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GRIK2 Recombinant Rabbit mAb

Catalog # AP100159

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q13002
Other Accession	Q13002
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	102583
Physical State	Liquid
Immunogen	A synthesized peptide derived from human GluK2
Epitope Specificity	100-150/908
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	10mM phosphate buffered saline(pH 7.4) with 150mM sodium chloride, 0.05% BSA, 0.02% Proclin300 and 50% glycerol.
SIMILARITY	Belongs to the glutamate-gated ion channel (TC 1.A.10.1) family. GRIK3 subfamily.
SUBUNIT	Homotetramer or heterotetramer of pore-forming glutamate receptor subunits. Tetramers may be formed by the dimerization of dimers (Probable). Assembles into a kainate-gated homomeric channel that does not bind AMPA. GRIK2 associated to GRIK5 forms functional channels that can be gated by AMPA (By similarity). Interacts with DLG4. Interacts with NETO2 (By similarity). Interacts (via C-terminus) with KLHL17 (via kelch repeats); the interaction targets GRIK2 for degradation via ubiquitin-proteasome pathway (By similarity).
Post-translational modifications	Sumoylation mediates kainate receptor-mediated endocytosis and regulates synaptic transmission. Sumoylation is enhanced by PIAS3 and desumoylated by SENP1. Ubiquitinated. Ubiquitination regulates the GRIK2 levels at the synapse by leading kainate receptor degradation through proteasome. Phosphorylated by PKC at Ser-868 upon agonist activation, this directly enhance sumoylation.
DISEASE	Defects in GRIK2 are the cause of mental retardation autosomal recessive type 6 (MRT6) [MIM:611092]. It is characterized by significantly sub-average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. In contrast to syndromic or specific mental retardation which also present with associated physical, neurological and/or psychiatric manifestations, intellectual deficiency is the only primary symptom of non-syndromic mental retardation. MRT6 patients display mild to severe mental retardation and psychomotor development delay in early childhood. Patients do not have neurologic problems, congenital malformations, or facial dysmorphism. Body height, weight, and head circumference are normal.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Ionotropic glutamate receptor. 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.

Additional Information

Gene ID	2898
Other Names	GRIK2_HUMAN; GRIK2; GluK2; Excitatory amino acid receptor 4 (EAA4); Glutamate receptor 6 (GluR-6 | GluR6); GLUR6; GRIK2_MOUSE; Glutamate receptor beta-2 (GluR beta-2); GRIK2_RAT; glutamate ionotropic receptor kainate type subunit 2; glutamate receptor, ionotropic, kainate 2; excitatory amino acid receptor 4'
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GRIK2
Synonyms	GLUR6
Function	Ionotropic glutamate receptor that functions as a cation- permeable ligand-gated ion channel, gated by L-glutamate and the glutamatergic agonist kainic acid (PubMed:7536611, PubMed:8730589, PubMed:14511640). L-glutamate acts as an excitatory neurotransmitter at many synapses in the central nervous system (By similarity). Binding of the excitatory neurotransmitter L-glutamate induces a conformational change leading to the opening of the cation channel, converting the chemical signal to an electrical impulse (By similarity). The receptor then desensitizes rapidly and enters a transient inactive state, characterized by the presence of bound agonist (PubMed:14511640, PubMed:28180184, PubMed:34375587, PubMed:7536611, PubMed:8730589). Modulates cell surface expression of NETO2 (By similarity). In association with GRIK3, involved in presynaptic facilitation of glutamate release at hippocampal mossy fiber synapses (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P42260}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:P42260}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P42260}
Tissue Location	Expression is higher in cerebellum than in cerebral cortex.

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