

PACp siRNA (h): sc-72131

BACKGROUND

Human prostatic acid phosphatase (also known as PACp, PAP, PPAP) is a prostate epithelium-specific differentiation antigen. The cellular form of PACp functions as a neutral protein-tyrosine phosphatase, and is involved in regulating prostate cell growth. Specifically, PACp catalyzes the conversion of orthophosphoric monoester to alcohol and orthophosphate. PACp is synthesized under androgen regulation. The stimulated secretion of prostatic acid phosphatase is a hallmark of androgen action on human prostate epithelial cells, implicating PACp as a useful tool in identifying atrophy of prostatic tissue. Cellular PACp can down-regulate prostate cancer cell growth, at least partially by dephosphorylating c-ErbB-2/neu. Therefore, decreased cellular PACp expression in cancer cells may be involved in prostate cancer progression. PACp is the protein product of the human ACPP gene, which maps to chromosome 3q22.1.

REFERENCES

1. Gallee, M.P., et al. 1990. Variation of prostate-specific antigen expression in different tumour growth patterns present in prostatectomy specimens. *Urol. Res.* 18: 181-187.
2. Lin, M.F., et al. 2001. Decreased expression of cellular prostatic acid phosphatase increases tumorigenicity of human prostate cancer cells. *J. Urol.* 166: 1943-1950.
3. Lin, M.F., et al. 2001. Protein kinase C pathway is involved in regulating the secretion of prostatic acid phosphatase in human prostate cancer cells. *Cell Biol. Int.* 25: 1139-1148.

CHROMOSOMAL LOCATION

Genetic locus: ACPP (human) mapping to 3q22.1.

PRODUCT

PACp 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 PACp shRNA Plasmid (h): sc-72131-SH and PACp shRNA (h) Lentiviral Particles: sc-72131-V as alternate gene silencing products.

For independent verification of PACp (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-72131A, sc-72131B and sc-72131C.

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

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

PACp (PAP-1): sc-69858 is recommended as a control antibody for monitoring of PACp 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 PACp gene expression knockdown using RT-PCR Primer: PACp (h)-PR: sc-72131-PR (20 μ l, 592 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Torres, Á., et al. 2019. Extracellular adenosine promotes cell migration/ invasion of glioblastoma stem-like cells through A₃ adenosine receptor activation under hypoxia. *Cancer Lett.* 446: 112-122.

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.