

GALR1 siRNA (m): sc-145320

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_o 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

1. Habert-Ortoli, E., et al. 1994. Molecular cloning of a functional human galanin receptor. *Proc. Natl. Acad. Sci. USA* 91: 9780-9783.
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. Smith, K.E., et al. 1998. Cloned human and rat galanin GALR3 receptors. Pharmacology and activation of G-protein inwardly rectifying K^+ channels. *J. Biol. Chem.* 273: 23321-23326.
6. Depczynski, B., et al. 1998. Distribution and characterization of the cell types expressing GALR2 mRNA in brain and pituitary gland. *Ann. N.Y. Acad. Sci.* 863: 120-128.
7. Kolakowski, L.F. Jr., et al. 1998. Molecular characterization and expression of cloned human galanin receptors GALR2 and GALR3. *J. Neurochem.* 71: 2239-2251.
8. Crawford, J., et al. 1999. Human GALR1 galanin receptor (GALNR1). Map position 18q23. *Chromosome Res.* 7: 243.
9. Zdrojewicz, Z., et al. 2000. The significance of galanin in physiologic and pathologic processes in humans. *Postepy. Hig. Med. Dosw.* 54: 819-833.

CHROMOSOMAL LOCATION

Genetic locus: Galr1 (mouse) mapping to 18 E3.

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.

PRODUCT

GALR1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GALR1 shRNA Plasmid (m): sc-145320-SH and GALR1 shRNA (m) Lentiviral Particles: sc-145320-V as alternate gene silencing products.

For independent verification of GALR1 (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-145320A, sc-145320B and sc-145320C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

GALR1 siRNA (m) is recommended for the inhibition of GALR1 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 μ M in 66 μ l. 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 (m)-PR: sc-145320-PR (20 μ l). Annealing temperature for the primers should be $55-60^{\circ}$ C and the extension temperature should be $68-72^{\circ}$ C.