

# Product Information

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## Anti-P2X1 Purinergic Receptor

produced in rabbit, affinity isolated antibody

Catalog Number **P7857**

### Product Description

Anti-P2X1 Purinergic Receptor is produced in rabbit using as immunogen a synthetic peptide, (CS)DPV ATSST LGLQE NMRTS, corresponding to amino acids 382-399 of rat P2X1, with additional N-terminal cysteine and serine.<sup>1,2</sup> The epitope is highly conserved in mouse and human. The antibody is affinity isolated using peptide-agarose.

Anti-P2X1 Purinergic Receptor recognizes human and rat P2X1 purinergic receptor by immunoblotting. The antibody may also be used for immunohistochemistry.<sup>3,4</sup>

ATP exerts its neuromodulatory effects via activation of purinergic receptors. Currently, 14 purinergic receptors are known and can be split into two classes: P2X and P2Y, with each class containing seven members.<sup>5</sup> The P2X receptor subunits (P2X1-P2X7) can form either homomultimers or heteromultimers which then act as ligand-gated cation channels.<sup>6</sup> P2X receptors are differentially distributed throughout the adrenal gland, heart and CNS.<sup>7,8,9</sup>

In the CNS, P2X receptors are involved in sensory transmission, sensory-motor integration, motor and autonomic control and overall CNS homeostasis.<sup>9</sup> Further, P2X receptors are implicated in modulating cortical plasticity, such as hippocampal plasticity.<sup>10</sup> Recent evidence suggests that P2X receptors in the spinal cord facilitate GABA release and may be important in processing nociceptive information.<sup>11</sup> Peripherally, P2X receptors modulate processes involved in the physiological turnover of squamous epithelial cells<sup>12</sup> and also modulate osteoclasts to stimulate bone resorption.<sup>13</sup>

The P2X receptors in spinal cord may be implicated in the induction or mediation of prolonged persistent pain.<sup>14</sup> Further, there may be a fine balance between function and disease with P2X modulation of cellular proliferation and apoptosis.<sup>15,16</sup>

Researchers have begun 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.

### Reagent

Supplied as a lyophilized powder from PBS, pH 7.4, containing 1% bovine serum albumin, and 0.05% sodium azide.

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Preparation Instructions

Reconstitute the lyophilized vial with 0.05 ml or 0.2 ml deionized water, depending on package size purchased. Antibody concentration after reconstitution will be ~0.6 mg/ml. Antibody dilutions should be made in buffer containing 1-3% bovine serum albumin.

### Storage/Stability

Prior to reconstitution, store at -20 °C. After reconstitution, the stock antibody solution may be stored at 2-8 °C. for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

### Product Profile

Immunoblotting: the recommended working dilution is 1:200 using Anti-Rabbit IgG-Peroxidase and detection by ECL.

**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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