

GPR91 (T-19): sc-54656

BACKGROUND

GPR91 (formerly known as P2_{U2}) is a G protein-coupled, dicarboxylic acid succinate receptor. It has a high level of expression in the kidney, predominantly in the proximal tubules, and localizes to the plasma membrane. It has also been found at low levels in the liver and the spleen. GPR91 functions as a citric acid cycle intermediate succinate receptor. Two signaling pathways result from GPR91 activation, the pertussis-toxin-sensitive G_i/G_o pathway and the pertussis-toxin-insensitive G_q pathway. Four amino acid residues are necessary for GPR91 activation by succinate, Arg 99, His 103, Arg 252 and Arg 281. GPR91 plays an important role in the succinate-induced hypertensive effect and may be involved in renovascular hypertension, a disease linked to diabetes, renal failure and atherosclerosis.

REFERENCES

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- Ferrari, D., et al. 2000. The P2 purinergic receptors of human dendritic cells: identification and coupling to cytokine release. *FASEB J.* 14: 2466-2476.
- Wittenberger, T., et al. 2001. An expressed sequence tag (EST) data mining strategy succeeding in the discovery of new G protein-coupled receptors. *J. Mol. Biol.* 307: 799-813.
- Fumagalli, M., et al. 2003. Nucleotide-mediated calcium signaling in rat cortical astrocytes: role of P2X and P2Y receptors. *Glia* 43: 218-203.
- Berthold, M., et al. 2003. Cloning of a novel orphan G protein-coupled receptor (GPCR-2037): *in situ* hybridization reveals high mRNA expression in rat brain restricted to neurons of the habenular complex. *Brain Res. Mol. Brain Res.* 120: 22-29.
- Xia, S.L., et al. 2004. Extracellular ATP-induced calcium signaling in mlMCD-3 cells requires both P2X and P2Y purinoceptors. *Am. J. Physiol. Renal Physiol.* 287: F204-F214.
- He, W., et al. 2004. Citric acid cycle intermediates as ligands for orphan G protein-coupled receptors. *Nature* 429: 188-193.

CHROMOSOMAL LOCATION

Genetic locus: SUCNR1 (human) mapping to 3q25.1.

SOURCE

GPR91 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of GPR91 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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-54656 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPR91 (T-19) is recommended for detection of GPR91 of 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).

Suitable for use as control antibody for GPR91 siRNA (h): sc-62407, GPR91 shRNA Plasmid (h): sc-62407-SH and GPR91 shRNA (h) Lentiviral Particles: sc-62407-V.

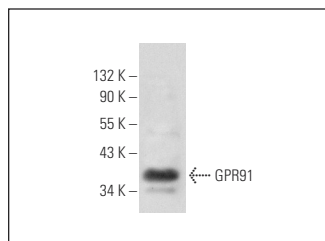
Molecular Weight of GPR91: 38 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

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



GPR91 (T-19): sc-54656. Western blot analysis of GPR91 expression in Caki-1 whole cell lysate.

RESEARCH USE

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