

IP Receptor (B-3): sc-365268

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 Gas protein. The gene encoding the human IP Receptor is located on chromosome 19q13.32. 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.

CHROMOSOMAL LOCATION

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

SOURCE

IP Receptor (B-3) is a mouse monoclonal antibody raised against amino acids 291-386 of IP Receptor of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IP Receptor (B-3) 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) 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.

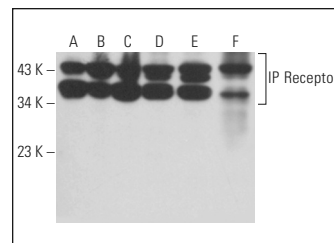
Molecular Weight of IP Receptor: 42 kDa.

Positive Controls: IP Receptor (h2): 293T Lysate: sc-117332, WI-38 whole cell lysate: sc-364260 or K-562 whole cell lysate: sc-2203.

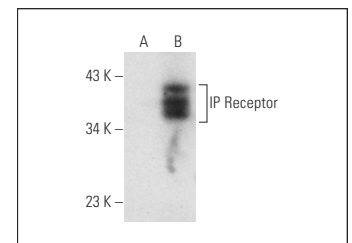
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IP Receptor (B-3): sc-365268. Western blot analysis of IP Receptor expression in K-562 (A), WI-38 (B), NTERA-2 cl.D1 (C), NIH/3T3 (D) and AMJ2-C8 (E) whole cell lysates and rat lung tissue extract (F).



IP Receptor (B-3): sc-365268. Western blot analysis of IP Receptor expression in non-transfected: sc-117752 (A) and human IP Receptor transfected: sc-117332 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. González-Candia, A., et al. 2019. Melatonin long-lasting beneficial effects on pulmonary vascular reactivity and redox balance in chronic hypoxic ovine neonates. *J. Pineal Res.* 68: e12613.
2. Li, Z., et al. 2021. Prostacyclin facilitates vascular smooth muscle cell phenotypic transformation via activating TP receptors when IP receptors are deficient. *Acta Physiol.* 231: e13555.

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.