SANTA CRUZ BIOTECHNOLOGY, INC.

GPR39 siRNA (h): sc-60745

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The Power to Question

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) and respond to a great 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. GPR39 is expressed in a wide variety of tissues, including kidney, duodenum and brain regions (mRNA is expressed in the amygdala, hippocampus and auditory cortex). GPR39 shows constitutive activity in the cAMP response element pathway and serum response element-dependent transcription.

REFERENCES

1. Holst, B., et al. 2004. Common structural basis for constitutive activity of the ghrelin receptor family. J. Biol. Chem. 279: 53806-53817.
2. Zhang, J.V., et al. 2005. Obestatin, a peptide encoded by the ghrelin gene, opposes ghrelin's effects on food intake. Science 310: 996-999.
3. Jackson, V.R., et al. 2006. GPR39 receptor expression in the mouse brain. Neuroreport 17: 813-816.
4. Holst, B., et al. 2007. GPR39 signaling is stimulated by zinc ions but not by obestatin. Endocrinology 148: 13-20.

CHROMOSOMAL LOCATION

Genetic locus: GPR39 (human) mapping to 2q21.2.

PRODUCT

GPR39 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 GPR39 shRNA Plasmid (h): sc-60745-SH and GPR39 shRNA (h) Lentiviral Particles: sc-60745-V as alternate gene silencing products.

For independent verification of GPR39 (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-60745A, sc-60745B and sc-60745C.

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.

RESEARCH USE

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

APPLICATIONS

GPR39 siRNA (h) is recommended for the inhibition of GPR39 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 GPR39 gene expression knockdown using RT-PCR Primer: GPR39 (h)-PR: sc-60745-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhu, D., et al. 2018. Zinc regulates vascular endothelial cell activity through zinc-sensing receptor ZnR/GPR39. Am. J. Physiol., Cell Physiol. 314: C404-C414.

PROTOCOLS

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