

Product datasheet for **TA328829**

Gria3 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, IP, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)EKPFHLNYHVDHLD, corresponding to amino acid residues 60-73 of rat AMPA Receptor 3. Extracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	glutamate ionotropic receptor AMPA type subunit 3
Database Link:	NP_116785 Entrez Gene 2892 Human Entrez Gene 53623 Mouse Entrez Gene 29628 Rat P19492



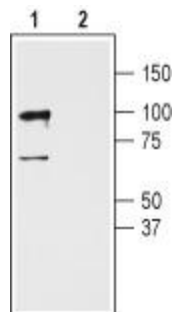
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Background:

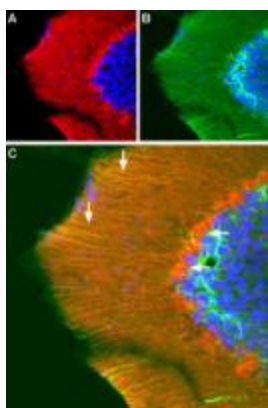
L-Glutamate, the major excitatory neurotransmitter in the central nervous system, operates through several receptors that are categorized as ionotropic (ligand-gated cation channels) or metabotropic (G-protein coupled receptors). The ligand-gated ion channel family consists of 15 members that have been subdivided into three families based on their pharmacological profile: the α -amino-3-hydroxy-5-methyl-4-isoazolepropionic acid (AMPA) preferring receptors, the N-methyl-D-aspartate (NMDA) preferring and the kainate preferring receptors. The AMPA receptor subfamily includes four members AMPA1 to AMPA4, also known as GluR1 to GluR4 respectively. The functional AMPA channel is believed to be a tetramer, with most neuronal AMPA receptors being heterotetramers composed of AMPA1 plus AMPA2 or AMPA2 plus AMPA3 channels, although homotetramers can also be found. AMPA receptors are permeable to cations Na^+ , K^+ and Ca^{2+} . The Ca^{2+} permeability is dependent on the presence of AMPA2: whenever this subunit is present, the channel will be impermeable to Ca^{2+} . Gating of AMPA receptors by glutamate is extremely fast and therefore the AMPA receptors mediate most excitatory (depolarizing) currents in the brain during basal neuronal activity. The depolarization caused by the activation of post-synaptic AMPA receptors is necessary for the activation of NMDA receptors that will open only in the presence of both glutamate and a depolarized membrane potential. Synaptic strength that is defined as the level of post-synaptic depolarization can be long term (hence the term long term potentiation, LTP) and therefore induce changes in signaling and protein synthesis in the activated neuron. These changes are associated with memory formation and learning. Changes in synaptic strength are thought to involve rapid movement of the AMPA receptors in and out of the synapses and a great deal of effort has focused in understanding the mechanisms that govern AMPA receptor trafficking. The exact physiological role of the AMPA3 receptor is not clear but a role in the modulation of oscillatory networks affecting sleep and breathing has been suggested.

Synonyms:

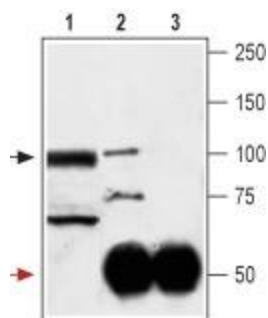
2900064I19Rik; GluA3; GluR-3; Glur-3; GluR-C; GluR-K3; GLUR3; Glur3; Gluralpha3; mKIAA4184

Product images:

Western blot analysis of rat cerebellum lysates: 1. Anti-AMPA Receptor 3 (GluA3) (extracellular) antibody, (1:400). 2. Anti-AMPA Receptor 3 (GluA3) (extracellular) antibody, preincubated with the control peptide antigen.



IHC staining of frozen perfusion-fixed free floating sections of mouse cerebellum using Anti-AMPA Receptor 3 (GluA3) (extracellular) antibody. A. Distribution of AMPA Receptor 3 (red). B. Distribution of glial fibrillary acidic protein (green). C. Merge of the two images indicates that AMPA Receptor 3 is localized to Bergmann glia (vertical arrow) and to Purkinje cell soma (horizontal arrow). DAPI is used as the counterstain (blue).



Immunoprecipitation of rat cerebellum lysates: 1. Cerebellum lysates. 2. Cerebellum lysates + Anti-AMPA Receptor 3 (GluA3) (extracellular) antibody + protein A beads. 3. Cerebellum lysates + pre-immune rabbit serum + protein A beads. Black arrow indicates the AMPA Receptor 3 (GluR3) while the red arrow shows the IgG heavy chain. Immunoblot was performed with Anti-AMPA Receptor 3 (GluA3) (extracellular) antibody.