Datasheet for ABIN361477

anti-Glutamate Receptor 1 antibody (pSer845)

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Overview

Quantity:	150 µL
Target:	Glutamate Receptor 1 (GLUR1)
Binding Specificity:	pSer845
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Glutamate Receptor 1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC)

Product Details

Immunogen:	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser845 conjugated to KLH
Specificity:	The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with human, mouse and non-human primate based on the fact that these species have 100% homology with the amino acid sequence used as antigen. Specific for the ~100k GluR1 protein phosphorylated at Ser845 in Western blots of rat brain extracts. Immunolabeling is blocked by the phosphopeptide used as antigen but not by the corresponding dephosphopeptide. Immunolabeling is completely eliminated by treatment with λ-Ptase.
Cross-Reactivity:	Mouse (Murine), Rat (Rattus)
Predicted Reactivity:	human, non-human primates

Product Details

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. Phosphorylation of Ser845 on GluR1 is thought to be mediated by PKA and phosphorylation of this site increases the conductance of the AMPAR (Roche et al., 1996; Banke et al., 2000). In addition, phosphorylation of this site has been linked to synaptic plasticity as well as arning and memory (Lee at al., 2003; Esteban at al., 2003).
Molecular Weight:	'100 kDa
Gene ID:	50592
UniProt:	P19490
Pathways:	PI3K-Akt Signaling

Application Details

Application Notes:	WB: 1:1000. IHC: 1:1000 (frozen sections).
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.
Storage:	-20 °C

Publications

Product cited in:

Hikida, Morita, Kuroiwa, Macpherson, Shuto, Sotogaku, Niwa, Sawa, Nishi: "Adolescent psychosocial stress enhances sensitization to cocaine exposure in genetically vulnerable mice. " in: **Neuroscience research**, Vol. 151, pp. 38-45, (2020) (PubMed).

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).

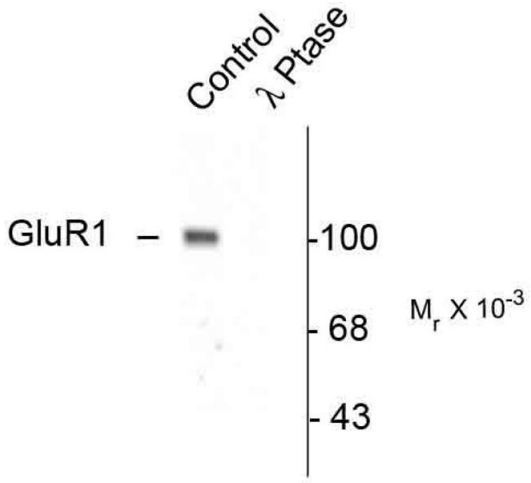
Musante, Li, Kanyo, Lam, Colangelo, Cheng, Brody, Greengard, Le Novère, Nairn: "Reciprocal regulation of ARPP-16 by PKA and MAST3 kinases provides a cAMP-regulated switch in protein phosphatase 2A inhibition." in: **eLife**, Vol. 6, (2018) (PubMed).

Hollis, Sevelinges, Grosse, Zanoletti, Sandi: "Involvement of CRFR1 in the Basolateral Amygdala in the Immediate Fear Extinction Deficit." in: **eNeuro**, Vol. 3, Issue 5, (2017) (PubMed).

Zhang, Fu, Fu, Ip: "S-nitrosylation-dependent proteasomal degradation restrains Cdk5 activity to regulate hippocampal synaptic strength." in: **Nature communications**, Vol. 6, pp. 8665, (2016) (PubMed).

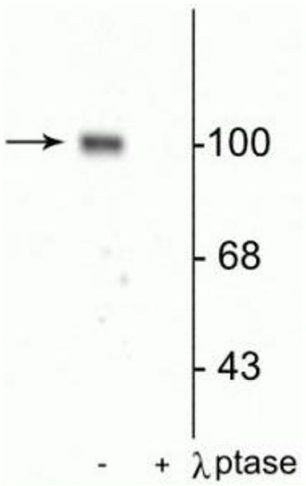
There are more publications referencing this product on: Product page

Images



Western Blotting

Image 1. Western blots of rat hippocampal lysate showing specific immunolabeling of the ~100k GluR1 protein phosphorylated at Ser845 (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 Ser845 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 Ser845 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).