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Product Information

Anti-Prostacyclin Receptor
produced in rabbit, affinity isolated antibody

Catalog Number **P7622**

Product Description

Anti-Prostacyclin Receptor (IP receptor; PGI receptor) is produced in rabbit using as immunogen a synthetic peptide conjugated to KLH. The peptide corresponds to the N-Terminal extracellular domain of human prostacyclin receptor. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

The antibody specifically recognizes human prostacyclin receptor by immunohistochemistry with formalin-fixed, paraffin-embedded tissues. Not tested for other uses. The immunizing peptide has ~87% homology with the rat and mouse gene. Other species reactivity has not been confirmed.

Human prostacyclin (hIP) receptor is a a seven-transmembrane-domain G-protein-coupled cell surface receptor, which couples primarily to G_S to activate adenylyl cyclase, but may also couple to other G proteins. IP receptor is expressed in aorta, blood platelet, heart, kidney, liver, and lung. ESTs have been isolated from blood, embryo, kidney, lung, pancreas, placenta, spleen, and testis libraries. Mice lacking IP receptors are more susceptible to thrombosis and injury-induced vascular proliferation. The ability of prostacyclin to modulate platelet-vascular interactions *in vivo* and to specifically limit platelet and vascular tissue responses to thromboxane A2 may account for adverse cardiovascular effects associated with selective COX-2 inhibitors. In contrast, the cloned human IP (hIP) receptor couples independently to G_s and G_q and does not couple to G_i.

Prostacyclin has an important therapeutic role in the treatment of pulmonary hypertension – a condition in which patients have reduced IP receptor expression in the remodelled pulmonary arterial smooth muscle. Recent studies have found that there is a potential conflict between the IP receptor- mediated antiproliferative action on vascular smooth muscle cells and the PPAR δ-mediated angiogenic response, and evidence exists for both pro and anti-angiogenic activity for prostacyclin.

Reagent

Supplied as a solution of 1 mg/mL in phosphate buffered saline, pH 7.7, containing 0.01% sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry: a minimum working concentration of 3 µg/mL is determined using human platelets.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Miggin, S. M., et al., Palmitoylation of the human prostacyclin receptor. Functional implications of palmitoylation and isoprenylation., *J. Biol. Chem*. **278,** 6947-6958 (2003).
2. Wise, H., Multiple signalling options for prostacyclin. *Acta Pharmacol*., **24**, 625-630 (2003).
3. Lim, H. and Dey, S. K., A novel pathway of prostacyclin signaling – hanging out with nuclear receptors., *Endocrinology*, **143**, 3207-3210 (2002).

This product is manufactured by MBL International Corporation

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