SANTA CRUZ BIOTECHNOLOGY, INC.

GPR10 siRNA (m): sc-60726

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 great variety of signaling molecules, including hormones, neurotransmitters and other proteins and peptides. GPR proteins are integral seven-pass membrane proteins with some conserved amino acid regions. G protein-coupled receptor 10 (GPR10) acts as a receptor for Prolactin-releasing peptide (PrRP). GPR10 plays a role in the regulation of food intake, pain-signal processing and lactation. Primarily expressed in pituitary gland, it is repressed by bromocriptine. GPR10 interacts with various other proteins, including GRIP1, GRIP2 and PICK1.

REFERENCES

1. Marchese, A., et al. 1996. Cloning and chromosomal mapping of three novel genes, GPR9, GPR10 and GPR14, encoding receptors related to interleukin 8, Neuropeptide Y and Somatostatin receptors. Genomics 29: 335-344.
2. Hinuma, S., et al. 1998. A Prolactin-releasing peptide in the brain. Nature 393: 272-276.
3. Fujii, R., et al. 1999. Tissue distribution of Prolactin-releasing peptide (PrRP) and its receptor. Regul. Pept. 83: 1-10.
4. Lin, S.H., et al. 2001. The carboxyl terminus of the Prolactin-releasing peptide receptor interacts with PDZ domain proteins involved in α-amino-3-hydroxy-5-methylisoxazole-4-propionic acid receptor clustering. Mol. Pharmacol. 60: 916-923.
5. Gu, W., et al. 2004. The Prolactin-releasing peptide receptor (GPR10) regulates body weight homeostasis in mice. J. Mol. Neurosci. 22: 93-103.
6. Watanabe, T.K., et al. 2005. Mutated G protein-coupled receptor GPR10 is responsible for the hyperphagia/dyslipidaemia/obesity locus of Dmo1 in the OLETF rat. Clin. Exp. Pharmacol. Physiol. 32: 355-366.

CHROMOSOMAL LOCATION

Genetic locus: Prlhr (mouse) mapping to 19 D3.

PRODUCT

GPR10 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 GPR10 shRNA Plasmid (m): sc-60726-SH and GPR10 shRNA (m) Lentiviral Particles: sc-60726-V as alternate gene silencing products.

For independent verification of GPR10 (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-60726A, sc-60726B and sc-60726C.

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

GPR10 siRNA (m) is recommended for the inhibition of GPR10 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 GPR10 gene expression knockdown using RT-PCR Primer: GPR10 (m)-PR: sc-60726-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.