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Grik3 Antibody

Catalog # ASC10609

Product Information

Application	WB, E
Primary Accession	Q13003
Other Accession	CAI19119, 56205347
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	104037
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Grik3 antibody can be used for detection of Grik3 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	2899
Other Names	Glutamate receptor ionotropic, kainate 3, GluK3, Excitatory amino acid receptor 5, EAA5, Glutamate receptor 7, GluR-7, GluR7, GRIK3, GLUR7
Target/Specificity	GRIK3;
Reconstitution & Storage	Grik3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Grik3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRIK3
Synonyms	GLUR7
Function	Ionotropic glutamate receptor that functions as a cation- permeable ligand-gated ion channel, gated by L-glutamate and the glutamatergic agonist kainic acid. 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. The receptor then desensitizes rapidly and enters a transient inactive state, characterized by the presence of bound agonist (PubMed:7719709). In association with GRIK2, involved in presynaptic facilitation of glutamate release at

	hippocampal mossy fiber synapses (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P42264}; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:P42264}; Multi-pass membrane protein

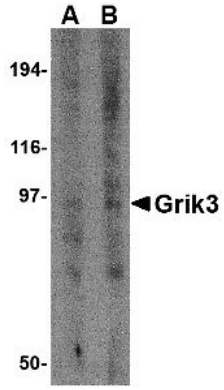
Background

Grik3 Antibody: Glutamate receptors are the predominant excitatory neurotransmitter receptors in the mammalian brain and are activated in a variety of normal neurophysiologic processes. Grik3, also known as glutamate receptor 7, belongs to the kainate family of glutamate receptors, which are composed of four subunits and function as ligand-activated ion channels. Grik3 is highly homologous to the related ionotrophic glutamate receptors Grik2 and Grik1. Grik3 has recently been shown to be an essential subunit of presynaptic kainate autoreceptors at hippocampal mossy fiber synapses as grik3-null mice show significantly reduced short- and long-term synaptic potentiation. Other reports have suggested that different polymorphisms in the Grik3 protein may be associated with neurological defects such as recurrent major depressive disorder and schizophrenia. This Grik3 antibody does not cross-react with Grik2.

References

Tanaka K. Functions of glutamate transports in the brain. Neurosci. Res.2000; 37:15-9.
Pinheiro P and Mulle C. Kainate receptors. Cell Tissue Res.2006; 326:457-82.
Puranam RS, Eubanks JH, Heinemann SF, et al. Chromosomal localization of gene for human glutamate receptor subunit-7. Somat. Cell Mol. Genet.1993; 19:581-8.
Pinheiro PS, Perrais D, Coussen F, et al. GluR7 is an essential subunit of presynaptic kainate autoreceptors at hippocampal mossy fiber synapses. Proc. Natl. Acad. Sci. USA2007; 104:12181-6.

Images



Western blot analysis of Grik3 in human brain tissue lysate with Grik3 antibody at (A) 1 and (B) 2 µg/mL.