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NPFF2 Receptor siRNA (h): sc-45724

BACKGROUND

Neuropeptide FF receptor 1 (NPFF1 or hFF1) and Neuropeptide FF receptor 2 (NPFF2) belong to the G protein-coupled receptor 1 family. Both NPFF1 and NPFF2 are integral membrane proteins. They act as receptors for NPAF (A-18-F-amide) and NPFF (F-8-F-amide) neuropeptides. Both NPFF proteins may be activated by synthetic or naturally occurring FMRF-amide like ligands. The receptors are mediated by association with G proteins that activate a phosphatidylinositol-calcium second messenger system. NPFF-1 receptors are highly expressed in the human hypothalamus and amygdala indicating a possible role for NPFF1 in central autonomic and neuroendocrine control in the human brain. As is supported by the NPFF2 Receptor expression in dien-cephalon and superficial layers of the spinal cord, NPFF2 Receptors are thought to be involved in the modulation of sensory input and opioid analgesia. GPR74 is the human gene which codes for the NPFF2 Receptor protein and maps to chromosome 4q21.

REFERENCES

- Gouarderes, C., et al. 2004. Detailed distribution of Neuropeptide FF Receptors (NPFF1 and NPFF2) in the rat, mouse, octodon, rabbit, guinea pig, and marmoset monkey brains: a comparative autoradiographic study. *Synapse* 51: 249-269.
- Goncharuk, V., et al. 2004. Distribution of the NPFF1 Receptor (hFF1) in the human hypothalamus and surrounding basal forebrain structures: immunohistochemical study. *J. Comp. Neurol.* 474: 487-503.
- Quelven, I., et al. 2005. Comparison of pharmacological activities of NPFF1 and NPFF2 Receptor agonists. *Eur. J. Pharmacol.* 508: 107-114.
- SWISS-PROT/TrEMBL (Q9GZQ6). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.

CHROMOSOMAL LOCATION

Genetic locus: NPFFR2 (human) mapping to 4q13.3.

PRODUCT

NPFF2 Receptor 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NPFF2 Receptor shRNA Plasmid (h): sc-45724-SH and NPFF2 Receptor shRNA (h) Lentiviral Particles: sc-45724-V as alternate gene silencing products.

For independent verification of NPFF2 Receptor (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-45724A, sc-45724B and sc-45724C.

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.

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

NPFF2 Receptor siRNA (h) is recommended for the inhibition of NPFF2 Receptor 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 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 NPFF2 Receptor gene expression knockdown using RT-PCR Primer: NPFF2 Receptor (h)-PR: sc-45724-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.