

## P2X2 (S-16): sc-12212

### 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 P2X(3) 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 P2X(3), P2X(4), P2X(5) but not for P2X(7) containing purinergic receptors in Müller cells of the rat retina. *Brain Res. Mol. Brain Res.* 76: 205-210.

### CHROMOSOMAL LOCATION

Genetic locus: P2RX2 (human) mapping to 12q24.33; P2rx2 (mouse) mapping to 5 F.

### SOURCE

P2X2 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of P2X2 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.

Blocking peptide available for competition studies, sc-12212 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

P2X2 (S-16) is recommended for detection of P2X2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

P2X2 (S-16) is also recommended for detection of P2X2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for P2X2 siRNA (h): sc-42565, P2X2 siRNA (m): sc-42566, P2X2 shRNA Plasmid (h): sc-42565-SH, P2X2 shRNA Plasmid (m): sc-42566-SH, P2X2 shRNA (h) Lentiviral Particles: sc-42565-V and P2X2 shRNA (m) Lentiviral Particles: sc-42566-V.

Molecular Weight of P2X2 isoforms: 41-55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Borrello, M.G., et al. 2005. Induction of a proinflammatory program in normal human thyrocytes by the RET/PTC1 oncogene. *Proc. Natl. Acad. Sci. USA* 102: 14825-14830.
2. Kahlin, J., et al. 2010. Presence of nicotinic, purinergic and dopaminergic receptors and the TASK-1 K<sup>+</sup>-channel in the mouse carotid body. *Respir. Physiol. Neurobiol.* 172: 122-128.

### 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.



Try **P2X2 (3D5): sc-293319**, our highly recommended monoclonal alternative to P2X2 (S-16).