SANTA CRUZ BIOTECHNOLOGY, INC.

GPR107 siRNA (h): sc-92782

BACKGROUND

G protein-coupled receptors (GPRs or GPCRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, are members of the largest protein family and play a role in many different stimulus-response pathways. G protein-coupled receptors mediate extracellular signals into intracellular signals (G protein activation). They respond to a wide variety of signaling molecules, including hormones, neurotransmitters and other proteins and peptides. GPR proteins are usually integral seven pass membrane proteins with some conserved amino acid regions. GPR107 (G protein-coupled receptor 107), also known as LUSTR1 (lung seven transmembrane receptor 1) or KIAA1624, is a 600 amino acid multi-pass membrane protein that belongs to the LU7TM family. Localizing to membrane, GPR107 exists as three alternatively spliced isoforms.

REFERENCES

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2. Covington, D.K., et al. 2006. The G protein-coupled receptor 40 family (GPR40-GPR43) and its role in nutrient sensing. Biochem. Soc. Trans. 34: 770-773.
3. Zaslavsky, A., et al. 2006. Homo- and hetero-dimerization of LPA/S1P receptors, OGR1 and GPR4. Biochim. Biophys. Acta 1761: 1200-1212.
4. Jones, P.G., et al. 2007. Tissue distribution and functional analyses of the constitutively active orphan G protein-coupled receptors, GPR26 and GPR78. Biochim. Biophys. Acta 1770: 890-901.
5. Yonezawa, T., et al. 2007. Short-chain fatty acids induce acute phosphorylation of the p38 mitogen-activated protein kinase/heat shock protein 27 pathway via GPR43 in the MCF-7 human breast cancer cell line. Cell. Signal. 19: 185-193.
6. Edgar, A.J. 2007. Human GPR107 and murine Gpr108 are members of the LUSTR family of proteins found in both plants and animals, having similar topology to G protein-coupled receptors. DNA Seq. 18: 235-241.
7. Rayasam, G.V., et al. 2007. Fatty acid receptors as new therapeutic targets for diabetes. Expert Opin. Ther. Targets 11: 661-671.

CHROMOSOMAL LOCATION

Genetic locus: GPR107 (human) mapping to 9q34.11.

PRODUCT

GPR107 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 GPR107 shRNA Plasmid (h): sc-92782-SH and GPR107 shRNA (h) Lentiviral Particles: sc-92782-V as alternate gene silencing products.

For independent verification of GPR107 (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-92782A, sc-92782B and sc-92782C.

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

GPR107 siRNA (h) is recommended for the inhibition of GPR107 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 GPR107 gene expression knockdown using RT-PCR Primer: GPR107 (h)-PR: sc-92782-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.