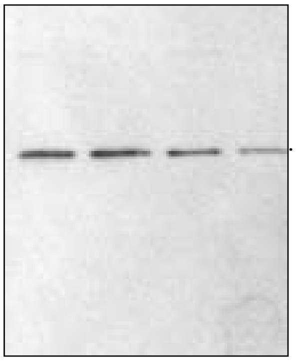
Product Information

DP$_1$ Receptor Polyclonal Antibody

Item No. 101640 • Lot No. XXXX

Synonyms:	PGD$_2$ Receptor; Prostaglandin D$_2$ Receptor
Contents:	This vial contains (100-500 µg of peptide affinity-purified IgG, ***lot specific***), lyophilized from TBS, pH 7.4.
Host:	Rabbit
Antigen:	Mouse DP$_1$ receptor N-terminal amino acids 2-21. Homology of the peptide antigen with the DP$_1$ receptor from other species is as follows: Mouse NESYRCQTSTWVERGSSAT Rat NESYRCQaaTWVERGSSAT Human spfYRCQntT s VEkGnSAv
Cross Reactivity:	(+) Human, mouse, and rat DP$_1$ receptor; other species not tested
Stability:	≥1 year at -20°C
Application:	Recommended starting dilution: western blotting at 1:200 dilution and immunocytochemistry at 2 µg/ml. Other applications have not been tested, therefore optimal working dilutions should be empirically determined
Concentration:	Varies by lot, from 0.2-1.0 mg/ml (100-500 µg/vial). Always 100 ml final working volume for western blotting. Dissolve the lyophilized IgG in 500 µl water prior to use.

The DP$_1$ receptor is one of two receptor isoforms for prostaglandin D$_2$ (PGD$_2$), a major cyclooxygenase metabolite of arachidonic acid. As a G-protein coupled receptor (GPCR), the receptor primarily couples to G$_s$ to increase cAMP, but also transiently increases Ca^{2+}, apparently through the cAMP pathway.[1] DP$_1$ receptor mRNA has been detected in various tissues and cells including brain, spleen, lung, bone marrow, stomach, skin, and mast cells,[2-4] however little is know about its protein localization due to its low level of expression. Cayman's DP$_1$ receptor polyclonal antibody detects the protein by western blot in samples such as cerebral cortex, hippocampus, and HT-29 cells, the only colorectal cancer cell line shown to express this receptor.[5] The antibody can also be used in immunocytochemistry/ immunohistochemistry to detect DP$_1$ receptor expression in cells and tissues.



1. HT-29 cell lysate (50 µg)
2. HT-29 cell lysate (40 µg)
3. HT-29 cell lysate (30 µg)
4. HT-29 cell lysate (20 µg)

Laboratory Procedures

Immunofluorescent staining of cultured cells

1. Wash (attached) cells briefly with TBS and fix cells 10 minutes in 1% formalin in TBS, pH 7.4.
2. Wash cells 3 times in TBS, pH 7.4, 5 minutes each.
3. Incubate cells with 5% normal serum from the same species as the host of the secondary antibody in TBS, pH 7.4, containing 0.1% Triton X-100 for 30 minutes.
4. Incubate cells with 2 µg/ml DP$_1$ receptor polyclonal antibody in TBS, pH 7.4, containing 0.1% Triton X-100 (recommended starting dilution; optimal dilution to be determined by end user) for 1 hour at room temperature.
5. Wash cells 3 times in TBS, pH 7.4, containing 0.1% Triton X-100, 5 minutes each.
6. Incubate cells for 1 hour with an anti-rabbit IgG fluorochrome conjugate in TBS, pH 7.4, containing 0.1% Triton X-100, using a dilution as recommended by provider.
7. Wash cells 3 times in TBS, pH 7.4, containing 0.1% Triton X-100, 5 minutes each.
8. Counter-stain cells if desired.

The stained cells are now ready to be examined under a fluorescent microscope.

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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References

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2. Hirata, M., Kakizuka, A., Aizawa, M., *et al.* Molecular characterization of a mouse prostaglandin D receptor and functional expression of the cloned gene. *Proc. Natl. Acad. Sci. USA* **91**, 11192-11196 (1994).
3. Boie, Y., Sawyer, N., Slipetz, D.M., *et al.* Molecular cloning and characterization of the human prostanoid DP receptor. *J. Biol. Chem.* **270**, 18910-18916 (1995).
4. Narumiya, S., Sugimoto, Y., and Ushikubi, F. Prostanoid receptors: structures, properties, and functions. *Physiol. Rev.* **79**, 1193-1226 (1999).
5. Hawcroft, G., Gardner, S.H., and Hull, M.A. Expression of prostaglandin D_2 receptors DP_1 and DP_2 by human colorectal cancer cells. *Cancer Lett* **210**, 81-84 (2004).

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