SANTA CRUZ BIOTECHNOLOGY, INC.

GPR8 siRNA (h): sc-105410

BACKGROUND

The two G protein-coupled receptors GPR7 and GPR8 display high similarity to each other. They both show high expression in brain and in particular in hypothalamus, and have been characterized as receptors for neuropeptide W (NPW) and neuropeptide B (NPB). In response to NPW and NPB, they play a role in the regulation of feeding behavior. GPR7 deficient mice develop an adult-onset obese phenotype that progressively worsens with age and is exacerbated when fed a high-fat diet. The genes encoding human GPR7 and GPR8 map to chromosomes 8q11.23 and 20q13.33, respectively.

REFERENCES

1. O'Dowd, B.F., et al. 1995. The cloning and chromosomal mapping of two novel human opioid-somatostatin-like receptor genes, GPR7 and GPR8, expressed in discrete areas of the brain. Genomics 28: 84-91.
2. Tanaka, H., et al. 2003. Characterization of a family of endogenous neuropeptide ligands for the G protein-coupled receptors GPR7 and GPR8. Proc. Natl. Acad. Sci. USA 100: 6251-6256.
3. Baker, J.R., et al. 2003. Neuropeptide W acts in brain to control prolactin, corticosterone, and growth hormone release. Endocrinology 144: 2816-2821.
4. Ishii, M., et al. 2003. Targeted disruption of GPR7, the endogenous receptor for neuropeptides B and W, leads to metabolic defects and adult-onset obesity. Proc. Natl. Acad. Sci. USA 100: 10540-10545.
5. Mondal, M.S., et al. 2003. A role for neuropeptide W in the regulation of feeding behavior. Endocrinology 144: 4729-4733.

CHROMOSOMAL LOCATION

Genetic locus: NPBWR2 (human) mapping to 20q13.33.

PRODUCT

GPR8 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 GPR8 shRNA Plasmid (h): sc-105410-SH and GPR8 shRNA (h) Lentiviral Particles: sc-105410-V as alternate gene silencing products.

For independent verification of GPR8 (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-105410A, sc-105410B and sc-105410C.

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

GPR8 siRNA (h) is recommended for the inhibition of GPR8 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 GPR8 gene expression knockdown using RT-PCR Primer: GPR8 (h)-PR: sc-105410-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.

PROTOCOLS

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