

# GPR34 siRNA (h): sc-75175

## 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. GPR signaling is an evolutionarily ancient mechanism used by all eukaryotes to sense environmental stimuli and mediate cell-cell communication. 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. GPR34 is a 381 amino acid protein belonging to the G protein-coupled receptor 1 family. Widely expressed, GPR34 is localized to the cell membrane.

## REFERENCES

1. Schöneberg, T., et al. 1999. A novel subgroup of class I G protein-coupled receptors. *Biochim. Biophys. Acta* 1446: 57-70.
2. Marchese, A., et al. 1999. Discovery of three novel orphan G protein-coupled receptors. *Genomics* 56: 12-21.
3. Jacobi, F.K., et al. 2000. Physical mapping and exclusion of GPR34 as the causative gene for congenital stationary night blindness type 1. *Hum. Genet.* 107: 89-91.
4. Otsuki, T., et al. 2005. Signal sequence and keyword trap in silico for selection of full-length human cDNAs encoding secretion or membrane proteins from oligo-capped cDNA libraries. *DNA Res.* 12: 117-126.
5. Sugo, T., et al. 2006. Identification of a lysophosphatidylserine receptor on Mast cells. *Biochem. Biophys. Res. Commun.* 341: 1078-1087.
6. Engemaier, E., et al. 2006. Genomic and supragenomic structure of the nucleotide-like G protein-coupled receptor GPR34. *Genomics* 87: 254-264.
7. Bedard, A., et al. 2007. Identification of genes preferentially expressed by microglia and upregulated during cuprizone-induced inflammation. *Glia* 55: 777-789.

## CHROMOSOMAL LOCATION

Genetic locus: GPR34 (human) mapping to Xp11.4.

## PRODUCT

GPR34 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GPR34 shRNA Plasmid (h): sc-75175-SH and GPR34 shRNA (h) Lentiviral Particles: sc-75175-V as alternate gene silencing products.

For independent verification of GPR34 (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-75175A, sc-75175B and sc-75175C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

GPR34 siRNA (h) is recommended for the inhibition of GPR34 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 GPR34 gene expression knockdown using RT-PCR Primer: GPR34 (h)-PR: sc-75175-PR (20  $\mu$ l, 598 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.