Datasheet for ABIN361476

anti-Glutamate Receptor 1 antibody (pSer831)

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Overview

Quantity:	150 µL
Target:	Glutamate Receptor 1 (GLUR1)
Binding Specificity:	pSer831
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Glutamate Receptor 1 antibody is un-conjugated
Application:	Western Blotting (WB)

Product Details

Immunogen:	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser831 conjugated to KLH
Specificity:	Specific for the ~100k GluR1 protein phosphorylated at Ser831. Immunolabeling is blocked by the phosphopeptide used as antigen but not by the corresponding dephosphopeptide. Immunolabeling is completely eliminated by λ-phosphatase treatment.
Cross-Reactivity:	Mouse (Murine), Rat (Rattus)
Cross-Reactivity (Details):	The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with canine, chicken, human and mouse based on the fact that these species have 100% homology with the amino acid sequence used as antigen.
Predicted Reactivity:	canine, chicken, human
Purification:	Antigen Affinity Purified from Pooled Serum

Target Details

Target:	Glutamate Receptor 1 (GLUR1)
Alternative Name:	GRIA1 (GLUR1 Products)
Background:	Affinity purified rabbit polyclonal antibody. Biological Significance: 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 (AMPAR). 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 (Keinänen et al., 1990; Hollmann and Heinemann, 1994). The GluR1 subunit is widely expressed throughout the nervous system. GluR1 is potentiated by phosphorylation at Ser831 which has been shown to be mediated by either PKC or CaM kinase II (McGlade-McCulloh et al., 1993; Mammen et al., 1999; Roche et al., 1996). In addition, phosphorylation of this site has been linked to synaptic plasticity as well s learning and memory (Soderling and Derkach, 2000).
Molecular Weight:	'100 kDa
Gene ID:	50592
NCBI Accession:	NP_113796
UniProt:	P19490
Pathways:	PI3K-Akt Signaling

Application Details

Application Notes:	WB: 1:1000
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50 % glycerol.
Handling Advice:	Avoid repeated freezing and thawing
Storage:	-20 °C

Publications

Product cited in:	Mao, Wang: "Upregulation of AMPA receptor GluA1 phosphorylation by blocking adenosine A1

receptors in the male rat forebrain." in: **Brain and behavior**, Vol. 10, Issue 3, pp. e01543, (2020) (PubMed).

Xue, Chen, He, Jin, Mao, Wang: "Integrated regulation of AMPA glutamate receptor phosphorylation in the striatum by dopamine and acetylcholine." in: **Neuropharmacology**, (2016) (PubMed).

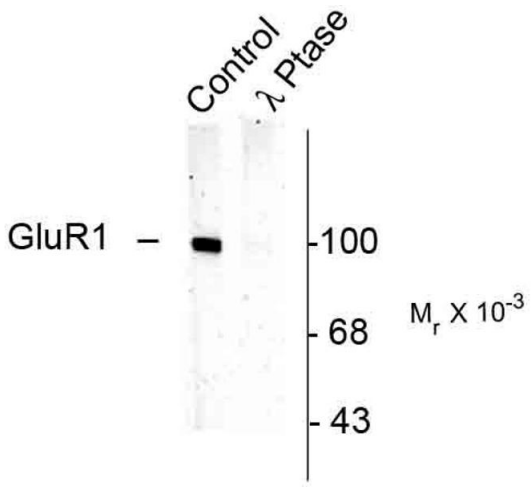
Pasek, Wang, Colbran: "Differential CaMKII regulation by voltage-gated calcium channels in the striatum." in: **Molecular and cellular neurosciences**, Vol. 68, pp. 234-43, (2016) (PubMed).

Mao, Xue, Jin, Wang: "Dynamic increases in AMPA receptor phosphorylation in the rat hippocampus in response to amphetamine." in: **Journal of neurochemistry**, Vol. 133, Issue 6, pp. 795-805, (2015) (PubMed).

Mao, Hastings, Fibuch, Wang: "Propofol selectively alters GluA1 AMPA receptor phosphorylation in the hippocampus but not prefrontal cortex in young and aged mice." in: **European journal of pharmacology**, Vol. 738, pp. 237-44, (2014) (PubMed).

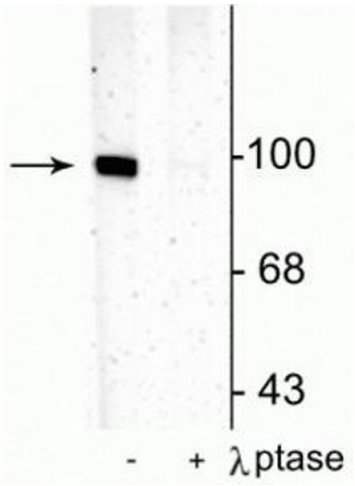
There are more publications referencing this product on: Product page

Images



Western Blotting

Image 1. Western blots of rat hippocampal lysate showing specific immunolabeling of the ~100k GluR1 protein phosphorylated at Ser831 (Control). The phosphospecificity of this labeling is shown in the second lane (lambda-phosphatase: (-Ptase). The blot is identical to the control except that it was incubated in (-Ptase (1200 units for 30 min) before being exposed to the GluR1 Ser831 antibody. The immunolabeling is completely eliminated by treatment with (-Ptase.



Western Blotting

Image 2. Western blot of rat hippocampal lysate showing specific immunolabeling of the ~100 kDa GluR1 protein phosphorylated at Ser831 in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is completely eliminated by blot treatment with lambda phosphatase (λ-Ptase, 1200 units for 30 min).