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PDEF siRNA (h): sc-45845

BACKGROUND

Prostate epithelium-specific Ets transcription factor (PDEF), also designated prostate Ets or SAM pointed domain containing Ets transcription factor, is a 335 amino acid nuclear protein. PDEF belongs to the Ets family of proteins. This protein, which localizes to prostate epithelial cells, functions as an Ets transcription factor. It upregulates the activity of the p62 promotor but this activity can be downregulated by PSI. It is also involved in the activation of prostate-specific antigen (PSA) by acting as an androgen-independent transactivator.

REFERENCES

- Oettgen, P., et al. 2000. PDEF, a novel prostate epithelium-specific Ets transcription factor, interacts with the androgen receptor and activates prostate-specific antigen gene expression. *J. Biol. Chem.* 275: 1216-1225.
- Yamada, N., et al. 2000. Cloning and expression of the mouse Pse gene encoding a novel Ets family member. *Gene* 241: 267-274.
- Chen, H., et al. 2002. NKX-3.1 interacts with prostate-derived Ets factor and regulates the activity of the PSA promoter. *Cancer Res.* 62: 338-340.
- Feldman, R.J., et al. 2003. PDEF expression in human breast cancer is correlated with invasive potential and altered gene expression. *Cancer Res.* 63: 4626-4631.
- Thompson, H.G., et al. 2003. p62 overexpression in breast tumors and regulation by prostate-derived Ets factor in breast cancer cells. *Oncogene* 22: 2322-2333.
- Chen, H., et al. 2005. Structural and functional analysis of domains mediating interaction between NKX-3.1 and PDEF. *J. Cell. Biochem.* 94: 168-177.

CHROMOSOMAL LOCATION

Genetic locus: SPDEF (human) mapping to 6p21.31.

PRODUCT

PDEF 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 PDEF shRNA Plasmid (h): sc-45845-SH and PDEF shRNA (h) Lentiviral Particles: sc-45845-V as alternate gene silencing products.

For independent verification of PDEF (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-45845A, sc-45845B and sc-45845C.

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

PDEF siRNA (h) is recommended for the inhibition of PDEF 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

PDEF (G-10): sc-166846 is recommended as a control antibody for monitoring of PDEF 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 PDEF gene expression knockdown using RT-PCR Primer: PDEF (h)-PR: sc-45845-PR (20 μ l, 419 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Yu, H., et al. 2010. Interleukin-13 induces Mucin 5AC production involving STAT6/SPDEF in human airway epithelial cells. *Cell Commun. Adhes.* 17: 83-92.
- Workman, A., et al. 2012. Cellular transcription factors induced in trigeminal ganglia during dexamethasone-induced reactivation from latency stimulate bovine herpesvirus 1 productive infection and certain viral promoters. *J. Virol.* 86: 2459-2473.

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.