. EMBO J. 24: 3093-3103.
7. Lee, N.K., et al. 2007. Endocrine regulation of energy metabolism by the skeleton. Cell 130: 456-469.
8. Klattig, J., et al. 2007. WT1-mediated gene regulation in early urogenital ridge development. Sex. Dev. 1: 238-254.

CHROMOSOMAL LOCATION

Genetic locus: Ptprv (mouse) mapping to 1 E4.

PRODUCT

OST-PTP 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 OST-PTP shRNA Plasmid (m): sc-151334-SH and OST-PTP shRNA (m) Lentiviral Particles: sc-151334-V as alternate gene silencing products.

For independent verification of OST-PTP (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-151334A, sc-151334B and sc-151334C.

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

OST-PTP siRNA (m) is recommended for the inhibition of OST-PTP 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor OST-PTP gene expression knockdown using RT-PCR Primer: OST-PTP (m)-PR: sc-151334-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.