

PD-ECGF siRNA (h): sc-39697

BACKGROUND

Platelet-derived endothelial cell growth factor (PD-ECGF), which is alternatively designated thymidine phosphorylase or gliostatin, is an angiogenic inducer that potently stimulates the growth of endothelial cells and induces chemotaxis. Biologically active PD-ECGF is a functional dimer that consists of two single polypeptide chains that are expressed in platelets, placenta, foreskin fibroblasts and various squamous cell carcinomas, and they are slowly secreted from the cells. In addition, PD-ECGF is overexpressed in tumor and lesional psoriatic skin and lesional epidermis, indicating that it may play a role in the pathophysiology of psoriasis. Serine residues of PD-ECGF are frequently associated with nucleotide triphosphates, including ATP. In an ATP dependent manner, PD-ECGF is also able to catalyze the reversible phosphorylation of thymidine to thymine, as it contains thymidine phosphorylase activities.

REFERENCES

1. Ishikawa, F., et al. 1989. Identification of angiogenic activity and the cloning and expression of platelet-derived endothelial cell growth factor. *Nature* 338: 557-562.
2. Usuki, K., et al. 1989. Production of platelet-derived endothelial cell growth factor by normal and transformed human cells in culture. *Proc. Natl. Acad. Sci. USA* 86: 7427-7431.
3. Heldin, C.H., et al. 1991. Platelet-derived endothelial cell growth factor. *J. Cell. Biochem.* 47: 208-210.
4. Stenman, G., et al. 1991. Mapping of the human platelet-derived endothelial cell growth factor (PD-ECGF) gene to chromosome 22q13. (Abstract) *Cytogenet. Cell Genet.* 58: 2051.
5. Asai, K., et al. 1992. Neurotrophic action of gliostatin on cortical neurons. Identity of gliostatin and platelet-derived endothelial cell growth factor. *J. Biol. Chem.* 267: 20311-20316.
6. Waltenberger, J., et al. 1992. Platelet-derived endothelial cell growth factor. Pharmacokinetics, organ distribution and degradation after intravenous administration in rats. *FEBS Lett.* 313: 129-132.

CHROMOSOMAL LOCATION

Genetic locus: TYMP (human) mapping to 22q13.33.

PRODUCT

PD-ECGF 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PD-ECGF shRNA Plasmid (h): sc-39697-SH and PD-ECGF shRNA (h) Lentiviral Particles: sc-39697-V as alternate gene silencing products.

For independent verification of PD-ECGF (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-39697A, sc-39697B and sc-39697C.

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

PD-ECGF siRNA (h) is recommended for the inhibition of PD-ECGF 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

PD-ECGF (PGF-44C): sc-47702 is recommended as a control antibody for monitoring of PD-ECGF 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 reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PD-ECGF gene expression knockdown using RT-PCR Primer: PD-ECGF (h)-PR: sc-39697-PR (20 μ l, 508 bp). 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.

PROTOCOLS

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