Revision 4

Store at -20C

#4676

AMPA Receptor 3 (GluA 3) (D47E3) Rabbit mAb

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP	H M R	Endogenous	100	Rabbit IgG	#P42263	2892

Product Usage Information

Application	Dilution
Western Blotting	1:2000
Simple Western™	1:50 - 1:250
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

AMPA Receptor 3 (GluA 3) (D47E3) Rabbit mAb detects endogenous levels of total GluA 3 protein. The antibody is not predicted to detect other AMPA receptor subunits (e.g. GluA 1, GluA 2 or GluA 4) based on sequence homology of the antigen.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro590 of human GluA 3 protein.

Background

AMPA- (α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid), kainite- 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) that assemble as homo- or hetero-tetramers and mediate the majority of fast excitatory transmissions in the CNS. AMPARs are implicated in synapse formation, stabilization and plasticity. Post-transcriptional modifications (alternative splicing and nuclear RNA editing) and post-translational modifications (glycosylation, phoshorylation) result in a very large number of permutations, fine-tuning the kinetic properties of AMPARs (1). GluR 3 knockout mice exhibited normal basal synaptic transmission and long-term depression (LTD) but enhanced long-term potentiation (LTP). In contrast, GluR 2/3 double knockout mice are impaired in basal synaptic transmission (2). Aberrant GluR 3 expression or activity is implicated in a number of diseases, including autoimmune epilepsy, X-linked mental retardation, Rett's syndrome, amyotrophic lateral sclerosis and Alzheimer disease (3).

Background References

1. Palmer, C.L. et al. (2005) *Pharmacol Rev* 57, 253-77.
2. Meng, Y. et al. (2003) *Neuron* 39, 163-76.
3. Rembach, A. et al. (2004) *J Neurosci Res* 77, 573-82.

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

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

Trademarks and Patents

Limited Uses

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