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P2RX7 Rabbit pAb

Catalog # AP96313

Product Information

Application	WB
Primary Accession	Q64663
Other Accession	Q64663
Reactivity	Human
Predicted	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	68392
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from rat P2RX7
Epitope Specificity	501-595/595
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane; Multi-pass membrane protein.
SIMILARITY	Belongs to the P2X receptor family.
SUBUNIT	Functional P2XRs are organized as homomeric and heteromeric trimers. Interacts with LAMA3, ITGB2, ACTB, ACTN4, SVIL, MPP3, HSPA1, HSPCB, HSPA8, PIK230 and PTPRB.
Post-translational modifications	Phosphorylation results in its inactivation.ADP-ribosylation at Arg-125 is necessary and sufficient to activate P2RX7 and gate the channel (By similarity).Palmitoylation of several cysteines in the C-terminal cytoplasmic tail is required for efficient localization to cell surface.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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 seven P2X receptors, P2X1-P2X7, form either homomeric or heteromeric channels or both. They are characterized by intracellular amino- and carboxy-termini. P2X receptors are expressed in a wide variety of tissues, including neurons, prostate, bladder, pancreas, colon, testis and ovary. The major function of the P2X receptors is to mediate synaptic transmissions between neurons and to other tissues via the binding of extracellular ATP, which acts as a neurotransmitter. The P2X receptors may be involved in the onset of necrosis or apoptosis after prolonged exposure to high concentrations of extracellular ATP.

Additional Information

Gene ID	29665
Other Names	P2X7; P2X(7); P2X7R; P2RX7_HUMAN; P2RX7; ATP receptor; P2Z receptor; Purinergic receptor; P2RX7_MOUSE; P2RX7_RAT; purinergic receptor P2X 7;

	purinergic receptor P2X, ligand-gated ion channel, 7
Dilution	WB=1:500-2000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	P2rx7
Function	ATP-gated nonselective transmembrane cation channel that requires high millimolar concentrations of ATP for activation (PubMed:10204537, PubMed:39107314, PubMed:8614837). Upon ATP binding, it rapidly opens to allow the influx of small cations Na(+) and Ca(2+), and the K(+) efflux (PubMed:8614837). Also has the ability to form a large pore in the cell membrane, allowing the passage of large cationic molecules (PubMed:17036048, PubMed:18852304). In microglia, may mediate the transmembrane transport of exogenous NADPH (By similarity). In immune cells, P2RX7 acts as a molecular sensor in pathological inflammatory states by detecting and responding to high local concentrations of extracellar ATP. In microglial cells, P2RX7 activation leads to the release of pro-inflammatory cytokines, such as IL-1beta and IL-18, through the activation of the NLRP3 inflammasome and caspase-1. Cooperates with KCNK6 to activate NLRP3 inflammasome (By similarity). Activates death pathways leading to apoptosis and autophagy (By similarity). Activates death pathways leading to pyroptosis (By similarity). Involved in the homeostatic wound healing response to tissue injury, a multistep cascade that guides neutrophil migration to necrotic sites while avoiding collateral damage of healthy tissues. Senses ATP released from necrotic cells triggering activation of NLRP3 inflammasome and neutrophil adhesion to the vascular endothelium close to the injury site.
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:Q99572}; Multi-pass membrane protein

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