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GRIA4 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12941c

Product Information

Application	WB, IHC-P, E
Primary Accession	P48058
Other Accession	P19493, Q9Z2W8, Q38PU5, NP_000820.3
Reactivity	Human, Rat, Mouse
Predicted	Monkey, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB30232
Calculated MW	100871
Antigen Region	296-325

Additional Information

Gene ID	2893
Other Names	Glutamate receptor 4, GluR-4, GluR4, AMPA-selective glutamate receptor 4, GluR-D, Glutamate receptor ionotropic, AMPA 4, GluA4, GRIA4, GLUR4
Target/Specificity	This GRIA4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 296-325 amino acids from the Central region of human GRIA4.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GRIA4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRIA4 {ECO:0000303|PubMed:29220673, ECO:0000312|HGNC:HGNC:4574}
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 (By similarity). 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. The receptor then desensitizes rapidly and enters a transient inactive state, characterized by the presence of bound agonist (By similarity). In the presence of CACNG8, shows resensitization which is characterized by a delayed accumulation of current flux upon continued application of L-glutamate (PubMed:21172611).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P19493}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P19493} Postsynaptic cell membrane {ECO:0000250|UniProtKB:P19493}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P19493}. Cell projection, dendrite {ECO:0000250|UniProtKB:P19493}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:P42262}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P42262}

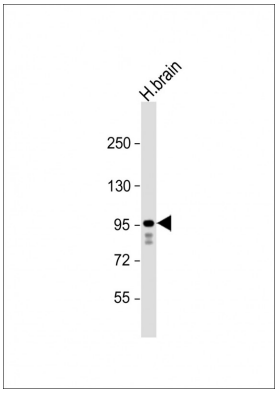
Background

Glutamate receptors are the predominant excitatory neurotransmitter receptors in the mammalian brain and are activated in a variety of normal neurophysiologic processes. These receptors are heteromeric protein complexes composed of multiple subunits, arranged to form ligand-gated ion channels. The classification of glutamate receptors is based on their activation by different pharmacologic agonists. The subunit encoded by this gene belongs to a family of AMPA (alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate)-sensitive glutamate receptors, and is subject to RNA editing (AGA->GGA; R->G). Alternative splicing of this gene results in transcript variants encoding different isoforms, which may vary in their signal transduction properties. Some haplotypes of this gene show a positive association with schizophrenia. [provided by RefSeq].

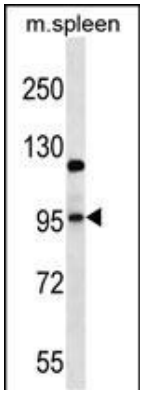
References

Need, A.C., et al. Eur. J. Hum. Genet. 17(7):946-957(2009)
Volpi, S., et al. J Clin Psychiatry 70(6):801-809(2009)
Kessels, H.W., et al. Neuron 61(3):340-350(2009)
Arai, S., et al. Psychiatr. Genet. 19(1):6-13(2009)
Aruscavage, P.J., et al. RNA 6(2):257-269(2000)

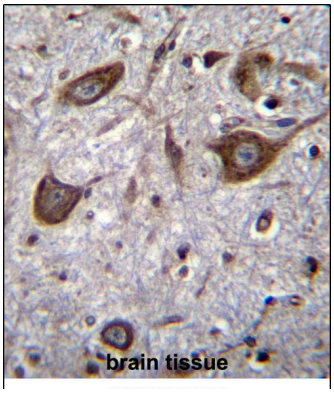
Images



Anti-GRIA4 Antibody (Center) at 1:1000 dilution + human brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 101 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



GRIA4 Antibody (Center) (Cat. #AP12941c) western blot analysis in mouse spleen tissue lysates (35ug/lane).This demonstrates the GRIA4 antibody detected the GRIA4 protein (arrow).



GRIA4 Antibody (Center) (Cat. #AP12941c)immunohistochemistry analysis in formalin fixed and paraffin embedded human brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of GRIA4 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- Analysis of Synaptic Gene Expression in the Neocortex of Primates Reveals Evolutionary Changes in Glutamatergic Neurotransmission.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.