SANTA CRUZ BIOTECHNOLOGY, INC.

PSGR siRNA (h): sc-76265

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Olfactory receptors are G protein-coupled receptors that localize to the cilia of olfactory sensory neurons where they display affinity for and bind to a variety of odor molecules. The genes encoding olfactory receptors comprise the largest family in the human genome. The binding of olfactory receptor proteins to odor molecules triggers a signal transduction that propagates nerve impulses throughout the body, ultimately leading to transmission of the signal to the brain and the subsequent perception of smell. PSGR (prostate-specific G protein-coupled receptor), also known as OR51E2 (olfactory receptor 51E2), is a 320 amino acid multi-pass membrane protein that belongs to the olfactory receptor subfamily of G protein-coupled receptors. Expressed exclusively in prostate tissue and upregulated in prostate cancer, PSGR functions as an odorant receptor that binds odorant molecules and triggers the perception of smell.

REFERENCES

1. Xu, L.L., et al. 2000. PSGR, a novel prostate-specific gene with homology to a G protein-coupled receptor, is overexpressed in prostate cancer. Cancer Res. 60: 6568-6572.
2. Yuan, T.T., et al. 2001. Cloning and genetic characterization of an evolutionarily conserved human olfactory receptor that is differentially expressed across species. Gene 278: 41-51.
3. Weigle, B., et al. 2004. D-GPCR: a novel putative G protein-coupled receptor overexpressed in prostate cancer and prostate. Biochem. Biophys. Res. Commun. 322: 239-249.
4. Weng, J., et al. 2005. Increased expression of prostate-specific G protein-coupled receptor in human prostate intraepithelial neoplasia and prostate cancers. Int. J. Cancer 113: 811-818.
5. Weng, J., et al. 2005. Regulation of human prostate-specific G protein-coupled receptor, PSGR, by two distinct promoters and growth factors. J. Cell. Biochem. 96: 1034-1048.
6. Wang, J., et al. 2006. The prostate-specific G protein-coupled receptors PSGR and PSGR2 are prostate cancer biomarkers that are complementary to α-methylacyl-CoA racemase. Prostate 66: 847-857.

CHROMOSOMAL LOCATION

Genetic locus: OR51E2 (human) mapping to 11p15.4.

PRODUCT

PSGR 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PSGR shRNA Plasmid (h): sc-76265-SH and PSGR shRNA (h) Lentiviral Particles: sc-76265-V as alternate gene silencing products.

For independent verification of PSGR (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-76265A, sc-76265B and sc-76265C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PSGR siRNA (h) is recommended for the inhibition of PSGR 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 µM in 66 µl. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PSGR gene expression knockdown using RT-PCR Primer: PSGR (h)-PR: sc-76265-PR (20 µl). 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.