



## GPR7 siRNA (m): sc-145737

### 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

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2. Tanaka, H., Yoshida, T., Miyamoto, N., Motoike, T., Kurosu, H., Shibata, K., Yamanaka, A., Williams, S.C., Richardson, J.A., Tsujino, N., Garry, M.G., Lerner, M.R., King, D.S., O'Dowd, B.F., Sakurai, T. and Yanagisawa, M. 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.
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5. Mondal, M.S., Yamaguchi, H., Date, Y., Shimbara, T., Toshinai, K., Shimomura, Y., Mori, M. and Nakazato, M. 2003. A role for neuropeptide W in the regulation of feeding behavior. *Endocrinology* 144: 4729-4733.

### CHROMOSOMAL LOCATION

Genetic locus: Npbwr1 (mouse) mapping to 1 A1.

### PRODUCT

GPR7 siRNA (m) is a target-specific 19-25 nt siRNA 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 GPR7 shRNA Plasmid (m): sc-145737-SH and GPR7 shRNA (m) Lentiviral Particles: sc-145737-V as alternate gene silencing products.

### 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.

### 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

GPR7 siRNA (m) is recommended for the inhibition of GPR7 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  $\mu$ 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 GPR7 gene expression knockdown using RT-PCR Primer: GPR7 (m)-PR: sc-145737-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.