

## Product Information

### ANTI-GLUTAMATE RECEPTOR AMPA R4 (GluR4)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **G5790**

#### Product Description

Anti-Glutamate Receptor AMPA R4 (GluR4) is developed in rabbit using a synthetic peptide (SEVDKMMVTLTEL) corresponding to the C-terminal of rat GluR4 as immunogen.

Anti-Glutamate Receptor AMPA R4 (GluR4) reacts specifically with GluR4. By immunoblotting of rat brain tissue homogenates, the antibody stains a single band co-migrating with GluR4 at approximately 105-107 kDa. The antibody reacts with human, mouse, rat and feline GluR4. Anti-GluR4 can be used for immunoblotting, immunocytochemistry, immunohistochemistry and immunoprecipitation.

Glutamate is the major excitatory neurotransmitter in the central nervous system.<sup>1</sup> Precise regulation of glutamate levels are necessary as excess glutamate is toxic to neurons, presumably through receptor activation which leads to elevated intracellular Ca<sup>2+</sup> levels.<sup>2</sup> Multiple glutamate receptors have been identified in the mammalian brain, including the ligand-gated ion channels (ionotropic glutamate receptors) which are permeable to cations. These receptors have been classified into multiple subtypes based upon pharmacological and electrophysiological data, and includes the alpha-amino-3-hydroxy-5-methyl-4-isoaxole propionate (AMPA)/kainate and N-methyl-D aspartate (NMDA) receptors. The ligand-gated glutamate receptors are multimeric heteromers composed of distinct subunits. Another subfamily of glutamate receptors includes eight G protein-coupled metabotropic glutamate receptors.<sup>3</sup> The delta receptors are believed to represent another class of ionotropic glutamate receptors, although glutamate binding and ion channel activity remain to be demonstrated.<sup>4</sup> Glutamate receptors likely play a key role in learning and memory<sup>5-7</sup> and it has been proposed that several neurodegenerative diseases may involve neural cell death caused by excessive activation of the glutamate receptors.<sup>8-10</sup>

#### Components

Anti-Glutamate Receptor AMPA R4 (GluR4) is supplied as affinity isolated antibody, lyophilized from phosphate buffered saline containing bovine serum albumin.

#### Preparation Instructions

Reconstitute each vial (50 µg) with 0.5 ml sterile distilled water. The resulting solution will contain 0.1 mg/ml antibody in phosphate buffered saline, containing 1% bovine serum albumin.

#### Storage/Stability

Store lyophilized product at -20 °C. Store reconstituted antibody at -20 °C for 6 months. Avoid repeated freeze/thaw cycles. Undiluted stock antibody solution containing 0.1% sodium azide can be stored at 4 °C for several weeks.

#### Product Profile

The recommended concentration is 0.5-1.5 µg/ml for immunoblotting, 1-3 µg/ml for immunocytochemistry (light and EM) and 1-3 µg/ml Immunohistochemistry.

The recommended concentration for immunoprecipitation is 1-10 µg, coupled to immobilized Protein A or Protein G, will immunoprecipitate detergent solubilized GluR4 from brain or transfected cells.<sup>11-14</sup>

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

#### References

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