

PDGF-C siRNA (m): sc-39708

BACKGROUND

Platelet-derived growth factor (PDGF) refers to a family of disulphide-bonded dimeric isoforms that are important for growth and survival, and which function in several types of connective tissue cell. PDGF, which is a major mitogen for vascular smooth muscle cells and is implicated in the pathogenesis of arteriosclerosis, is composed of dimers of PDGF-A and PDGF-B polypeptide chains encoded by different genes. PDGF-C (also designated spinal cord-derived growth factor, SCDGF or fallotein) is a functional analog of PDGF-A that requires proteolytic activation. PDGF-A and PDGF-C selectively activate PDGFR- α , whereas PDGF-B activates both PDGFR- α and PDGFR- β . PDGF-C expression in the arterial wall and cultured vascular cells suggests that it can transduce proliferation/migration signals to pericytes and smooth muscle cells. Additionally, PDGF-C is a target of EWS/ETS transcriptional deregulation and this transcriptional deregulation is specific to EWS/FLI.

REFERENCES

1. Bergsten, E., et al. 2001. PDGF-D is a specific, protease-activated ligand for the PDGF β -receptor. *Nat. Cell Biol.* 3: 512-516.
2. LaRochelle, W.J., et al. 2001. PDGF-D, a new protease-activated growth factor. *Nat. Cell Biol.* 3: 517-521.
3. Uutela, M., et al. 2001. Chromosomal location, exon structure, and vascular expression patterns of the human PDGFC and PDGFC genes. *Circulation* 103: 2242-2247.
4. Hamada, T., et al. 2001. Molecular cloning of SCDGF-B, a novel growth factor homologous to SCDGF/PDGF-C/fallotein. *Biochem. Biophys. Res. Commun.* 280: 733-737.
5. Zwerner, J.P., et al. 2001. PDGF-C is an EWS/FLI induced transforming growth factor in Ewing family tumors. *Oncogene* 20: 626-633.

CHROMOSOMAL LOCATION

Genetic locus: *Pdgfc* (mouse) mapping to 3 E3.

PRODUCT

PDGF-C 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PDGF-C shRNA Plasmid (m): sc-39708-SH and PDGF-C shRNA (m) Lentiviral Particles: sc-39708-V as alternate gene silencing products.

For independent verification of PDGF-C (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-39708A, sc-39708B and sc-39708C.

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.

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 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

PDGF-C siRNA (m) is recommended for the inhibition of PDGF-C 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 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

PDGF-C (KJ-13): sc-80290 is recommended as a control antibody for monitoring of PDGF-C 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 PDGF-C gene expression knockdown using RT-PCR Primer: PDGF-C (m)-PR: sc-39708-PR (20 μ l, 457 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.