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P2X4 (D-3): sc-518167

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.

CHROMOSOMAL LOCATION

Genetic locus: P2RX4 (human) mapping to 12q24.31; P2rx4 (mouse) mapping to 5 F.

SOURCE

P2X4 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 360-382 of P2X4 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

P2X4 (D-3) is available conjugated to agarose (sc-518167 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518167 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518167 PE), fluorescein (sc-518167 FITC), Alexa Fluor® 488 (sc-518167 AF488), Alexa Fluor® 546 (sc-518167 AF546), Alexa Fluor® 594 (sc-518167 AF594) or Alexa Fluor® 647 (sc-518167 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518167 AF680) or Alexa Fluor® 790 (sc-518167 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

P2X4 (D-3) is recommended for detection of P2X4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for P2X4 siRNA (h): sc-42569, P2X4 siRNA (m): sc-42570, P2X4 siRNA (r): sc-270343, P2X4 shRNA Plasmid (h): sc-42569-SH, P2X4 shRNA Plasmid (m): sc-42570-SH, P2X4 shRNA Plasmid (r): sc-270343-SH, P2X4 shRNA (h) Lentiviral Particles: sc-42569-V, P2X4 shRNA (m) Lentiviral Particles: sc-42570-V and P2X4 shRNA (r) Lentiviral Particles: sc-270343-V.

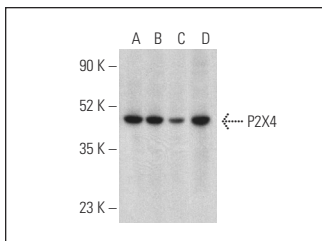
Molecular Weight of P2X4: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or Neuro-2A whole cell lysate: sc-364185.

RECOMMENDED SECONDARY 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



P2X4 (D-3): sc-518167. Western blot analysis of P2X4 expression in HeLa (A), T-47D (B), MCF7 (C) and Neuro-2A (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

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.