SANTA CRUZ BIOTECHNOLOGY, INC.

P2X4 (H-40): sc-28764

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 cibacron blue. J. Pharmacol. Exp. Ther. 291: 1135-1142.
4. Burnstock, G. 2000. P2X receptors in sensory neurones. Br. J. Anaesth. 84: 476-88.
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 P2X3, P2X4, P2X5 but not for P2X7 containing purinergic receptors in Muller cells of the rat retina. Brain Res. Mol. Brain Res. 76: 205-210.

SOURCE

P2X4 (H-40) is a rabbit polyclonal antibody raised against amino acids 1-40 mapping at the N-terminus of P2X4 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.

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

P2X4 (H-40) is recommended for detection of P2X4, and to a lesser extent P2X1, P2X2, and P2X3 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).

P2X4 (H-40) is also recommended for detection of P2X4, and to a lesser extent P2X1, 2, and 3 in additional species, including canine, bovine and porcine.

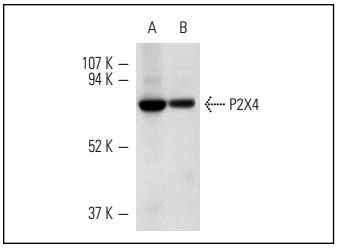
Molecular Weight of P2X4: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, rat thymus extract: sc-2401 or mouse thymus extract: sc-2406.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



P2X4 (H-40): sc-28764. Western blot analysis of P2X4 expression in rat (**A**) and mouse (**B**) thymus tissue extracts.

SELECT PRODUCT CITATIONS

1. Ma, X.B., et al. 2009. Expression and role of Notch signalling in the regeneration of rat tracheal epithelium. Cell Prolif. 42: 15-28.
2. Miraglia, E., et al. 2011. Statins exhibit anticancer effects through modifications of the pAkt signaling pathway. Int. J. Oncol. 40: 867-875.

PROTOCOLS

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