



Qty: 100 µg/400 µl

Rabbit anti-P2Y₁ Receptor
(C-terminus)

Catalog No. 34-7200

Lot No. See product label

Rabbit anti-P2Y₁ Receptor (C-terminus)

FORM

This polyclonal antibody is supplied as a 400 µl aliquot at a concentration of 0.25 mg/ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. The antibody is epitope-affinity-purified from rabbit antiserum.

PAD: ZMD.222

IMMUNOGEN

Synthetic peptide derived from the intracellular C-terminal region of the human P2Y₁ receptor protein.

SPECIFICITY

This antibody reacts with the mouse and rat P2Y₁ receptor proteins. On Western blots, a strong clear band ~63 kDa is exhibited. This molecular weight corresponds to a published report of the P2Y₁ receptor;⁵ however, other publications have described this protein at 40 and 42 kDa.^{1,4,9}

REACTIVITY

Reactivity is confirmed with mouse brain homogenates. Based on amino acid sequence homology, reactivity is also expected with human and bovine.

Sample	Western Blotting	ELISA
Mouse	+++	ND
Rat	+++	ND
Immunogen	N/A	+++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 1 µg/mL
Western Blotting: 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI347200

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BACKGROUND

The P2 purinoreceptor family consists of two distinct classes: the P2X ligand-gated ion channels, and the P2Y G-protein coupled receptors (GPCR). Eleven subtypes of P2Y receptors have been identified; five are recognized in mammalian species.¹ P2Y receptors are activated by extracellular adenine (ATP) and uridine (UTP) nucleotides. Binding of adenine or uridine to the P2Y receptor triggers a conformational change and the activation of the associated G protein, which induces phospholipase C (PLC) stimulation, the release of intracellular calcium ions, and the opening of plasma membrane chloride channels.²

The P2Y₁ receptor is composed of an intracellular C-terminus, seven transmembrane domains with three intracellular and three extracellular loops, and an extracellular N-terminus with four conserved cysteine residues for disulfide bond formation.¹ Disulfide bridges between the first and second extracellular loops and between the N-terminus and the third extracellular loop are necessary for both structure and stability of the P2Y₁ receptor.³ The extracellular loops are essential for ligand recognition and receptor activation.¹ ATP docking sites have been identified in the transmembrane cleft and at meta binding sites within the extracellular loops.³

P2Y₁ receptor protein expression has been observed in a variety of mammalian tissues and cells. In humans, P2Y₁ is present in the CNS (neurons of the hippocampus, midbrain, cerebellar cortex, and cerebral cortex),⁴⁻⁵ heart muscle, skeletal muscle, and some types of smooth muscle,¹ myeloid and leukemia cells,⁶ and kidney cells.⁷ In murine species, the P2Y₂ receptor is expressed in rat heart⁸ and brain.⁹

REFERENCES

1. Hoffmann C, et al. *J Biol Chem* 274(21):14639-14647, 1999.
2. Nakamura F, Strittmatter SM. *PNAS* 93:10465-10470, 1996.
3. Moro S, et al. *Biochemistry* 38(12):3498-3507, 1999.
4. Yoshioka K, et al. *PNAS* 98(13):7617-7622, 2001.
5. Moore D, et al. *J Comp Neurol* 421(3):374-384, 2000.
6. Adrian K, et al. *Biochim Biophys Acta* 1492(1):127-138, 2000.
7. Schachter JB, et al. *Neuropharmacology* 36(9):1181-1187, 1997.
8. Webb TE, et al. *J Auton Pharmacol* 16(6):303-307, 1996.
9. Moran-Jimenez MJ, Matute C. *Brain Res Mol Brain Res* 78(1-2):50-58, 2000.

RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
Rabbit anti-P2Y ₁ Receptor (Loop)	ZMD.230	34-8000
Rabbit anti-P2Y ₂ Receptor	ZMD.226	34-7600
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

*PAD: Polyclonal Antibody Designation

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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