

IP Receptor (Q-13): sc-34043

BACKGROUND

Cyclooxygenases metabolize arachidonate to five primary prostanoids: PGE₂, PGF₂ α , PGI₂, TXA₂ and PGD₂. These lipid mediators interact with specific members of G protein-coupled prostanoid receptors, designated EP, FP, IP, TP and DP, respectively. The IP Receptor binds prostacyclin, PGI₂, the main prostanoid synthesized by vascular tissues. First discovered in 1976, prostacyclin is involved in platelet aggregation inhibition, vasodilatation and cytoprotection, and either prostacyclin or its analogs are used in the treatment of hypertension. Upon binding to the IP Receptor, prostacyclin activates adenylate cyclase primarily through the Gas protein. The gene encoding the human IP Receptor is located on chromosome 19. It is expressed as a glycosylated and phosphorylated protein, which is abundantly expressed in vascular tissues such as aorta, lung, atrium and ventricle, as well as in kidney, thymus, spleen and neurons.

REFERENCES

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2. Grant, S.M., et al. 1992. Iloprost. A review of its pharmacodynamic and pharmacokinetic properties, and therapeutic potential in peripheral vascular disease, myocardial ischaemia and extracorporeal circulation procedures. *Drugs* 43: 889-924.
3. Nakagawa, O., et al. 1994. Molecular cloning of human prostacyclin receptor cDNA and its gene expression in the cardiovascular system. *Circulation* 90: 1643-1647.
4. Vane, J.R., et al. 1995. Pharmacodynamic profile of prostacyclin. *Am. J. Cardiol.* 75: 3-10.
5. Ogawa, Y., et al. 1995. Structural organization and chromosomal assignment of the human prostacyclin receptor gene. *Genomics* 27: 142-148.
6. Oida, H., et al. 1995. *In situ* hybridization studies of prostacyclin receptor mRNA expression in various mouse organs. *Br. J. Pharmacol.* 116: 2828-2837.
7. Smyth, E.M., et al. 1996. Agonist-dependent phosphorylation of an epitope-tagged human prostacyclin receptor. *J. Biol. Chem.* 271: 33698-33704.
8. Breyer, R.M., et al. 2001. Prostanoid receptors: subtypes and signaling. *Annu. Rev. Pharmacol. Toxicol.* 41: 661-690.
9. Lawler, O.A., et al. 2001. Protein kinase A-mediated phosphorylation of Serine 357 of the mouse prostacyclin receptor regulates its coupling to G_s, to G_i, and to G_q-coupled effector signaling. *J. Biol. Chem.* 276: 33596-33607.

CHROMOSOMAL LOCATION

Genetic locus: Ptgir (mouse) mapping to 7 A2.

SOURCE

IP Receptor (Q-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of IP Receptor of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34043 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IP Receptor (Q-13) is recommended for detection of IP Receptor of mouse and rat 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).

IP Receptor (Q-13) is also recommended for detection of IP Receptor in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for IP Receptor siRNA (m): sc-40176, IP Receptor shRNA Plasmid (m): sc-40176-SH and IP Receptor shRNA (m) Lentiviral Particles: sc-40176-V.

Molecular Weight of IP Receptor: 42 kDa.

Positive Controls: mouse heart extract: sc-2254.

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.

SELECT PRODUCT CITATIONS

1. Lin, H., et al. 2007. Peroxisomal proliferator-activated receptor- α protects renal tubular cells from doxorubicin-induced apoptosis. *Mol. Pharmacol.* 72: 1238-1245.

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.



Try **IP Receptor (B-6): sc-515139**, our highly recommended monoclonal alternative to IP Receptor (Q-13).