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## Produktinformation



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- Trockeneiszuschlag
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- Expressversand

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# RPTP $\alpha$ shRNA (h) Lentiviral Particles: sc-44082-V

## BACKGROUND

Receptor protein-tyrosine phosphatase  $\alpha$  (RPTP $\alpha$ ) dephosphorylates and activates Src family tyrosine kinases and influences the regulation of integrin signaling, cell adhesion and growth factor responsiveness. RPTP $\alpha$  contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and constitutively forms dimers in the membrane. The human RPTP $\alpha$  sequence encodes a 793 amino acid protein. Mouse RPTP $\alpha$  precipitated from NIH/3T3 cells is constitutively phosphorylated at Ser180/Ser204. RPTP $\alpha$  also serves as a receptor for *Helicobacter pylori* vacuolating cytotoxin, VacA.

## REFERENCES

1. Tracy, S., et al. 1995. The receptor-like protein-tyrosine phosphatase, RPTP $\alpha$ , is phosphorylated by protein kinase C on two serines close to the inner face of the plasma membrane. *J. Biol. Chem.* 270: 10587-10594.
2. Ardini, E., et al. 2000. Expression of protein tyrosine phosphatase  $\alpha$  (RPTP $\alpha$ ) in human breast cancer correlates with low tumor grade, and inhibits tumor cell growth *in vitro* and *in vivo*. *Oncogene* 19: 4979-4987.
3. Blanchetot, C. and den Hertog, J. 2000. Multiple interactions between receptor protein-tyrosine phosphatase (RPTP)  $\alpha$  and membrane-distal protein-tyrosine phosphatase domains of various RPTPs. *J. Biol. Chem.* 275: 12446-12452.
4. van der Wijk, T., et al. 2003. Redox-regulated rotational coupling of receptor protein-tyrosine phosphatase  $\alpha$  dimers. *J. Biol. Chem.* 278: 13968-13974.
5. von Wichert, G., et al. 2003. RPTP $\alpha$  acts as a transducer of mechanical force on  $\alpha$ v/ $\beta$ 3-integrin-cytoskeleton linkages. *J. Cell Biol.* 161: 143-153.
6. LocusLink Report (LocusID: 5786). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: PTPRA (human) mapping to 20p13.

## PRODUCT

RPTP $\alpha$  shRNA (h) 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  $\mu$ l frozen stock containing  $1.0 \times 10^6$  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 RPTP $\alpha$  siRNA (h): sc-44082 and RPTP $\alpha$  shRNA Plasmid (h): sc-44082-SH as alternate gene silencing products.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

RPTP $\alpha$  shRNA (h) Lentiviral Particles is recommended for the inhibition of RPTP $\alpha$  expression in human cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  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

RPTP $\alpha$  (C-8): sc-398243 is recommended as a control antibody for monitoring of RPTP $\alpha$  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 RPTP $\alpha$  gene expression knockdown using RT-PCR Primer: RPTP $\alpha$  (h)-PR: sc-44082-PR (20  $\mu$ l, 488 bp). Annealing temperature for the primers should be  $55-60^\circ$  C and the extension temperature should be  $68-72^\circ$  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.