

Product Information

ANTI-PURINE RECEPTOR P2Y4

Developed in Rabbit, Affinity Isolated Antibody

Product Number **P1231**

Product Description

Anti-Purine Receptor P2Y4 is developed in rabbit using a highly purified peptide (C)HEESISRWADTHQD (P2Y4₃₃₇₋₃₅₀), corresponding to residues 337-350 of rat P2Y4,^{1,2} with additional N-terminal cysteine, as immunogen. The antibody was affinity isolated on immobilized P2Y4₃₃₇₋₃₅₀.

Anti-Purine Receptor P2Y4 recognizes P2Y4 protein from rat by immunoblotting.

In addition to its classical role as a bioenergetic molecule in the intracellular compartments, extracellular adenosine and ATP activate specific transmembrane receptors in most cell types. The receptors to purines (purinergic receptors) can be divided into two groups: P1 (adenosine receptors) and P2 (ATP receptors). The latter is further divided into two different families: metabotropic G protein-coupled P2Y receptors and ionotropic ATP-gated cation channels, called P2X receptors.³

P2X receptors bear common topology, containing intracellular N and C termini, two transmembrane domains, and a large extracellular loop. They differ from other ligand-gated ion channels, but are similar to members of the growing family of epithelial Na⁺ channels (ENaCs) and ENaC-related proteins.⁴

Molecular cloning studies identified seven P2X receptors, P2X1-P2X7.⁵ The heterologous expression of the cloned P2X subunits results in the formation of nonselective cation channels, gated by ATP, that differ by their desensitization rates and sensitivities to agonists, such as ab-methylene-ATP, and antagonists, such as PPADS, iso-PPADS, or suramin.⁵

P2Y receptors share a common topology with the 7TM G protein-coupled receptors, with extracellular N-terminus, seven transmembrane domains, and cytoplasmic C-terminus. To date, five mammalian P2Y receptors (P2Y1, 2, 4, 6, and 11) have been cloned and functionally characterized.

Reagents

Anti-Purine Receptor P2Y4 is supplied lyophilized at 0.3 mg/ml from phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin, 5% sucrose, and 0.025% sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Preparation Instructions

Reconstitute the lyophilized vial with 0.05 ml or 0.2 ml deionized water, depending on the package size purchased. Antibody dilutions should be made in buffer containing 1-3% bovine serum albumin.

Storage/Stability

Prior to reconstitution, store at -20 °C. After reconstitution, the stock antibody solution may be stored at 4 °C for up to 2 weeks. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. 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

The recommended working dilution is 1:300 (1.0 µg/ml) for immunoblotting using peroxidase conjugated-goat anti-rabbit IgG and detection by ECL.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

1. Bogdanov, Y.D. et al., Br. J. Pharmacol., **124**, 428 (1998).
2. Webb, T.E. et al., J. Neurochem., **71**, 1348 (1998).
3. Abbracchio, M.P. and Burnstock, G., Pharmacol. Ther., **64**, 445 (1994).
4. North, R.A., Curr. Opin. Cell Biol., **8**, 474 (1996).
5. Soto, F. et al., J. Membr. Biol., **160**, 91 (1998).

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