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ProductInformation

Anti-Purinergic Receptor P2X7 (extracellular)
(P2Z)
Developed in Rabbit, Affinity Isolated Antibody

Product Number **P 9122**

Product Description

Anti-Purinergic Receptor P2X7 is developed in rabbit using a synthetic peptide KKGWMDPQSKGIQTGRC corresponding to residues 136-152 of mouse P2X7 receptor as the immunogen. The epitope is identical in human and rat; in bovine, 14/17 residues are identical. The antibody was affinity isolated on immobilized immunogen.

Anti-Purinergic Receptor P2X7 specifically recognizes purinergic receptor P2X7 protein in rat brain lysate and human cell lines: K562 (Chronic myelogeneous leukemia); WEHI-231 (Lymphoma, B lymphocyte) and HL-60 (promyelocytic leukemia), by immunoblotting.

The P2X receptors belong to the ligand-gated ion channel family and are activated by extracellular ATP. The P2X receptors family consists of at least seven isoforms: P2X1-P2X7.[1,2,3] All P2X subunits can assemble to form homomeric or heteromeric functional channels with the exception of P2X6, which only seems to function as part of a heteromeric complex.[4-9] The P2X7 receptor is found in cells of the immune system, particularly antigen presenting cells, and microglia. The P2X7 receptor mediates the release of proinflamatory cytokines, stimulation of transcription factors and may also have an important role in apoptosis.[5]

In the CNS, P2X receptors are involved in sensory transmission, sensory-motor integration, motor and autonomic control and overall CNS homeostasis.[10] Further, P2X receptors are implicated in modulating cortical plasticity, such as hippocampal plasticity.[11] Recent evidence suggests that P2X receptors in the spinal cord facilitate GABA release and may be important in processing nociceptive information.[12] Peripherally, P2X receptors modulate processes involved in the physiological turnover of squamous epithelial cells[13] and also modulate osteoclasts to stimulate bone resorption.[14]

The P2X receptors in spinal cord may be implicated in the induction or mediation of prolonged persistent pain.[15] Further, there may be a fine balance between function and disease with P2X modulation of cellular proliferation and apoptosis.[16,17]

Recent advances have allowed researchers to begin to learn about the structure and function of these purinergic receptors. However, much remains to be determined about their precise cellular localization, *in vivo* physiological roles, roles in disease states and possible routes to modulate their structure/function to ameliorate effects of disease.

Reagents

The antibody is supplied lyophilized from phosphate buffered saline, pH 7.4, with 1% bovine serum albumin, and 0.05 % sodium azide as preservative.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling.

Preparation Instructions

Reconstitute the lyophilized vial with 0.05 ml or 0.2 ml deionized water, depending on the package size purchased. Antibody dilutions should be made in buffer containing 1% bovine serum albumin.

Storage/Stability

Lyophilized powder can be stored intact at room temperature for several weeks. For extended storage, it should be stored at –20 °C or below. The reconstituted solution can be stored at 2-8 °C for up to 2 weeks. For longer storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in “frost-free” freezers is not recommended.

If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Centrifuge all antibody preparations before use (10000 x g 5 min). Working dilution samples should be discarded if not used within 12 hours.

Product Profile
The recommended working dilution is (1:200) for immunoblotting.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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