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#5117

## AMPA Receptor 3 (GluA3) (D25G9) Rabbit mAb

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

<b>Applications:</b> W	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 100	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P42263	<b>Entrez-Gene Id:</b> 2892
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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, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

AMPA Receptor 3 (GluA3) (D25G9) Rabbit mAb detects endogenous levels of total GluA3 protein. The antibody is not predicted to detect other AMPA receptor subunits (e.g. GluA1, GluA2 or GluA4) based on sequence homology of the antigen.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding His70 of human GluA3 protein.

### Background

AMPA- ( $\alpha$ -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 (AMPA receptors) 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, phosphorylation) 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

- Palmer, C.L. et al. (2005) *Pharmacol Rev* 57, 253-77.
- Meng, Y. et al. (2003) *Neuron* 39, 163-76.
- 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

### Cross-Reactivity Key

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

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