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GRIA2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1732a

Product Information

Application	WB, FC, E
Primary Accession	P19491
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7G6
Isotype	IgG1
Calculated MW	98688
Description	Glutamate receptors are the predominant excitatory neurotransmitter receptors in the mammalian brain and are activated in a variety of normal neurophysiologic processes. This gene product belongs to a family of glutamate receptors that are sensitive to alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA), and function as ligand-activated cation channels. These channels are assembled from 4 related subunits, Gria1-4. The subunit encoded by this gene (Gria2) is subject to RNA editing (Q/R and R/G), which is thought to render the channels impermeable to Ca(2+), and to affect the kinetic aspects of these channels in rat brain. Alternative splicing, resulting in transcript variants encoding different isoforms (flip and flop), has been noted for this gene.
Immunogen	Purified recombinant fragment of human GRIA2 (AA: 652-807) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	29627
Other Names	Glutamate receptor 2, GluR-2, AMPA-selective glutamate receptor 2, GluR-B, GluR-K2, Glutamate receptor ionotropic, AMPA 2, GluA2, Gria2, Glur2
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GRIA2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

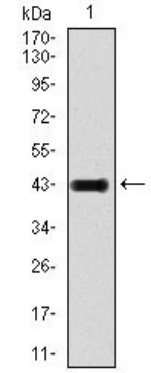
Name	Gria2 {ECO:0000312|RGD:61862}
Function	Ionotropic glutamate receptor that functions as a ligand- gated cation channel, gated by L-glutamate and glutamatergic agonists such as alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA), quisqualic acid, and kainic acid (PubMed:12015593, PubMed:12730367, PubMed:15591246, PubMed:2166337, PubMed:21846932, PubMed:9351977). L-glutamate acts as an excitatory neurotransmitter at many synapses in the central nervous system and plays an important role in fast excitatory synaptic transmission (By similarity). Binding of the excitatory neurotransmitter L-glutamate induces a conformation change, leading to the opening of the cation channel, and thereby converts the chemical signal to an electrical impulse upon entry of monovalent and divalent cations such as sodium and calcium (PubMed:11773314, PubMed:12501192, PubMed:12730367, PubMed:12872125, PubMed:16483599, PubMed:1653450, PubMed:17018279, PubMed:19946266). The receptor then desensitizes rapidly and enters in a transient inactive state, characterized by the presence of bound agonist (PubMed:12015593, PubMed:16192394, PubMed:17018279, PubMed:19946266). In the presence of CACNG4 or CACNG7 or CACNG8, shows resensitization which is characterized by a delayed accumulation of current flux upon continued application of L-glutamate (PubMed:21172611). Through complex formation with NSG1, GRIP1 and STX12 controls the intracellular fate of AMPAR and the endosomal sorting of the GRIA2 subunit toward recycling and membrane targeting (PubMed:16037816).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P42262}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P42262} Postsynaptic cell membrane {ECO:0000250|UniProtKB:P42262}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P42262}. Postsynaptic density membrane {ECO:0000250|UniProtKB:P23819}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P23819}. Note=Interaction with CACNG2, CNIH2 and CNIH3 promotes cell surface expression (PubMed:19265014). Displays a somatodendritic localization and is excluded from axons in neurons (By similarity). {ECO:0000250|UniProtKB:P23819, ECO:0000269|PubMed:19265014}
Tissue Location	Detected in forebrain (PubMed:14687553). Detected in dendrites of neuronal cells (PubMed:9697855). Expressed in the pyramidal cell layers of CA1 and CA3 and in the granule cell layer of the dentate gyrus (PubMed:12657670).

References

1.Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi. 2010 Feb;24(4):173-6. 2.Neurosci Lett. 2011 Jun 15;497(1):42-5.

Images

Figure 1: Western blot analysis using GRIA2 mAb against human GRIA2 recombinant protein. (Expected MW is 43 kDa)



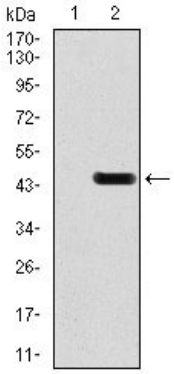


Figure 2: Western blot analysis using GRIA2 mAb against HEK293 (1) and GRIA2 (AA: 652-807)-hIgGFc transfected HEK293 (2) cell lysate.

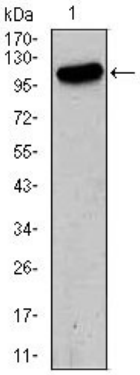


Figure 3: Western blot analysis using GRIA2 mouse mAb against HeLa (1) cell lysate.

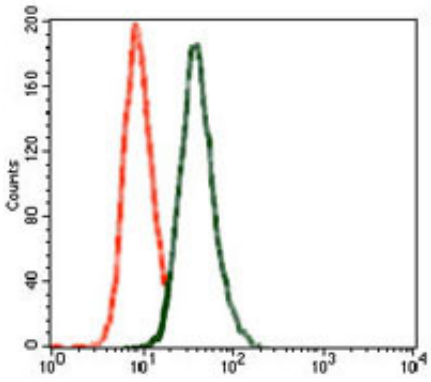


Figure 4: Flow cytometric analysis of SK-N-SH cells using GRIA2 mouse mAb (green) and negative control (red).