



GPR119 siRNA (h): sc-60733

BACKGROUND

G protein-coupled receptors (GPRs) are a protein family of transmembrane receptors that transmit an extracellular signal (ligand binding) into an intracellular signal (G protein activation). GPR signaling is an evolutionarily ancient mechanism used by all eukaryotes to sense environmental stimuli and mediate cell-cell communication. All of the receptors have seven membrane-spanning domains and the extracellular parts of the receptor can be glycosylated. These extracellular loops also contain two highly conserved cysteine residues which create disulfide bonds to stabilize the receptor structure. GPR119 is a 335-amino acid protein that is mainly expressed in the pancreas. It is an endogenous receptor for lysophosphatidylcholine (LPC), which is a lipid mediator involved in Insulin secretion from pancreatic β -cells. GPR119 may participate in this Insulin secretion, suggesting that it may be potential target for new anti-diabetic drugs.

REFERENCES

1. Two new fluoroquinolones. 1992. Med. Lett. Drugs Ther. 34: 58-60.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300513. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Takeda, S., et al. 2002. Identification of G protein-coupled receptor genes from the human genome sequence. FEBS Lett. 520: 97-101.
4. Fredriksson, R., et al. 2003. Seven evolutionarily lacking close relatives. FEBS Lett. 554: 381-388.
5. Soga, T., et al. 2005. Lysophosphatidylcholine enhances glucose-dependent Insulin secretion via an orphan G protein-coupled receptor. Biochem. Biophys. Res. Commun. 326: 744-751.

CHROMOSOMAL LOCATION

Genetic locus: GPR119 (human) mapping to Xq26.1.

PRODUCT

GPR119 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GPR119 shRNA Plasmid (h): sc-60733-SH and GPR119 shRNA (h) Lentiviral Particles: sc-60733-V as alternate gene silencing products.

For independent verification of GPR119 (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-60733A, sc-60733B and sc-60733C.

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.

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

APPLICATIONS

GPR119 siRNA (h) is recommended for the inhibition of GPR119 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

GPR119 (D-5): sc-518266 is recommended as a control antibody for monitoring of GPR119 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GPR119 gene expression knockdown using RT-PCR Primer: GPR119 (h)-PR: sc-60733-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.