

# GPR92 siRNA (h): sc-75194

## 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. GPR92 (G protein-coupled receptor 92), also known as LPAR5 (lysophosphatidic acid receptor 5) or GPR93, is a 372 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor family. Expressed in a variety of tissues, but not present in basal forebrain, thalamus or hippocampus, GPR92 functions as a receptor for lysophosphatidic acid (LPA) and may, therefore, play an important role in mediating diverse cellular activities.

## REFERENCES

1. Lee, D.K., et al. 2001. Discovery and mapping of ten novel G protein-coupled receptor genes. *Gene* 275: 83-91.
2. Lee, C.W., et al. 2006. GPR92 as a new G12/13- and G<sub>q</sub>-coupled lysophosphatidic acid receptor that increases cAMP, LPA5. *J. Biol. Chem.* 281: 23589-23597.
3. Kotarsky, K., et al. 2006. Lysophosphatidic acid binds to and activates GPR92, a G protein-coupled receptor highly expressed in gastrointestinal lymphocytes. *J. Pharmacol. Exp. Ther.* 318: 619-628.
4. Oh, D.Y., et al. 2008. Identification of farnesyl pyrophosphate and N-arachidonylglycine as endogenous ligands for GPR92. *J. Biol. Chem.* 283: 21054-21064.
5. Amisten, S., et al. 2008. Gene expression profiling for the identification of G protein-coupled receptors in human platelets. *Thromb. Res.* 122: 47-57.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 606926. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: LPAR5 (human) mapping to 12p13.31.

## PRODUCT

GPR92 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 GPR92 shRNA Plasmid (h): sc-75194-SH and GPR92 shRNA (h) Lentiviral Particles: sc-75194-V as alternate gene silencing products.

For independent verification of GPR92 (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-75194A, sc-75194B and sc-75194C.

## 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

GPR92 siRNA (h) is recommended for the inhibition of GPR92 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 GPR92 gene expression knockdown using RT-PCR Primer: GPR92 (h)-PR: sc-75194-PR (20  $\mu$ 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.