

Product Information

ANTI-GLUTAMATE RECEPTOR AMPA R1 (GluR1)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **G 5415**

Product Description

Anti-Glutamate Receptor AMPA R1 (GluR1) is developed in rabbit using a synthetic peptide (SHSSGMPLGATGL) corresponding to the C-terminal of rat GluR1 as immunogen.

Anti-Glutamate Receptor AMPA R1 (GluR1) reacts specifically with GluR1. By immunoblotting of rat brain tissue homogenates, the antibody stains a single band co-migrating with GluR1 at approximately 105-107 kDa. The antibody reacts with human, mouse, rat and feline GluR1. Anti-GluR1 can be used for immunoblotting, immunocytochemistry, immunohistochemistry and immunoprecipitation.

Glutamate is the major excitatory neurotransmitter in the central nervous system.¹ Precise regulation of glutamate levels are necessary as excess glutamate is toxic to neurons, presumably through receptor activation which leads to elevated intracellular Ca²⁺ levels.² 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.³ The delta receptors are believed to represent another class of ionotropic glutamate receptors, although glutamate binding and ion channel activity remain to be demonstrated.⁴ Glutamate receptors likely play a key role in learning and memory⁵⁻⁷ and it has been proposed that several neurodegenerative diseases may involve neural cell death caused by excessive activation of the glutamate receptors.⁸⁻¹⁰

Components

Anti-Glutamate Receptor AMPA R1 (GluR1) 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 GluR1 from brain or transfected cells.¹¹⁻¹⁴

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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