

GPR83 (G-13): sc-74647

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. GPR83 (G protein-coupled receptor 83), also known as GIR or GPR72, is a 423 amino acid multi-pass membrane protein that belongs to the G-protein coupled receptor 1 family. Expressed specifically in brain tissue, GPR83 functions as an orphan receptor that is thought to play a role in signaling events throughout the cell. Human GPR83 shares 85% amino acid identity with its rodent counterpart, suggesting a conserved role between species.

REFERENCES

- Larhammar, D., et al. 1993. The receptor revolution—multiplicity of G-protein-coupled receptors. *Drug Des. Discov.* 9: 179-188.
- Ji, T.H., et al. 1998. G protein-coupled receptors. I. Diversity of receptor-ligand interactions. *J. Biol. Chem.* 273: 17299-17302.
- Schöneberg, T., et al. 1999. Structural basis of G protein-coupled receptor function. *Mol. Cell. Endocrinol.* 151: 181-193.
- Parker, R., et al. 2000. Y-receptor-like genes GPR72 and GPR73: molecular cloning, genomic organisation and assignment to human chromosome 11q21.1 and 2p14 and mouse chromosome 9 and 6. *Biochim. Biophys. Acta* 1491: 369-375.
- De Moerloose, L., et al. 2000. Cloning and chromosomal mapping of the mouse and human genes encoding the orphan glucocorticoid-induced receptor (GPR83). *Cytogenet. Cell Genet.* 90: 146-150.
- Online Mendelian Inheritance in Man, OMIM[™]. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 605569. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Hansen, W., et al. 2006. G protein-coupled receptor 83 overexpression in naive CD4⁺CD25⁻ T cells leads to the induction of Foxp3⁺ regulatory T cells *in vivo*. *J. Immunol.* 177: 209-215.

CHROMOSOMAL LOCATION

Genetic locus: GPR83 (human) mapping to 11q21; Gpr83 (mouse) mapping to 9 A2.

SOURCE

GPR83 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of GPR83 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-74647 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPR83 (G-13) is recommended for detection of GPR83 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

GPR83 (G-13) is also recommended for detection of GPR83 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GPR83 siRNA (h): sc-75190, GPR83 siRNA (m): sc-75191, GPR83 shRNA Plasmid (h): sc-75190-SH, GPR83 shRNA Plasmid (m): sc-75191-SH, GPR83 shRNA (h) Lentiviral Particles: sc-75190-V and GPR83 shRNA (m) Lentiviral Particles: sc-75191-V.

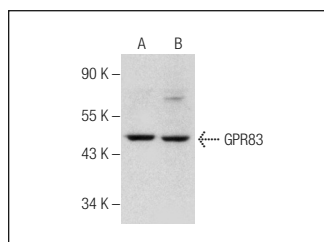
Molecular Weight of GPR83: 48 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237 or U-87 MG cell lysate: sc-2411.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GPR83 (G-13): sc-74647. Western blot analysis of GPR83 expression in SK-N-MC (A) and U-87 MG (B) whole cell lysates.

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.