SANTA CRUZ BIOTECHNOLOGY, INC.

NPY6-R siRNA (m): sc-42108

BACKGROUND

Pancreatic polypeptide (PP), neuropeptide Y (NPY), and peptide YY (PYY) are related 36-amino acid hormones. A number of structurally related receptors for these peptides have been isolated, NPY1-R, NPY2-R, NPY3-R, NPY4-R, NPY5-R, and NPY6-R. NPY4-R is expressed in several human tissues, including brain, coronary artery, and ileum. NPY4-R maps to human chromosome 10q11.2. NPY-5R, isolated from rat hypothalamus, encodes a 456-amino acid protein with less than 35% overall identity to known Y-type receptors. The human NPY5-R sequence is nearly identical to, but in the opposite orientation from, that of the human NPY1-R sequence. NPY5-R localizes to the paraventricular hypothalamic nucleus, the lateral hypothalamus, and other locations consistent with a role in the control of feeding behavior. The gene which encodes NPY5-R maps to human chromosome 4q32.2. NPY6-R is abundantly expressed in human heart and skeletal muscle and the gene which encodes NPY6-R maps to human chromosome 5q31.

REFERENCES

1. Bard, J.A., et al. 1995. Cloning and functional expression of a human Y4 subtype receptor for pancreatic polypeptide, neuropeptide Y, and peptide YY. J. Biol. Chem. 270: 26762-26765.
2. Gerald, C., et al. 1996. A receptor subtype involved in neuropeptide-Y-induced food intake. Nature 382: 168-171.
3. Hu, Y., et al. 1996. Identification of a novel hypothalamic neuropeptide Y receptor associated with feeding behavior. J. Biol. Chem. 271: 26315-26319.
4. Matsumoto, M., et al. 1996. Inactivation of a novel neuropeptide Y/peptide YY receptor gene in primate species. J. Biol. Chem. 271: 27217-27220.
5. Herzog, H., et al. 1997. Overlapping gene structure of the human neuropeptide Y receptor subtypes Y1 and Y5 suggests coordinate transcriptional regulation. Genomics 41: 315-319.
6. Lutz, C.M., et al. 1997. Neuropeptide Y receptor genes mapped in human and mouse: receptors with high affinity for pancreatic polypeptide are not clustered with receptors specific for neuropeptide Y and peptide YY. Genomics 46: 287-290.
7. Darby, K., et al. 1997. Assignment of the Y-4 receptor gene (PPYR1) to human chromosome 10q11.2 and mouse chromosome 14. Genomics 46: 513-515.

CHROMOSOMAL LOCATION

Genetic locus: Npy6r (mouse) mapping to 18 B3.

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

NPY6-R 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NPY6-R shRNA Plasmid (m): sc-42108-SH and NPY6-R shRNA (m) Lentiviral Particles: sc-42108-V as alternate gene silencing products.

For independent verification of NPY6-R (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-42108A, sc-42108B and sc-42108C.

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

NPY6-R siRNA (m) is recommended for the inhibition of NPY6-R 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 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 NPY6-R gene expression knockdown using RT-PCR Primer: NPY6-R (m)-PR: sc-42108-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.