

Grik4 Antibody

Grik4 (NT): Glutamate receptor ionotropic kainate 4 precursor, Glutamate receptor KA-1, Excitatory amino acid receptor 1, EEA1

CATALOG No.:4393

BACKGROUND:

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 (1,2). 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 (2,3). 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 (3). KARs have been implicated in numerous psychiatric disorders. Case control studies show significant association of Grik4 with both schizophrenia and bipolar disorder (4,5). Despite its predicted molecular weight, Grik4 often migrates at a lower molecular weight in SDS-PAGE.

SOURCE:

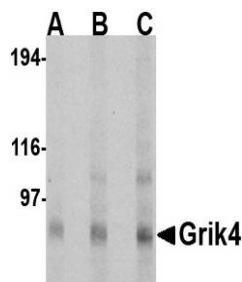
Rabbit polyclonal Grik4 antibody was raised against a 14 amino acid peptide near the amino terminus of the human Grik4 (GenBank accession no. Q16099).

APPLICATION:

Grik4 antibody can be used for detection of Grik4 by Western blot at 0.5 – 1 µg/ml. (Optimal dilution should be determined by user.) Rat brain tissue lysate can be used as positive control. Grik4 antibody is human, mouse and rat reactive. **For research use only.**

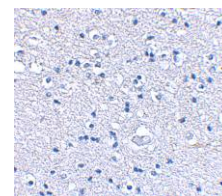
STORAGE:

Grik4 antibody is supplied as immunoaffinity purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



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.



RELATED PRODUCTS:

Blocking Peptide, Catalog No. **4393P**.
Rat Brain Tissue Lysate, Catalog No. **1463**.
Grik4 Antibody (CT), Catalog No. **4391**.
Grik1 Antibody (CT), Catalog No. **4381**.
Grik2 Antibody (C2), Catalog No. **4387**.
Grik3 Antibody, Catalog No. **4389**.

REFERENCES:

1. Tanaka K. Functions of glutamate transporters in the brain. *Neurosci. Res.* 2000; 37:15-9
2. Pinheiro P and Mulle C. Kainate receptors. *Cell Tissue Res.* 2006; 326:457-82.
3. Mayer ML. GRIK4 and the Kainate Receptor. *Am. J. Psychiatry* 2007; 164:1148.
4. 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. Psychiatry* 2006; 11:847-57.
5. Blackwood DH, Pickard BJ, Thompson PA, et al. Are some genetic risk factors common to schizophrenia, bipolar disorder and depression? Evidence from DISC1, GRIK4 and NRG1. *Neurotox. Res.* 2007; 11:73-83. (08-01D)