SANTA CRUZ BIOTECHNOLOGY, INC.

GPR172B siRNA (h): sc-93922

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. GPR172B, also known as PAR2 (porcine endogenous retrovirus A receptor 2) or RFT1 (riboflavin transporter 1), is a 448 amino acid multi-pass membrane protein that belongs to the riboflavin transporter family. Widely expressed, GPR172B is found at highest levels in small intestine, placenta and testis, and exists as two alternatively spliced isoforms. The gene encoding GPR172B maps to human chromosome 17p13.2.

REFERENCES

1. Menzaghi, F., et al. 2002. Constitutively activated G protein-coupled receptors: a novel approach to CNS drug discovery. Curr. Drug Targets CNS Neurol. Disord. 1: 105-121.
2. Szekeres, P.G. 2002. Functional assays for identifying ligands at orphan G protein-coupled receptors. Recept. Channels 8: 297-308.
3. Vassilatis, D.K., et al. 2003. The G protein-coupled receptor repertoires of human and mouse. Proc. Natl. Acad. Sci. USA 100: 4903-4908.
4. Ericsson, T.A., et al. 2003. Identification of receptors for pig endogenous retrovirus. Proc. Natl. Acad. Sci. USA 100: 6759-6764.
5. Yonezawa, A., et al. 2008. Identification and functional characterization of a novel human and rat riboflavin transporter, RFT1. Am. J. Physiol., Cell Physiol. 295: C632-C641.
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CHROMOSOMAL LOCATION

Genetic locus: SLC52A1 (human) mapping to 17p13.2.

PRODUCT

GPR172B 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 GPR172B shRNA Plasmid (h): sc-93922-SH and GPR172B shRNA (h) Lentiviral Particles: sc-93922-V as alternate gene silencing products.

For independent verification of GPR172B (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-93922A, sc-93922B and sc-93922C.

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

GPR172B siRNA (h) is recommended for the inhibition of GPR172B 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 GPR172B gene expression knockdown using RT-PCR Primer: GPR172B (h)-PR: sc-93922-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.