

PTP ρ siRNA (h): sc-62908

BACKGROUND

Protein tyrosine phosphatases, or PTPs, are type I transmembrane proteins, membrane-associated proteins or proteins localized in nuclei. Examples of transmembrane PTPs are LAR, PTP α , PTP β , PTP γ , PTP δ , PTP ϵ , PTP ζ , PTP κ , PTP μ and PTP ρ . Transmembrane PTPs play diverse roles in a variety of cellular processes during development and in adult tissues. PTP ρ , also known as PTPRT, RPTPT or RPTP ρ , is a receptor-type PTP (RPTP) containing a transmembrane region, two intracellular tandem catalytic domains, an extracellular region with Ig-like and Fibronectin type III-like repeats and a MAM (meprin-A5 antigen-PTP μ) domain. RPTPs participate in neurite extension, signal transduction and cell adhesion. PTP ρ is expressed at high levels in the central nervous system of both developing and adult tissues. It interacts with a variety of proteins that function at intercellular adheren junctions and it specifically binds and dephosphorylates E-cadherin.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PTPRT (human) mapping to 20q12.

PRODUCT

PTP ρ siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PTP ρ shRNA Plasmid (h): sc-62908-SH and PTP ρ shRNA (h) Lentiviral Particles: sc-62908-V as alternate gene silencing products.

For independent verification of PTP ρ (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62908A, sc-62908B and sc-62908C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20 $^{\circ}$ C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20 $^{\circ}$ 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

PTP ρ siRNA (h) is recommended for the inhibition of PTP expression in human 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

PTP ρ (AFT20): sc-135673 is recommended as a control antibody for monitoring of PTP ρ 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PTP ρ gene expression knockdown using RT-PCR Primer: PTP ρ (h)-PR: sc-62908-PR (20 μ l). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ 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.