

Anti-GRIA1 Antibody
Catalog # ABO10901**Specification**

Anti-GRIA1 Antibody - Product Information

| | |
|-------------------|------------------------|
| Application | WB |
| Primary Accession | P42261 |
| Host | Rabbit |
| Reactivity | Human, Mouse, Rat |
| Clonality | Polyclonal |
| Format | Lyophilized |

Description

Rabbit IgG polyclonal antibody for Glutamate receptor 1(GRIA1) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-GRIA1 Antibody - Additional Information

Gene ID 2890

Other Names

Glutamate receptor 1, GluR-1, AMPA-selective glutamate receptor 1, GluR-A, GluR-K1, Glutamate receptor ionotropic, AMPA 1, GluA1, GRIA1, GLUH1, GLUR1

Calculated MW

101506 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Rat, Human, Mouse

Subcellular Localization

Cell membrane ; Multi-pass membrane protein . Endoplasmic reticulum membrane ; Multi-pass membrane protein . Cell junction, synapse, postsynaptic cell membrane ; Multi-pass membrane protein . Cell junction, synapse, postsynaptic cell membrane, postsynaptic density . Cell projection, dendrite . Cell projection, dendritic spine . Interaction with CACNG2, CNIH2 and CNIH3 promotes cell surface expression. .

Tissue Specificity

Widely expressed in brain.

Protein Name

Glutamate receptor 1(GluR-1)

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human GRIA1 (881-895aa HDPKSMQSI PCMSH), different from the related rat and mouse sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Anti-GRIA1 Antibody - Protein Information

Name GRIA1 ([HGNC:4571](#))

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: [1311100](http://www.uniprot.org/citations/1311100), PubMed: [20805473](http://www.uniprot.org/citations/20805473), PubMed: [21172611](http://www.uniprot.org/citations/21172611), PubMed: [28628100](http://www.uniprot.org/citations/28628100), PubMed: [35675825](http://www.uniprot.org/citations/35675825)). L-glutamate acts as an excitatory neurotransmitter at many synapses in the central nervous system. 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 in a transient inactive state, characterized by the presence of bound agonist (By similarity). In the presence of CACNG2 or 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](http://www.uniprot.org/citations/21172611)). Resensitization is blocked by CNIH2 through interaction with CACNG8 in the CACNG8-containing AMPA receptors complex (PubMed: [21172611](http://www.uniprot.org/citations/21172611)). Calcium (Ca²⁺) permeability depends on subunits composition and, heteromeric channels containing edited GRIA2 subunit are calcium-impermeable. Also permeable to other divalent cations such as strontium(2+) and magnesium(2+) and monovalent cations such as potassium(1+) and lithium(1+) (By similarity).

Cellular Location

Cell membrane; Multi-pass membrane protein. Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P19490}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P19490}. Postsynaptic cell membrane; Multi-pass membrane protein. Postsynaptic density membrane {ECO:0000250|UniProtKB:P23818}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P23818}. Cell projection, dendrite {ECO:0000250|UniProtKB:P23818}. Cell projection, dendritic spine {ECO:0000250|UniProtKB:P23818}. Early endosome membrane {ECO:0000250|UniProtKB:P19490}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P19490}. Recycling endosome membrane {ECO:0000250|UniProtKB:P19490}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P19490}. Presynapse {ECO:0000250|UniProtKB:P23818}. Synapse {ECO:0000250|UniProtKB:P23818} Note=Interaction with CACNG2, CNIH2 and CNIH3 promotes

cell surface expression. Colocalizes with PDLIM4 in early endosomes. Displays a somatodendritic localization and is excluded from axons in neurons (By similarity). Localized to cone photoreceptor pedicles (By similarity) {ECO:0000250|UniProtKB:P19490, ECO:0000250|UniProtKB:P23818}

Tissue Location

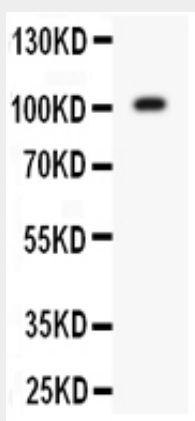
Widely expressed in brain.

Anti-GRIA1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-GRIA1 Antibody - Images



Anti- GRIA1 antibody, ABO10901, Western blottingAll lanes: Anti GRIA1 (ABO10901) at 0.5ug/mlWB: Rat Brain Tissue Lysate at 50ugPredicted bind size: 101KDObserved bind size: 101KD

Anti-GRIA1 Antibody - Background

GLUR1, Glutamate receptor 1, is a protein that in humans is encoded by the GLUR1 gene. The sequence of GLUR1 was predicted to encode a 907-amino acid protein that had 97% identity to one of the rodent kainate receptor subunits. GLUR1 mRNA is widely expressed in human brain. 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 with multiple subunits, each possessing transmembrane regions, and all arranged to form a ligand-gated ion channel. The classification of glutamate receptors is based on their activation by different pharmacologic agonists. The GRIA1 belongs to a family of alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA) receptors. Each of the members (GRIA1-4) include flip and flop isoforms generated by alternative RNA splicing. The receptor subunits encoded by each isoform vary in their signal transduction properties. The isoform presented here is the flop isoform. In situ hybridization experiments showed that human GRIA1 mRNA is present in granule and pyramidal cells in the hippocampal formation.