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PSCA siRNA (h): sc-42958

BACKGROUND

Prostate stem cell antigen (PSCA) is a 123 amino acid glycosylated protein that shares homology with the Thy-1/Ly-6 family of glycosyl-phosphatidylinositol (GPI)-anchored cell surface antigens. The PSCA gene maps to chromosome 8q24.3 and transcripts are most prevalent in prostate and placenta. The gene encoding c-Myc is also located on chromosome 8q and, like PSCA, is overexpressed in a large number of prostate cancers. Transcripts for PSCA are also abundant in urothelial tumors and levels of PSCA transcripts increase in confluent RT112 bladder carcinomas, suggesting that PSCA is a marker for urothelial and gastric tissue carcinogenesis. Among prostate cancer cell surface antigens, PSCA is expressed in over 80% of prostate carcinomas and correlates well to certain prostate cancer phenotypes such as prostate cancer bone metastases.

REFERENCES

1. Reiter, R.E., et al. 1998. Prostate stem cell antigen: a cell surface marker overexpressed in prostate cancer. *Proc. Natl. Acad. Sci. USA* 95: 1735-1740.
2. Gu, Z., et al. 2000. Prostate stem cell antigen (PSCA) expression increases with high gleason score, advanced stage and bone metastasis in prostate cancer. *Oncogene* 19: 1288-1296.
3. Reiter, R.E., et al. 2000. Coamplification of prostate stem cell antigen (PSCA) and Myc in locally advanced prostate cancer. *Genes Chromosomes Cancer* 27: 95-103.
4. Bahrenberg, G., et al. 2000. Reduced expression of PSCA, a member of the LY-6 family of cell surface antigens, in bladder, esophagus and stomach tumors. *Biochem. Biophys. Res. Commun.* 275: 783-788.
5. Dannull, J., et al. 2000. Prostate stem cell antigen is a promising candidate for immunotherapy of advanced prostate cancer. *Cancer Res.* 60: 5522-5528.

CHROMOSOMAL LOCATION

Genetic locus: PSCA (human) mapping to 8q24.3.

PRODUCT

PSCA 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 PSCA shRNA Plasmid (h): sc-42958-SH and PSCA shRNA (h) Lentiviral Particles: sc-42958-V as alternate gene silencing products.

For independent verification of PSCA (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-42958A, sc-42958B and sc-42958C.

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

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

PSCA (7F5): sc-80654 is recommended as a control antibody for monitoring of PSCA 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 PSCA gene expression knockdown using RT-PCR Primer: PSCA (h)-PR: sc-42958-PR (20 μ l). 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.