SANTA CRUZ BIOTECHNOLOGY, INC.

GPR88 siRNA (h): sc-75192

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. GPR88 (G protein-coupled receptor 88), also known as STRG, is a 384 amino acid multi-pass membrane protein that localizes to the cell membrane and belongs to the G protein-coupled receptor family. Expressed exclusively in striatum, GPR88 functions as an orphan receptor that may be involved in signaling pathways throughout the cell. Human GPR88 shares 95% sequence identity with its rat counterpart, suggesting a conserved role between species.

REFERENCES

1. Larhammar, D., Blomqvist, A.G. and Wahlestedt, C. 1993. The receptor revolution—multiplicity of G protein-coupled receptors. Drug Des. Discov. 9: 179-188.
2. Mizushima, K., Miyamoto, Y., Tsukahara, F., Hirai, M., Sakaki, Y. and Ito, T. 2000. A novel G protein-coupled receptor gene expressed in striatum. Genomics 69: 314-321.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607468. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Kristiansen, K. 2004. Molecular mechanisms of ligand binding, signaling, and regulation within the superfamily of G protein-coupled receptors: molecular modeling and mutagenesis approaches to receptor structure and function. Pharmacol. Ther. 103: 21-80.
5. Ghate, A., Befort, K., Becker, J.A., Filliol, D., Bole-Feysot, C., Demebele, D., Jost, B., Koch, M. and Kieffer, B.L. 2007. Identification of novel striatal genes by expression profiling in adult mouse brain. Neuroscience 146: 1182-1192.

CHROMOSOMAL LOCATION

Genetic locus: GPR88 (human) mapping to 1p21.2.

PRODUCT

GPR88 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 GPR88 shRNA Plasmid (h): sc-75192-SH and GPR88 shRNA (h) Lentiviral Particles: sc-75192-V as alternate gene silencing products.

For independent verification of GPR88 (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-75192A, sc-75192B and sc-75192C.

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 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

GPR88 siRNA (h) is recommended for the inhibition of GPR88 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 GPR88 gene expression knockdown using RT-PCR Primer: GPR88 (h)-PR: sc-75192-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.