



GPR7 (N-20): sc-27202

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 10q11.2-q21.1 and 10q13.3, respectively.

REFERENCES

1. O'Dowd, B.F., Scheideler, M.A., Nguyen, T., Cheng, R., Ramussen, J.S., Marchese, A., Zastawny, R., Heng, H.H., Tsui, L.C. and Shi, X. 1995. The cloning and chromosomal mapping of two novel human opioid-somato-statin-like receptor genes, GPR7 and GPR8, expressed in discrete areas of the brain. *Genomics* 28: 84-91.
2. Baker, J.R., Cardinal, K., Bober, C., Taylor, M.M. and Samson, W.K. 2003. Neuropeptide W acts in brain to control prolactin, corticosterone, and growth hormone release. *Endocrinology* 144: 2816-2821.
3. Ishii, M., Fei, H. and Friedman, J.M. 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.
4. 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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: NPBWR1 (human) mapping to 10q21.1.

SOURCE

GPR7 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of GPR7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27202 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GPR7 (N-20) is recommended for detection of GPR7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPR7 siRNA (h): sc-106740, GPR7 shRNA Plasmid (h): sc-106740-SH and GPR7 shRNA (h) Lentiviral Particles: sc-106740-V.

Positive Controls: brain or hypothalamus.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

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