10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GRIK2 Rabbit pAb

Catalog # AP100114

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q13002
Other Accession	Q13002
Predicted	Rat, Pig, Human, Mouse, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	102583
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GRIK2/GLR6
Epitope Specificity	164-270/908
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% 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	Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neurodegeneration. Ionotropic glutamate receptors are categorized into

NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Kainate/AMPA receptors are co-localized with NMDA receptors in many synapses and consist of seven structurally related subunits designated GluR-1 to -7. The kainate/AMPA receptors are primarily responsible for the fast excitatory neuro-transmission by glutamate, whereas the NMDA receptors are functionally characterized by a slow kinetic and a high permeability for Ca2+ ions. The NMDA receptors consist of five subunits: epsilion 1, 2, 3, 4 and one zeta subunit. The zeta subunit is expressed throughout the brainstem, whereas the four epsilon subunits display limited distribution.

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	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.