SANTA CRUZ BIOTECHNOLOGY, INC.

PCPTP1 siRNA (h): sc-62759

BACKGROUND

The protein tyrosine phosphatase (PTP) family of proteins are signaling molecules that regulate processes such as cell growth, cell differentiation, oncogenic transformation and the mitotic cycle. PCPTP1, also known as PTPRR (receptor-type tyrosine-protein phosphatase R), ECPTP, PTPBR7 or PTPRQ, is a 657 amino acid protein that functions to sequester inactive mitogen-activated protein kinases (MAPKs) to the cytoplasm. Expressed primarily in the brain with weaker expression in other parts of the body, PCPTP1 is a receptor-like molecule that is able to dephosphorylate MAPKs, thereby rendering them inactive. Three isoforms of PCPTP1 exist and are designated α, β and γ. The α form is localized to the cell membrane, while the β and γ forms are localized to the perinuclear areas within the cytoplasm.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PTPRR (human) mapping to 12q15.

PROTOCOLS

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

PRODUCT

PCPTP1 siRNA (h) 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 PCPTP1 shRNA Plasmid (h): sc-62759-SH and PCPTP1 shRNA (h) Lentiviral Particles: sc-62759-V as alternate gene silencing products.

For independent verification of PCPTP1 (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-62759A, sc-62759B and sc-62759C.

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

PCPTP1 siRNA (h) is recommended for the inhibition of PCPTP1 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 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 PCPTP1 gene expression knockdown using RT-PCR Primer: PCPTP1 (h)-PR: sc-62759-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.