SANTA CRUZ BIOTECHNOLOGY, INC.

GPCR2037 siRNA (h): sc-60719

BACKGROUND

GPCR2037 (also known as Galanin-receptor like, GalRL, PGR7, nGPCR-2037 and GPCR151) is a G protein-coupled receptor that undergoes weak activation by Galanin and is most abundant in the central nervous system (CNS), where it appears to be critical for development. During embryonal development the expression of GPCR2037 is widespread in the nervous system (dorsal thalamus, striatum, locus coeruleus and hindbrain nuclei). GPCR2037 in the CNS of 7- and 15-day-old mouse embryos can localize to the habenular complex. Low levels of GPCR2037 are detectable in testis, liver, kidney and stomach. In addition to GPCR2037, Galanin mediates its effects through receptor subtypes GALR1, 2 and 3. Galanin ligand exerts anxiolytic actions via GALR receptors under conditions of high stress. Galanin coexists with norepinephrine and serotonin in neural systems that mediate emotion.

REFERENCES

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3. Blakeman, K.H., et al. 2003. Hyperalgesia and increased neuropathic pain-like response in mice lacking galanin receptor 1 receptors. Neuroscience 117: 221-227.
4. Berthold, M., et al. 2003. Cloning of a novel orphan G protein-coupled receptor (GPCR2037): *in situ* hybridization reveals high mRNA expression in rat brain restricted to neurons of the habenular complex. Brain Res. Mol. Brain Res. 120: 22-29.
5. Ignatov, A., et al. 2004. Cloning and characterization of a novel G protein-coupled receptor with homology to Galanin receptors. Neuropharmacology 46: 1114-1120.
6. Swanson, C.J., et al. 2005. Anxiolytic- and antidepressant-like profiles of the Galanin-3 receptor (Gal3) antagonists SNAP 37889 and SNAP 398299. Proc. Natl. Acad. Sci. USA 102: 17489-17494.
7. Barreda-Gomez, G., et al. 2005. G protein-coupled Galanin receptor distribution in the rat central nervous system. Neuropeptides 39: 153-156.
8. Lang, R., et al. 2005. Pharmacological and functional characterization of Galanin-like peptide fragments as potent Galanin receptor agonists. Neuropeptides 39: 179-184.
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CHROMOSOMAL LOCATION

Genetic locus: GPR151 (human) mapping to 5q32.

PROTOCOLS

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

PRODUCT

GPCR2037 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 GPCR2037 shRNA Plasmid (h): sc-60719-SH and GPCR2037 shRNA (h) Lentiviral Particles: sc-60719-V as alternate gene silencing products.

For independent verification of GPCR2037 (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-60719A, sc-60719B and sc-60719C.

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

GPCR2037 siRNA (h) is recommended for the inhibition of GPCR2037 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 GPCR2037 gene expression knockdown using RT-PCR Primer: GPCR2037 (h)-PR: sc-60719-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.