

GPR20 (N-14): sc-87141

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. GPR20 is a 358 amino acid membrane protein that constitutively activates G_i proteins without ligand stimulation. Also, GPR20 may be involved in the control of intracellular cAMP levels and mitogenic signaling. Interestingly, GPR20 is expressed in liver and certain regions of the brain, including putamen, caudate and thalamus, but is not expressed in hypothalamus, pons and frontal cortex.

REFERENCES

1. Ji, T.H., et al. 1998. G protein-coupled receptors. I. Diversity of receptor-ligand interactions. *J. Biol. Chem.* 273: 17299-17302.
2. Raming, K., et al. 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., et al. 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., et al. 2002. False positive non-synonymous polymorphisms of G protein-coupled receptor genes. *FEBS Lett.* 516: 253-256.
6. Schöneberg, T., et al. 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., et al. 2003. The G protein-coupled receptor repertoires of human and mouse. *Proc. Natl. Acad. Sci. USA* 100: 4903-4908.
8. Hase, M., et al. 2008. Characterization of an orphan G protein-coupled receptor, GPR20, that constitutively activates G_i proteins. *J. Biol. Chem.* 283: 12747-12755.

CHROMOSOMAL LOCATION

Genetic locus: GPR20 (human) mapping to 8q24.3; Gpr20 (mouse) mapping to 15 D3.

SOURCE

GPR20 (N-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of GPR20 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 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87141 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPR20 (N-14) is recommended for detection of GPR20 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other GPR family members.

GPR20 (N-14) is also recommended for detection of GPR20 in additional species, including equine and canine.

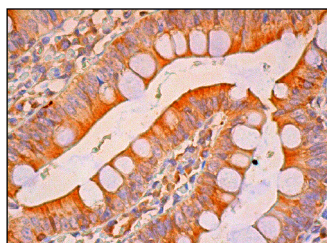
Suitable for use as control antibody for GPR20 siRNA (h): sc-77863, GPR20 siRNA (m): sc-145729, GPR20 shRNA Plasmid (h): sc-77863-SH, GPR20 shRNA Plasmid (m): sc-145729-SH, GPR20 shRNA (h) Lentiviral Particles: sc-77863-V and GPR20 shRNA (m) Lentiviral Particles: sc-145729-V.

Molecular Weight of GPR20: 38 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



GPR20 (N-14): sc-87141. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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