PRODUCT INFORMATION

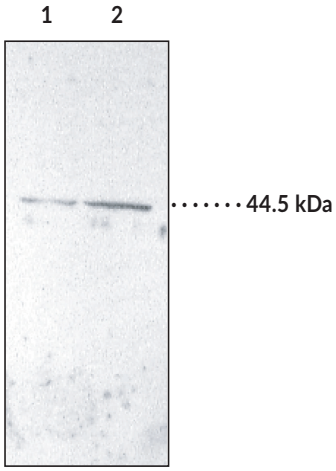
IP Receptor (mouse) Polyclonal Antibody

Item No. 160070

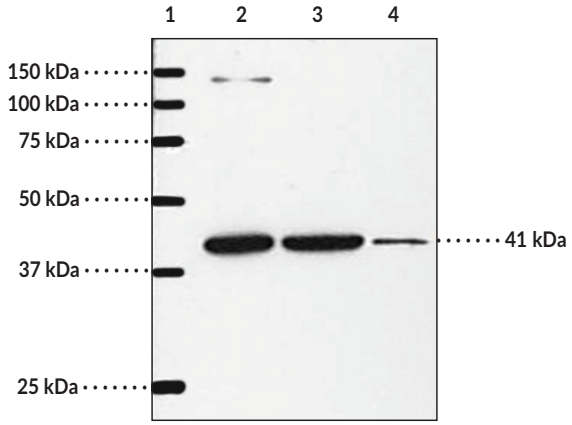
Overview and Properties

Contents:	This vial contains 500 µl of peptide affinity-purified antibody.
Synonyms:	PGI_2 Receptor, Prostacyclin Receptor, Prostaglandin I_2 Receptor
Immunogen:	Peptide from the N-terminal region of mouse IP receptor
Cross Reactivity:	(+) IP Receptor
Species Reactivity:	(+) Human and Mouse; other species not tested
Uniprot No.:	P43252
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Application:	Western blot; the recommended starting dilution is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Mouse brain homogenate (40 µg)
Lane 2: Mouse brain homogenate (80 µg)



Lane 1: Precision Plus Protein Standard
Lane 2: Hek293T cell lysate (50 µg)
Lane 3: DLD1 cell lysate (35 µg)
Lane 4: A549 cell lysate (50 µg)

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Description

The IP Receptor is a class A rhodopsin-like G protein-coupled receptor that mediates the actions of prostaglandin I_2 (PGI_2).[1] The C-terminal intracellular tail of the IP receptor undergoes isoprenylation and palmitoylation that results in anchoring of the tail to the plasma membrane. The IP receptor is expressed in platelets and vascular smooth muscle cells and in the aorta, lungs, heart, and kidneys.[1,2] It signals through G proteins in a cell type- and expression-dependent manner and is involved in cardiovascular, inflammatory, and immune functions, as well as the pain response.[1,3-6] An arginine-to-cysteine mutation at position 212 in the IP receptor inhibits its ability to activate adenylyl cyclase, which leads to increased platelet aggregation *ex vivo* and increases disease severity and the incidence of cardiovascular events in patients with a high risk of cardiovascular disease.[7] The mouse IP receptor contains 28 additional N-terminal amino acids compared with the human receptor.[2,8] Cayman's IP Receptor (mouse) Polyclonal Antibody can be used for Western blot. The antibody recognizes the IP receptor at approximately 45 kDa from human and mouse samples.

References

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3. Cheng, Y., Austin, S.C., Rocca, B., *et al.* Role of prostacyclin in the cardiovascular response to thromboxane A_2. *Science* **296(5567)**, 539-541 (2002).
4. Cui, Y., Kataoka, Y., Satoh, T., *et al.* Protective effect of prostaglandin I_2 analogs on ischemic delayed neuronal damage in gerbils. *Biochem. Biophys. Res. Commun.* **265(2)**, 301-304 (1999).
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6. Murata, T., Ushikubi, F., Matsuoka, T., *et al.* Altered pain perception and inflammatory response in mice lacking prostacyclin receptor. *Nature* **388(6643)**, 678-682 (1997).
7. Arehart, E.J., Stitham, J., Asselbergs, F.W., *et al.* Acceleration of cardiovascular disease by a dysfunctional prostacyclin receptor mutation: Potential implications for cyclooxygenase-2 inhibition. *Circ. Res.* **102(8)**, 986-993 (2008).
8. Namba, T., Oida, H., Sugimoto, Y., *et al.* cDNA cloning of a mouse prostacyclin receptor. Multiple signaling pathways and expression in thymic medulla. *J. Biol. Chem.* **269**, 9986-9992 (1994).

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