SANTA CRUZ BIOTECHNOLOGY, INC.

P2X2 (3D5): sc-293319

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: 476-488.
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 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.

CHROMOSOMAL LOCATION

Genetic locus: P2RX2 (human) mapping to 12q24.33.

SOURCE

P2X2 (3D5) is a mouse monoclonal antibody raised against amino acids 128-205 of P2X2 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 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.

APPLICATIONS

P2X2 (3D5) is recommended for detection of P2X2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for P2X2 siRNA (h): sc-42565, P2X2 shRNA Plasmid (h): sc-42565-SH and P2X2 shRNA (h) Lentiviral Particles: sc-42565-V.

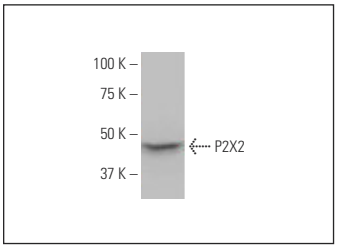
Molecular Weight of P2X2 isoforms: 41-55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

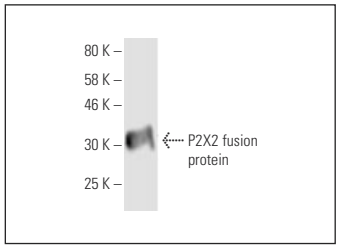
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



P2X2 (3D5): sc-293319. Western blot analysis of P2X2 expression in MCF7 whole cell lysate.



P2X2 (3D5): sc-293319. Western blot analysis of human recombinant P2X2 fusion protein.

RESEARCH USE

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

PROTOCOLS

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