

P2Y12 (P-14): sc-27152

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. Human platelets express two G protein-coupled nucleotide receptors, P2Y1 and P2Y12. P2Y12 is a receptor for ADP and ATP coupled to G-proteins that inhibit the adenylyl cyclase second messenger system. P2Y12 is an integral membrane protein involved in platelet aggregation. It is highly expressed in platelets, with lower levels in the brain, lung, appendix, pituitary and adrenal gland.

REFERENCES

- Simon, J., et al. 2002. Characterization and channel coupling of the P2Y(12) nucleotide receptor of brain capillary endothelial cells. *J. Biol. Chem.* 277: 31390-31400.
- Ding, Z., et al. 2003. Inactivation of the human P2Y12 receptor by thiol reagents requires interaction with both extracellular cysteine residues, Cys17 and Cys270. *Blood* 101: 3908-3914.
- Pausch, M.H., et al. 2004. Functional expression of human and mouse P2Y12 receptors in *Saccharomyces cerevisiae*. *Biochem. Biophys. Res. Commun.* 324: 171-177.

CHROMOSOMAL LOCATION

Genetic locus: P2RY12 (human) mapping to 3q25.2; P2ry12 (mouse) mapping to 3 D.

SOURCE

P2Y12 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of P2Y12 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.

Blocking peptide available for competition studies, sc-27152 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

P2Y12 (P-14) is recommended for detection of P2Y12 of mouse, rat and 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).

P2Y12 (P-14) is also recommended for detection of P2Y12 in additional species, including canine, bovine and porcine.

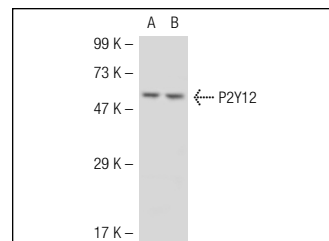
Suitable for use as control antibody for P2Y1 siRNA (h): sc-42577, P2Y12 siRNA (m): sc-151960, P2Y12 siRNA (r): sc-108057, P2Y1 shRNA Plasmid (h): sc-42577-SH, P2Y12 shRNA Plasmid (m): sc-151960-SH, P2Y12 shRNA Plasmid (r): sc-108057-SH, P2Y1 shRNA (h) Lentiviral Particles: sc-42577-V, P2Y12 shRNA (m) Lentiviral Particles: sc-151960-V and P2Y12 shRNA (r) Lentiviral Particles: sc-108057-V.

Positive Controls: P2Y12 (m): 293T Lysate: sc-122313.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



P2Y12 (P-14): sc-27152. Western blot analysis of P2Y12 expression in non-transfected: sc-117752 (A) and mouse P2Y12 transfected: sc-122313 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Kirkeby, A., et al. 2008. High-dose erythropoietin alters platelet reactivity and bleeding time in rodents in contrast to the neuroprotective variant carbamyl-erythropoietin (CEPO). *Thromb. Haemost.* 99: 720-728.
- Yu, Q., et al. 2011. Expression of P2Y receptors in the rat anterior pituitary. *Purinergic Signal.* 7: 207-219.