

Affinity Purified Rabbit Anti-GluR2 Certificate of Analysis

ORDERING INFORMATION

Catalog Number: PPS050

Lot Number: 1666826

Size: 100 µL (sufficient for 10 mini-blot)

Storage: ≤ -20° C

Specificity: Human, mouse, and rat ~100 kDa
GluR2

Immunogen: Peptide corresponding to amino acid residues from rat GluR2, conjugated to keyhole limpet hemocyanin (KLH)

Ig Type: rabbit IgG

Applications: Western blot

Description

Rat GluR2 is a 100 kDa, 862 amino acid, 4-transmembrane (TM) glycoprotein that belongs to the ionotropic/glutamate-gated ion channel family. Due to an impenetrable TM region 2, the N-terminus is extracellular and C-terminus intracellular. GluR2 is the most widely expressed of four AMPA receptor subunits, and contributes to the formation of a functional, presumably heterotetrameric glutamate receptor. AMPA receptors mediate fast excitatory transmission on postsynaptic membranes. The GluR2 subunit in particular regulates Ca, Zn and Na entry into the cell. It is unique among AMPA subunits in that it contains an Arginine in the second transmembrane segment (amino acid 607). This accounts for its ability to regulate ion flow. Upon neuronal insult, the Arginine can be converted to Glutamine, which allows for rapid Ca⁺⁺ influx and the initiation of apoptosis. Alternatively, GluR2 levels may drop, allowing for multiple GluR combinations that allow rapid Ca⁺⁺ influx. GluR2 is regulated both by palmitoylation and phosphorylation. Palmitoylation at C610 results in decreased surface expression. Phosphorylation by PKC on S880, and by Src on Y876, induces internalization. Human and rat GluR2 are 99% aa identical. Rat GluR3 is 866 aa in length and shares 72% overall aa identity with GluR2, with 85% aa identity over the C-terminal 15 amino acids. It is apparently not phosphorylated. GluR3 has a Ca⁺⁺-permissive Glutamine at amino acid 612, the homolog to GluR2 R607. GluR3 is restricted in its expression pattern and is found on cerebellar Purkinje and Golgi Type II cells, neurons of the lateral amygdala, and cells of the basal ganglia.

Preparation

Prepared from rabbit serum by affinity purification using a column to which the peptide immunogen was coupled.

Formulation

100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol.

Storage

For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

Specificity

This antibody is specific for the 100 kDa GluR2 in Western blots of rat brain lysates.

Applications

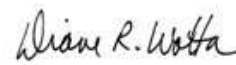
Western blot - 1:1000

Optimal dilutions should be determined by each laboratory for each application.

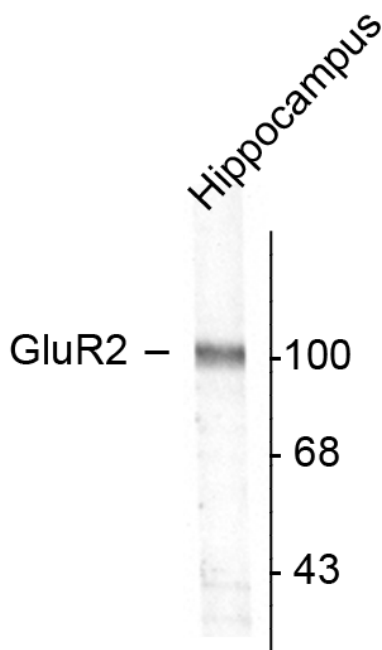
References

1. Keinänen, K. *et al.* (1990) *Science* **249**:556.
2. Dong, H. *et al.* (1997) *Nature* **386**:279.
3. Wyszynski, M. *et al.* (1999) *J. Neurosci.* **19**:6528.
4. Boulter, J. *et al.* (1990) *Science* **249**:1033.
5. Wang, J.Q. *et al.* (2005) *Mol. Neurobiol.* **32**:327.
6. Soundarapandian, M.M. *et al.* (2005) *Mol. Neurobiol.* **32**:145.

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Quality & Regulatory Affairs



Western blot of rat hippocampal lysate showing the specific immunolabeling of the approximately 100 kDa GluR2 protein.

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