

GPR41 (H-100): sc-98332

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. GPRs translate extracellular signals into intracellular signals (a process called G protein-activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR41 (G protein-coupled receptor 41), also known as FFAR3 (free fatty acid receptor 3), is a 346 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor family. Expressed at high levels in adipose tissue, and at lower levels throughout the body, GPR41 functions as a receptor for short chain fatty acids via elevation of intracellular calcium levels and inhibition of adenylyl cyclase.

REFERENCES

1. Sawzdargo, M., et al. 1997. A cluster of four novel human G protein-coupled receptor genes occurring in close proximity to CD22 gene on chromosome 19q13.1. *Biochem. Biophys. Res. Commun.* 239: 543-547.
2. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603821. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Brown, A.J., et al. 2003. The orphan G protein-coupled receptors GPR41 and GPR43 are activated by propionate and other short chain carboxylic acids. *J. Biol. Chem.* 278: 11312-11319.
4. Le Poul, E., et al. 2003. Functional characterization of human receptors for short chain fatty acids and their role in polymorphonuclear cell activation. *J. Biol. Chem.* 278: 25481-25489.
5. Xiong, Y., et al. 2004. Short-chain fatty acids stimulate leptin production in adipocytes through the G protein-coupled receptor GPR41. *Proc. Natl. Acad. Sci. USA* 101: 1045-1050.

CHROMOSOMAL LOCATION

Genetic locus: FFAR3 (human) mapping to 19q13.12; Ffar3 (mouse) mapping to 7 B1.

SOURCE

GPR41 (H-100) is a rabbit polyclonal antibody raised against amino acids 106-180 mapping within an internal region of GPR41 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.

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.

APPLICATIONS

GPR41 (H-100) is recommended for detection of GPR41 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), 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).

GPR41 (H-100) is also recommended for detection of GPR41 in additional species, including equine.

Suitable for use as control antibody for GPR41 siRNA (h): sc-97148, GPR41 siRNA (m): sc-145735, GPR41 shRNA Plasmid (h): sc-97148-SH, GPR41 shRNA Plasmid (m): sc-145735-SH, GPR41 shRNA (h) Lentiviral Particles: sc-97148-V and GPR41 shRNA (m) Lentiviral Particles: sc-145735-V.

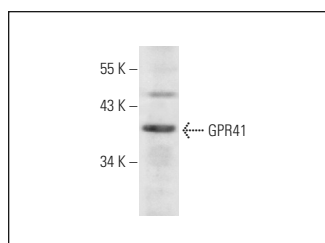
Molecular Weight of GPR41: 39 kDa.

Positive Controls: human liver extract: sc-363766.

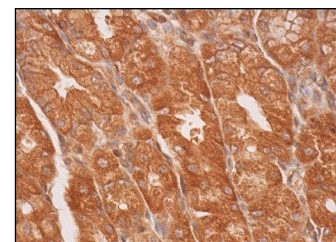
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



GPR41 (H-100): sc-98332. Western blot analysis of GPR41 expression in human liver tissue extract.



GPR41 (H-100): sc-98332. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Lu, Z., et al. 2015. Short-chain fatty acids and acidic pH upregulate UT-B, GPR41, and GPR4 in rumen epithelial cells of goats. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 308: R283-R293.