SANTA CRUZ BIOTECHNOLOGY, INC.

IP Receptor (B-6): sc-515139

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The Power to Question

BACKGROUND

Cyclooxygenases metabolize arachidonate to five primary prostanoids: PGE2, PGF2α, 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 $G_{\alpha s}$ 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

1. Botting, R., et al. 1989. Vasoactive mediators derived from the endothelium. Arch. Mal. Coeur Vaiss. 82: 11-14.
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.

CHROMOSOMAL LOCATION

Genetic locus: PTGIR (human) mapping to 19q13.32; Ptgir (mouse) mapping to 7 A2.

SOURCE

IP Receptor (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 365-389 near the C-terminus of IP Receptor of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515139 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

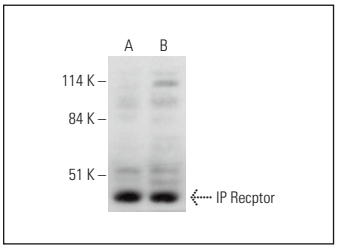
IP Receptor (B-6) is recommended for detection of IP Receptor of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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).

Suitable for use as control antibody for IP Receptor siRNA (h): sc-40175, IP Receptor siRNA (m): sc-40176, IP Receptor shRNA Plasmid (h): sc-40175-SH, IP Receptor shRNA Plasmid (m): sc-40176-SH, IP Receptor shRNA (h) Lentiviral Particles: sc-40175-V and IP Receptor shRNA (m) Lentiviral Particles: sc-40176-V.

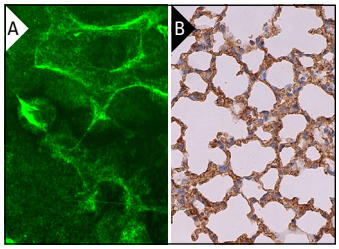
Molecular Weight of IP Receptor: 42 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

DATA



IP Receptor (B-6): sc-515139. Western blot analysis of IP Receptor expression in NIH/3T3 (**A**) and K-562 (**B**) whole cell lysates.



IP Receptor (B-6): sc-515139. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lung tissue showing membrane and cytoplasmic staining of pneumocytes and macrophages (**B**).

SELECT PRODUCT CITATIONS

1. Walczak, J., et al. 2020. Stage specific expression pattern of α-hemoglobin-stabilizing-protein (AHSP) portrayed in erythroblast chronology. Methods Protoc. 3: 46.

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.

PROTOCOLS

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