

P2Y4 (H-60): sc-20125

BACKGROUND

Nucleotides are emerging as important extracellular signaling molecules that mediate several effects, such as proliferation, differentiation, chemotaxis and cytokine release. The P2 receptor family is activated by the binding of nucleotides and is divided into two subfamilies, P2X and P2Y. The P2X receptor family is comprised of ligand-gated ion channels that allow for the increased permeability of calcium into the cell in response to extracellular ATP. The P2Y receptor family are G protein-coupled receptors which mediate the effects of extracellular nucleotides, primarily through the activation of phospholipase C. To some extent, the P2Y receptors can also activate potassium channels or, alternatively, inhibit adenylate cyclase and N-type calcium channels in response to extracellular nucleotides. The P2Y receptors are differentially expressed in several tissue types, such as heart, lung and brain. However, all P2Y receptors are expressed in leukocytes, which suggests a role for the P2Y receptor family in the activation of leukocytes and platelets in response to inflammation or vascular damage.

REFERENCES

1. Akbar, G.K., et al. 1996. Molecular cloning of a novel P2 purinoceptor from human erythroleukemia cells. *J. Biol. Chem.* 271: 18363-18367.
2. North, R.A., et al. 1997. Nucleotide receptors. *Curr. Opin. Neurobiol.* 7: 346-357.
3. Burnstock, G. 2000. P2X receptors in sensory neurones. *Br. J. Anaesth.* 84: 476-488.
4. Oury, C., et al. 2000. A natural dominant negative P2X1 receptor due to deletion of a single amino acid residue. *J. Biol. Chem.* 275: 22611-22614.
5. Ding, S., et al. 2000. Inactivation of P2X2 purinoceptors by divalent cations. *J. Physiol.* 2: 199-214.
6. Adrian, K., et al. 2000. Expression of purinergic receptors (ionotropic P2X1-7 and metabotropic P2Y1-11) during myeloid differentiation of HL-60 cells. *Biochim. Biophys. Acta* 1492: 127-138.
7. Di Virgilio, F., et al. 2001. Nucleotide receptors: an emerging family of regulatory molecules in blood cells. *Blood* 97: 587-600.

CHROMOSOMAL LOCATION

Genetic locus: P2RY4 (human) mapping to Xq13.1.

SOURCE

P2Y4 (H-60) is a rabbit polyclonal antibody raised against amino acids 306-365 mapping at the C-terminus of P2Y4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

P2Y4 (H-60) is recommended for detection of P2Y4 of human origin by Western Blotting (starting dilution 1:200, 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 P2Y4 siRNA (h): sc-42581, P2Y4 shRNA Plasmid (h): sc-42581-SH and P2Y4 shRNA (h) Lentiviral Particles: sc-42581-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. D'Souza, D. K. 2008. Pharmacological and molecular characterisation of P2Y receptors in endothelial and epithelial cells. University of Wolverhampton. World Wide Web URL: <http://wlv.openrepository.com/wlv/handle/2436/20512>.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.