

GPR18 (C-14): sc-79501

BACKGROUND

G protein-coupled receptors (GPRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, comprise a superfamily of proteins that play a role in many different stimulus-response pathways. G protein-coupled receptors translate extracellular signals into intracellular signals (G protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR18 (G protein-coupled receptor 18), also known as GPCRW, is a 331 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor family. Expressed abundantly in spleen and testis, GPR18 functions as a receptor for N-arachidonyl glycine and is thought to contribute to the regulation of the immune system. GPR18 activity is mediated by G proteins that specifically inhibit adenylyl cyclase.

REFERENCES

- Houslay, M.D. 1992. G-protein linked receptors: a family probed by molecular cloning and mutagenesis procedures. *Clin. Endocrinol.* 36: 525-534.
- Larhammar, D., Blomqvist, A.G. and Wahlestedt, C. 1993. The receptor revolution—multiplicity of G protein-coupled receptors. *Drug Des. Discov.* 9: 179-188.
- Gantz, I., Muraoka, A., Yang, Y.K., Samuelson, L.C., Zimmerman, E.M., Cook, H. and Yamada, T. 1997. Cloning and chromosomal localization of a gene (GPR18) encoding a novel seven transmembrane receptor highly expressed in spleen and testis. *Genomics* 42: 462-466.
- Online Mendelian Inheritance in Man, OMIM™. 1997. Johns Hopkins University, Baltimore, MD. MIM Number: 602042. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Schöneberg, T., Schultz, G. and Gudermann, T. 1999. Structural basis of G protein-coupled receptor function. *Mol. Cell. Endocrinol.* 151: 181-193.
- Schöneberg, T., Schulz, A. and Gudermann, T. 2002. The structural basis of G protein-coupled receptor function and dysfunction in human diseases. *Rev. Physiol. Biochem. Pharmacol.* 144: 143-227.
- Vassilatis, D.K., Hohmann, J.G., Zeng, H., Li, F., Ranchalis, J.E., Mortrud, M.T., Brown, A., Rodriguez, S.S., Weller, J.R., Wright, A.C., Bergmann, J.E. and Gaitanaris, G.A. 2003. The G protein-coupled receptor repertoires of human and mouse. *Proc. Natl. Acad. Sci. USA* 100: 4903-4908.
- Kohno, M., Hasegawa, H., Inoue, A., Muraoka, M., Miyazaki, T., Oka, K. and Yasukawa, M. 2006. Identification of N-arachidonylglycine as the endogenous ligand for orphan G protein-coupled receptor GPR18. *Biochem. Biophys. Res. Commun.* 347: 827-832.

CHROMOSOMAL LOCATION

Genetic locus: GPR18 (human) mapping to 13q32.3; Gpr18 (mouse) mapping to 14 E5.

SOURCE

GPR18 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of GPR18 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-79501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPR18 (C-14) is recommended for detection of GPR18 of mouse, rat and 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).

GPR18 (C-14) is also recommended for detection of GPR18 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GPR18 siRNA (h): sc-75170, GPR18 siRNA (m): sc-75171, GPR18 shRNA Plasmid (h): sc-75170-SH, GPR18 shRNA Plasmid (m): sc-75171-SH, GPR18 shRNA (h) Lentiviral Particles: sc-75170-V and GPR18 shRNA (m) Lentiviral Particles: sc-75171-V.

Molecular Weight of GPR18: 38 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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.

STORAGE

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

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.