

# GPR87 siRNA (h): sc-62405

## BACKGROUND

G protein-coupled receptors (GPRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, comprise a superfamily of proteins that play a role in many different stimulus-response pathways. G protein-coupled receptors translate extracellular signals into intracellular signals (G protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR87 (G protein-coupled receptor 87), also known as GPR95 or FKSG78, is a 358 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 1 family. Expressed in prostate and placenta and present at lower levels in thymus, GPR87 functions as an orphan receptor that is thought to play a role in signaling events throughout the cell. Overexpression of GPR87 is associated with the pathogenesis of squamous cell carcinoma of the lung, suggesting a role in tumorigenesis.

## REFERENCES

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4. Lee, D.K., et al. 2001. Discovery and mapping of ten novel G protein-coupled receptor genes. *Gene* 275: 83-91.
5. Wittenberger, T., et al. 2001. An expressed sequence tag (EST) data mining strategy succeeding in the discovery of new G protein-coupled receptors. *J. Mol. Biol.* 307: 799-813.
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7. Tabata, K., et al. 2007. The orphan GPCR GPR87 was deorphanized and shown to be a lysophosphatidic acid receptor. *Biochem. Biophys. Res. Commun.* 363: 861-866.
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## CHROMOSOMAL LOCATION

Genetic locus: GPR87 (human) mapping to 3q25.1.

## PRODUCT

GPR87 siRNA (h) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GPR87 shRNA Plasmid (h): sc-62405-SH and GPR87 shRNA (h) Lentiviral Particles: sc-62405-V as alternate gene silencing products.

For independent verification of GPR87 (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-62405A and sc-62405B.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

GPR87 siRNA (h) is recommended for the inhibition of GPR87 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  $\mu$ M in 66  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GPR87 gene expression knockdown using RT-PCR Primer: GPR87 (h)-PR: sc-62405-PR (20  $\mu$ l, 418 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](http://www.scbt.com) for detailed protocols and support products.