



# P2X7 (Hano43): sc-134224

## BACKGROUND

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.

## REFERENCES

1. Longhurst, P.A., et al. 1996. The human P2X1 receptor: molecular cloning, tissue distribution, and localization to chromosome 17. *Biochim. Biophys. Acta* 1308: 185-188.
2. Di Virgilio, F., et al. 1998. Cytolytic P2X purinoceptors. *Cell Death Differ.* 5: 191-199.
3. Alexander, K., et al. 1999. Allosteric modulation and accelerated resensitization of human P2X3 receptors by cibatron blue. *J. Pharmacol. Exp. Ther.* 291: 1135-1142.
4. Burnstock, G. 2000. P2X receptors in sensory neurones. *Br. J. Anaesth.* 84: 476-488.
5. 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.
6. Ding, S., et al. 2000. Inactivation of P2X2 purinoceptors by divalent cations. *J. Physiol.* 522: 199-214.
7. North, R.A., et al. 2000. Pharmacology of cloned P2X receptors. *Annu. Rev. Pharmacol. Toxicol.* 40: 563-580.
8. Jabs, R., et al. 2000. Evidence for P2X<sub>3</sub>, P2X<sub>4</sub>, P2X<sub>5</sub> but not for P2X7 containing purinergic receptors in Muller cells of the rat retina. *Brain Res. Mol. Brain Res.* 76: 205-210.

## CHROMOSOMAL LOCATION

Genetic locus: P2rx7 (mouse) mapping to 5 F.

## SOURCE

P2X7 (Hano43) is a rat monoclonal antibody genetically immunized with cDNA encoding P2X7 of mouse origin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

P2X7 (Hano43) is available conjugated to either phycoerythrin (sc-134224 PE) or fluorescein (sc-134224 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

P2X7 (Hano43) is recommended for detection of P2X7 of mouse and rat 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for P2X7 siRNA (m): sc-42576, P2X7 siRNA (r): sc-108056, P2X7 shRNA Plasmid (m): sc-42576-SH, P2X7 shRNA Plasmid (r): sc-108056-SH, P2X7 shRNA (m) Lentiviral Particles: sc-42576-V and P2X7 shRNA (r) Lentiviral Particles: sc-108056-V.

Molecular Weight of native P2X7: 65 kDa.

Molecular Weight of glycosylated P2X7: 85 kDa.

## SELECT PRODUCT CITATIONS

1. Cheng, W., et al. 2021. Paraventricular nucleus P2X7 receptors aggravate acute myocardial infarction injury via Ros-induced vasopressin-V1b activation in rats. *Neurosci. Bull.* 37: 641-656.
2. Yu, Y., et al. 2022. Transcutaneous auricular vagal nerve stimulation inhibits limbic-regional P2X7R expression and reverses depressive-like behaviors in Zucker diabetic fatty rats. *Neurosci. Lett.* 775: 136562.
3. He, J., et al. 2022. Ruscogenin ameliorated Sjogren's syndrome by inhibiting NLRP3 inflammasome activation. *Evid. Based Complement. Alternat. Med.* 2022: 6425121.
4. Yu, Y., et al. 2023. Transauricular vagal nerve stimulation at 40 Hz inhibits hippocampal P2X7R/NLRP3/caspase-1 signaling and improves spatial learning and memory in 6-month-old APP/PS1 mice. *Neuromodulation* 26: 589-600.
5. Torres-Rodríguez, O., et al. 2023. Purinergic P2X7 receptor-mediated inflammation precedes PTSD-related behaviors in rats. *Brain Behav. Immun.* 110: 107-118.

## RESEARCH USE

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