

# NPFF1 Receptor siRNA (h): sc-45719

## BACKGROUND

Neuropeptide FF 1 Receptor (NPFF1 or hFF1) and Neuropeptide FF 2 Receptor (NPFF2) belong to the G protein-coupled receptor 1 family. Both NPFF1 and NPFF2 are integral membrane proteins that 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. NPFF1 Receptors is highly expressed in the human hypothalamus and amygdala, indicating a possible role for NPFF1 in central autonomic and neuroendocrine control in the human brain. Based in part on NPFF2 Receptor expression in diencephalon and superficial layers of the spinal cord, NPFF2 Receptor is thought to be involved in the modulation of sensory input and opioid analgesia.

## REFERENCES

1. 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.
2. 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.
3. Quelven, I., et al. 2005. Comparison of pharmacological activities of NPFF1 and NPFF2 Receptor agonists. *Eur. J. Pharmacol.* 508: 107-114.
4. SWISS-PROT/TrEMBL (Q9GZQ6). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: NPFFR1 (human) mapping to 10q22.1.

## PRODUCT

NPFF1 Receptor siRNA (h) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NPFF1 Receptor shRNA Plasmid (h): sc-45719-SH and NPFF1 Receptor shRNA (h) Lentiviral Particles: sc-45719-V as alternate gene silencing products.

For independent verification of NPFF1 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-45719A and sc-45719B.

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

## APPLICATIONS

NPFF1 Receptor siRNA (h) is recommended for the inhibition of NPFF1 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  $\mu$ M in 66  $\mu$ 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 NPFF1 Receptor gene expression knockdown using RT-PCR Primer: NPFF1 Receptor (h)-PR: sc-45719-PR (20  $\mu$ l). 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.