

GPR1 siRNA (m): sc-60724

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. GPR1 is required for yeast-to-hypha transition on various solid hypha-inducing media, and is important for yeast cell morphology. It activates guanine nucleotide exchange on Gpa2, which stimulates cAMP synthesis by glucose. In *Saccharomyces cerevisiae*, GPR1 is necessary for filamentous and invasive growth.

REFERENCES

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5. Jinno-Oue, A., et al. 2005. The synthetic peptide derived from the NH₂-terminal extracellular region of an orphan G protein-coupled receptor, GPR1, preferentially inhibits infection of X4 HIV-1. *J. Biol. Chem.* 280: 30924-30934.
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CHROMOSOMAL LOCATION

Genetic locus: Gpr1 (mouse) mapping to 1 C2.

PRODUCT

GPR1 siRNA (m) 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 GPR1 shRNA Plasmid (m): sc-60724-SH and GPR1 shRNA (m) Lentiviral Particles: sc-60724-V as alternate gene silencing products.

For independent verification of GPR1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60724A, sc-60724B and sc-60724C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

GPR1 siRNA (m) is recommended for the inhibition of GPR1 expression in mouse 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 GPR1 gene expression knockdown using RT-PCR Primer: GPR1 (m)-PR: sc-60724-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.