SANTA CRUZ BIOTECHNOLOGY, INC.

GALR1 siRNA (h): sc-105387

BACKGROUND

GALR1 (Galanin receptor, GALNR, GALNR1) is a G protein-coupled receptor for the neuropeptide Galanin that influences endocrine secretions, intestinal motility, memory, weight, and pain perception. GALR1 inhibits adenylyl cyclase via a G protein of the G_i/G_0 family. GALR1 is widely expressed in the brain and spinal cord, and in peripheral sites such as the small intestine and heart. The rat Galanin receptor cDNA cloned from an Insulinoma cell line is a predicted 346-amino acid G protein-coupled receptor with 92% homology to the human GALR1.

REFERENCES

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2. Lorimer, D.D., et al. 1996. Cloning and quantification of Galanin-1 receptor expression by mucosal cells lining the human gastrointestinal tract. Biochem. Biophys. Res. Commun. 222: 379-385.
3. Lorimer, D.D., et al. 1997. Cloning, chromosomal location, and transcriptional regulation of the human Galanin-1 receptor gene (GALN1R). Biochem. Biophys. Res. Commun. 241: 558-564.
4. Jacoby, A.S., et al. 1997. Structural organization of the mouse and human GALR1 Galanin receptor genes (Galnr and GALNR) and chromosomal localization of the mouse gene. Genomics 45: 496-508.
5. Crawford, J., et al. 1999. Human GALR1 Galanin receptor (GALNR1). Map position 18q23. Chromosome Res. 7: 243.
6. Liu, H.X., et al. 2001. Receptor subtype-specific pronociceptive and analgesic actions of Galanin in the spinal cord: selective actions via GALR1 and GALR2 receptors. Proc. Natl. Acad. Sci. USA 98: 9960-9964.
7. Counts, S.E., et al. 2002. Galanin inhibits tyrosine hydroxylase expression in midbrain dopaminergic neurons. J. Neurochem. 83: 442-451.
8. McDonald, A.C., et al. 2003. Expression of Galanin and Galanin receptor-1 in normal bone and during fracture repair in the rat. Bone 33: 788-797.

CHROMOSOMAL LOCATION

Genetic locus: GALR1 (human) mapping to 18q23.

PRODUCT

GALR1 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 GALR1 shRNA Plasmid (h): sc-105387-SH and GALR1 shRNA (h) Lentiviral Particles: sc-105387-V as alternate gene silencing products.

For independent verification of GALR1 (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-105387A, sc-105387B and sc-105387C.

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

GALR1 siRNA (h) is recommended for the inhibition of GALR1 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 GALR1 gene expression knockdown using RT-PCR Primer: GALR1 (h)-PR: sc-105387-PR (20 µl, 589 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Mei, Z., et al. 2017. Galanin suppresses proliferation of human U251 and T98G glioma cells via its subtype 1 receptor. Biol. Chem. 398: 1127-1139.

PROTOCOLS

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