

P2Y7 (R-18): sc-31507

BACKGROUND

Nucleotides are important extracellular signaling molecules that mediate several events, such as cell proliferation, differentiation, chemotaxis and cytokine release. The P2 receptor family is activated by the binding of nucleotides and is divided into two subfamilies, designated P2X and P2Y. The P2Y receptor family are G protein-coupled receptors that mediate the effects of extracellular nucleotides, primarily through the activation of phospholipase C (PLC). 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. P2Y7 (leukotriene B4 receptor 1), also known as leukotriene B4 receptor 1 (LTB4-R1), chemoattractant receptor-like 1 or GPR16 (G-protein coupled receptor 16), is a 352 amino acid multi-pass membrane protein that belongs to the G-protein coupled receptor 1 family and functions as an extracellular receptor for ATP, UTP and ADP. P2Y7 is highly expressed in heart where it regulates muscle contraction via L-type calcium current modulation.

REFERENCES

1. Samuelsson, B., et al. 1987. Leukotrienes and lipoxins: structures, biosynthesis, and biological effects. *Science* 237: 1171-1176.
2. Akbar, G.K., et al. 1996. Molecular cloning of a novel P2 purinoceptor from human erythroleukemia cells. *J. Biol. Chem.* 271: 18363-18367.
3. Devchand, P.R., et al. 1996. The PPAR α -leukotriene B4 pathway to inflammation control. *Nature* 384: 39-43.
4. Di Virgilio, F., et al. 2001. Nucleotide receptors: an emerging family of regulatory molecules in blood cells. *Blood* 97: 587-600.
5. Bäck, M., et al. 2005. Leukotriene B4 signaling through NF κ B-dependent BLT1 receptors on vascular smooth muscle cells in atherosclerosis and intimal hyperplasia. *Proc. Natl. Acad. Sci. USA* 102: 17501-17506.
6. Gaudreault, E., et al. 2005. Involvement of leukotriene B4 receptor 1 signaling in platelet-activating factor-mediated neutrophil degranulation and chemotaxis. *Prostaglandins Other Lipid Mediat.* 75: 25-34.
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: LTB4R (human) mapping to 14q11.2.

SOURCE

P2Y7 (R-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of P2Y7 of human origin.

STORAGE

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

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-31507 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

P2Y7 (R-18) is recommended for detection of P2Y7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 P2Y7 siRNA (h): sc-42586, P2Y7 shRNA Plasmid (h): sc-42586-SH and P2Y7 shRNA (h) Lentiviral Particles: sc-42586-V.

Molecular Weight of P2Y7: 36 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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