

#3921 Store at -20°C

Phospho-AMPA Receptor 2 (GluA2) (Tyr869/Tyr873/Tyr876) Antibody


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB	Reactivity: R	Sensitivity: Endogenous	MW (kDa): 100	Source: Rabbit	UniProt ID: #P42262	Entrez-Gene Id: 2891
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Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Phospho-AMPA Receptor 2 (GluA2) (Tyr869/Tyr873/Tyr876) Antibody detects endogenous levels of GluA2 only when phosphorylated at Tyr869, Tyr873 or Tyr876. It may also detect GluA3 when phosphorylated at the conserved Tyr880, Tyr884 or Tyr887. These residues are not conserved in GluA1 or GluA4.	
Species predicted to react based on 100% sequence homology:	Human, Mouse	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr869, Tyr873 and Tyr876 of human AMPA Receptor 2 (GluA2). Antibodies are purified by protein A and peptide affinity chromatography.	
Background	<p>AMPA- (α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid), kainate-, and NMDA- (N-methyl-D-aspartate) receptors are the three main families of ionotropic glutamate-gated ion channels. AMPA receptors (AMPARs) are comprised of four subunits (GluR 1-4), which assemble as homo- or hetero-tetramers to mediate the majority of fast excitatory transmissions in the central nervous system. AMPARs are implicated in synapse formation, stabilization, and plasticity (1). In contrast to GluR 2-containing AMPARs, AMPARs that lack GluR 2 are permeable to calcium (2). Post-transcriptional modifications (alternative splicing, nuclear RNA editing) and post-translational modifications (glycosylation, phosphorylation) result in a very large number of permutations, fine-tuning the kinetic properties of AMPARs. Research studies have implicated activity changes in AMPARs in a variety of diseases including Alzheimer's, amyotrophic lateral sclerosis (ALS), stroke, and epilepsy (1).</p> <p>Src family tyrosine kinases phosphorylate the GluR 2 subunit of AMPA receptors at Tyr876, which increases the interaction with GRIP1/2 but not PICK1. In addition, Tyr876 is important for AMPA- and NMDA-induced GluR 2 internalization (3). The phosphorylation sites at Tyr869, Tyr873 and Tyr876 were identified at Cell Signaling Technology (CST) using PhosphoScan®, CST's MS/MS platform for phosphorylation site discovery. Phosphorylation of GluR2 at Tyr869, Tyr873 and Tyr876 was observed in extracts isolated from ischemic rat brain. These sites were independently found in a large-scale identification of tyrosine phosphorylation sites from murine brain (4).</p>	
Background References	<ol style="list-style-type: none"> Palmer, C.L. et al. (2005) <i>Pharmacol Rev</i> 57, 253-77. Cull-Candy, S. et al. (2006) <i>Curr Opin Neurobiol</i> 16, 288-97. Hayashi, T. and Huganir, R.L. (2004) <i>J. Neurosci.</i> 24, 6152-6160. Ballif, B.A. et al. (2008) <i>J. Proteome Res.</i> 7, 311-318. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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