



## Product Information

### Anti-Purinergic Receptor P2X6

Developed in Rabbit  
Affinity Isolated Antibody

Product Number **P 4746**

#### Product Description

Anti-Purinergic Receptor P2X6 is developed in rabbit using a highly purified peptide RTKYEEARAPKATT-NSA, corresponding to amino acid residues 363-379 of rat P2X6 with an additional N-terminal cysteine as the immunogen. The epitope is highly conserved in mouse and human (15/17 and 14/17 residues identical, respectively). The antibody was affinity isolated on immobilized immunogen.

Anti-Purinergic Receptor P2X6 specifically recognizes Purinergic Receptor P2X6 protein in rat brain membranes by immunoblotting.

The P2X receptors belong to the ligand-gated ion channel family and are activated by extracellular ATP. The P2X receptors family consist of at least seven isoforms: P2X1-P2X7.<sup>1,2,3</sup> 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.<sup>4-9</sup> The P2x6 receptor assembles to a heteromultimer with two other P2X subunits, P2X2 and P2X4. The P2X6 receptor is extensively expressed throughout the central nervous system.<sup>7</sup>

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

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

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

Anti-Purinergic Receptor P2X6 is supplied lyophilized from phosphate buffered saline, pH 7.4, with 1% bovine serum albumin, 5% sucrose, 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 1-3 % 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 4 °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 3.25 µg/ml (1:200) for immunoblotting.

**Note:** In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

### References

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