

# PDAP1 siRNA (h): sc-89679

## BACKGROUND

PDGF is a mitogen for mesenchyme- and glia-derived cells. It consists of two disulfide-bonded polypeptide chains, A and B, and occurs as three isoforms; PDGF AA, AB and BB. Evidence suggests that PDGF may function as a neurotrophic factor. Receptors for PDGF-A are expressed in oligodendrocyte progenitor cells whereas receptors for PDGF-B are expressed on neurons. These facts suggest that the different isoforms of PDGF may regulate growth and differentiation of different cell types in the developing central nervous system through paracrine and autocrine routes. PDAP1 (PDGFA-associated protein 1), also known as 28 kDa heat- and acid-stable phosphoprotein, is a 181 amino acid protein that interacts with PDGF. PDAP1 has been found to enhance PDGF-A-stimulated cell growth and inhibit the mitogenic effect of PDGF-B. PDAP1 is expressed in all tissue except liver, with highest levels found in brain.

## REFERENCES

1. Ross, R., et al. 1986. The biology of platelet-derived growth factor. *Cell* 46: 155-169.
2. Hart, C.E., et al. 1988. Two classes of PDGF receptor recognize different isoforms of PDGF. *Science* 240: 1529-1531.
3. Heldin, C.H., et al. 1988. Binding of different dimeric forms of PDGF to human fibroblasts: evidence for two separate receptor types. *EMBO J.* 7: 1387-1393.
4. Seifert, R.A., et al. 1989. Two different subunits associate to create isoform-specific platelet-derived growth factor receptors. *J. Biol. Chem.* 264: 8771-8778.
5. Bishayee, S., et al. 1989. Ligand-induced dimerization of the platelet-derived growth factor receptor. *J. Biol. Chem.* 264: 11699-11705.
6. Fischer, W.H., et al. 1996. Characterization of a novel platelet-derived growth factor-associated protein. *J. Neurochem.* 66: 2213-2216.
7. LaRochelle, W.J., et al. 2001. PDGF-D, a new protease-activated growth factor. *Nat. Cell Biol.* 3: 517-521.
8. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607075. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: PDAP1 (human) mapping to 7q22.1.

## PRODUCT

PDAP1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PDAP1 shRNA Plasmid (h): sc-89679-SH and PDAP1 shRNA (h) Lentiviral Particles: sc-89679-V as alternate gene silencing products.

For independent verification of PDAP1 (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-89679A, sc-89679B and sc-89679C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

PDAP1 siRNA (h) is recommended for the inhibition of PDAP1 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  $\mu$ M in 66  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PDAP1 gene expression knockdown using RT-PCR Primer: PDAP1 (h)-PR: sc-89679-PR (20  $\mu$ l, 595 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Sharma, V.K., et al. 2016. Increased expression of platelet-derived growth factor associated protein-1 is associated with PDGF-B mediated glioma progression. *Int. J. Biochem. Cell Biol.* 78: 194-205.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

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