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Grik4 Antibody

Catalog # ASC10611

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q16099
Other Accession	Q16099, 209572625
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	107246
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Grik4 antibody can be used for detection of Grik4 by Western blot at 0.5 - 2 g/mL. Despite its predicted molecular weight, Grik4 often migrates at a lower molecular weight in SDS-PAGE. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	2900
Other Names	Glutamate receptor ionotropic, kainate 4, GluK4, Excitatory amino acid receptor 1, EAA1, Glutamate receptor KA-1, KA1, GRIK4, GRIK
Target/Specificity	GRIK4;
Reconstitution & Storage	Grik4 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	Grik4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRIK4
Synonyms	GRIK
Function	Ionotropic glutamate receptor that functions as a cation- permeable ligand-gated ion channel. Cannot form functional channels on its own (PubMed:8263508). Shows channel activity only in heteromeric assembly with GRIK1, GRIK2 and GRIK3 subunits (By similarity).

Cellular Location	Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q8BMF5}; Multi-pass membrane protein. Presynaptic cell membrane {ECO:0000250|UniProtKB:Q8BMF5}; Multi-pass membrane protein

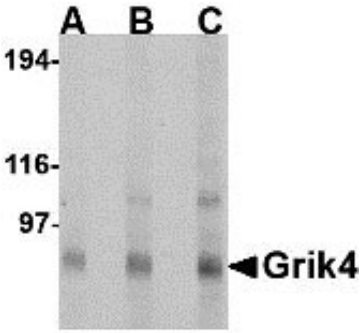
Background

Grik4 Antibody: Grik4 codes for the KA1 subunit of kainate-type ionotropic glutamate receptors which are critical regulators of network activity that act by modifying neuronal excitability, directly and indirectly, through GABAergic interneurons. Five subunits can assemble to form kainate receptors (KARs): GluR5 (coded by Grik1), GluR6 (coded by Grik2), and GluR7 (coded by Grik3) are the low-affinity subunits, and KA1 and KA2 are the high-affinity subunits. In the adult brain, KARs are located pre- and postsynaptically on pyramidal cells and on interneurons. Kainate receptors on GABA-containing interneurons enhance GABA release and thereby downregulate glutamatergic signaling. KARs have been implicated in numerous psychiatric disorders. Case control studies show significant association of Grik4 with both schizophrenia and bipolar disorder.

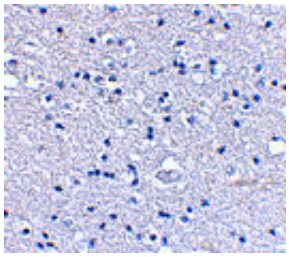
References

Tanaka K. Functions of glutamate transporters in the brain. Neurosci. Res.2000; 37:15-9.
Pinheiro P and Mulle C. Kainate receptors. Cell Tissue Res.2006; 326:457-82.
Mayer ML. GRIK4 and the Kainate Receptor. Am. J. Psychiatry2007; 164:1148.
Pickard BS, Malloy MP, Christoforou A, et al. Cytogenetic and genetic evidence supports a role for the kainate-type glutamate receptor gene, GRIK4, in schizophrenia and bipolar disorder. Mol. Psychiatry2006; 11:847-57.

Images

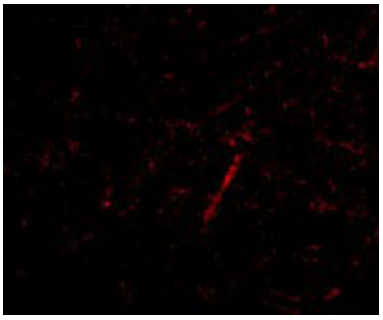


Western blot analysis of Grik4 in Rat brain tissue lysate with Grik4 antibody at (A) 0.5, (B) 1 and (C) 2 µg/mL.



Immunohistochemical staining of human brain tissue using Grik4 antibody at 2.5 µg/mL.

Immunofluorescence of Grik4 in Human Brain cells with Grik4 antibody at 20 µg/mL.



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