



GPR172A (D-13): sc-87138

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. GPR signaling is an evolutionarily ancient mechanism used by all eukaryotes to sense environmental stimuli and mediate cell-cell communication. 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. With high expression in testis, GPR172A, also known as Porcine endogenous retrovirus A receptor 1, is a 445 amino acid protein that acts as a cell surface receptor for porcine endogenous retrovirus (PERV-A). There is a risk of transmission of PERV-A from pig to humans during xenotransplantation, a potential treatment for major health problems such as diabetes and organ failure.

REFERENCES

1. Ji, T.H., Grossmann, M. and Ji, I. 1998. G protein-coupled receptors. I. Diversity of receptor-ligand interactions. *J. Biol. Chem.* 273: 17299-17302.
2. Raming, K., Konzelmann, S. and Breer, H. 1998. Identification of a novel G-protein coupled receptor expressed in distinct brain regions and a defined olfactory zone. *Recept. Channels* 6: 141-151.
3. Schöneberg, T., Schultz, G. and Gudermann, T. 1999. Structural basis of G protein-coupled receptor function. *Mol. Cell. Endocrinol.* 151: 181-193.
4. Schwalbe, H. and Wess, G. 2002. Dissecting G-protein-coupled receptors: structure, function, and ligand interaction. *Chembiochem.* 3: 915-919.
5. Small, K.M., Seman, C.A., Castator, A., Brown, K.M. and Liggett, S.B. 2002. False positive non-synonymous polymorphisms of G-protein coupled receptor genes. *FEBS Lett.* 516: 253-256.
6. 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.
7. 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.
8. Mattiuzzo, G., Matouskova, M. and Takeuchi, Y. 2007. Differential resistance to cell entry by porcine endogenous retrovirus subgroup A in rodent species. *Retrovirology* 4: 93.

CHROMOSOMAL LOCATION

Genetic locus: GPR172A (human) mapping to 8q24.3.

SOURCE

GPR172A (D-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GPR172A of human origin.

STORAGE

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

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-87138 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPR172A (D-13) is recommended for detection of GPR172A 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 GPR172A siRNA (h): sc-77714, GPR172A shRNA Plasmid (h): sc-77714-SH and GPR172A shRNA (h) Lentiviral Particles: sc-77714-V.

Molecular Weight of GPR172A: 46 kDa.

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.