

Anti-phospho-GluR1 (Ser845)

Rabbit Polyclonal Antibody

Catalog # **G830-365R**

Lot # Z2014-11

Cited Applications

WB, IHC

Ideal working dilutions for each application should be empirically determined by the investigator.

Specificity

Recognizes the GluR1 protein phosphorylated at serine 845

Cross Reactivity

Human, Mouse and Rat

Host/Isotype/Clone#

Rabbit, IgG

Immunogen

Phosphopeptide corresponding to the amino acid residues surrounding the phospho-Ser845 of GluR1.

Formulation

10 mM HEPES (pH 7.5), 150 mM NaCl, 100 μ g per ml BSA and 50% glycerol.

Stability

1yr at -20°C from date of shipment

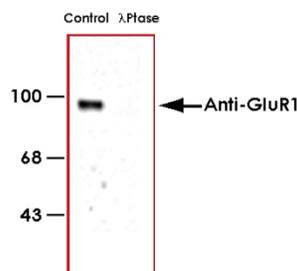
Scientific Background

The ion channels activated by glutamate are typically divided into two classes. Those that are sensitive to N-methyl-D-aspartate (NMDA) are designated NMDA receptors (NMDAR) while those activated by α -amino-3-hydroxy-5-methyl-4-isoxalone propionic acid (AMPA) are known as AMPA receptors (AMPA). The AMPAR are comprised of four distinct glutamate receptor subunits designated (GluR1-4) and they play key roles in virtually all excitatory neurotransmission in the brain (1,2). The GluR1 subunit is widely expressed throughout the nervous system. Phosphorylation of Ser845 on GluR1 is thought to be mediated by PKA and phosphorylation of this site increases the conductance of the AMPAR (3,4). In addition, phosphorylation of this site has been linked to synaptic plasticity as well as learning and memory (5,6).

References

- Keinänen K, Wisden W, Sommer B, Werner P, Herb A, Verdoorn TA, Sakmann B, Seeburg PH. A family of AMPA-selective glutamate receptors. *Science* 249:556-560. 1990.
- Hollmann M, Heinemann S (1994) Cloned glutamate receptors. *Annu Rev Neurosci* 17:31-108.
- Roche KW, O'Brien RJ, et al. Characterization of multiple phosphorylation sites on the AMPA receptor GluR1 subunit. *Neuron* 16:1179-1188. 1996.
- Banke TG, Bowie D, Lee HK, Haganir RL, Schousboe A, Traynelis SF (2000) Control of GluR1 AMPA receptor function by cAMP-dependent protein kinase. *J Neurosci* 20:89-102.
- Lee HK, Takamiya K, Han JS, Man HY, et al Phosphorylation of the AMPA receptor GluR1 subunit is required for synaptic plasticity and retention of spatial memory. *Cell* 112(5):631-643. 2003.
- Esteban JA, Shi SH, Wilson C, Nuriya M, Haganir RL, Malinow R (2003) PKA phosphorylation of AMPA receptor subunits controls synaptic trafficking underlying plasticity. *Nature Neurosci* 6:136-143.

Sample Data



Western blot of rat hippocampal lysate showing specific immunolabeling of the \sim 100k GluR1 protein phosphorylated at Ser845 (Control). The phosphospecificity of this labeling is shown in the second lane (lambda-phosphatase: λ -Ptase). The blot is identical to the control except that it was incubated in λ -Ptase (1200 units for 30 min) before being exposed to the Anti-phospho-GluR1 (Ser845). The immunolabeling is completely eliminated by treatment with λ -Ptase.

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Catalog #	G830-365R
Lot #	Z2014-11
Purification	Affinity chromatography
Stability	1yr at -20°C from date of shipment
Storage & Shipping	Store product at -20°C . For optimal storage, aliquot antibody into smaller quantities after centrifugation and store at recommended temperature. For optimal performance, avoid repeated handling and multiple freeze/thaw cycles. Product shipped on ice packs.

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