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GRID1 Rabbit pAb

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Catalog # AP54725

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9ULK0
Reactivity	Human
Predicted	Rat, Dog, Mouse, Chicken, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	112131
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GRID1
Epitope Specificity	501-600/1009
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane; Multi-pass membrane protein (By similarity). Cell junction, synapse, postsynaptic cell membrane; Multi-pass membrane protein (By similarity).
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 neurotransmissions in the brain and play an important role in neural plasticity, neural development and neurodegeneration. Ionotropic glutamate receptors are divided into two categories, namely NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Kainate/AMPA receptors consist of seven structurally related subunits, designated GluR-1 to -7, and are primarily responsible for fast excitatory neurotransmissions carried out by glutamate. GluR-delta 1 (Glutamate receptor delta-1 subunit), also known as GRID1, is a multi-pass membrane protein that belongs to the kainate/AMPA receptor family and is expressed primarily in the brain. Localized to the cell junction and the postsynaptic cell membrane, GluR-delta 1 functions as a glutamate receptor that regulates synaptic transmissions in the central nervous system (CNS) and is thought to play an important role in synaptic plasticity. Defects in the gene encoding GluR-delta 1 are associated with schizophrenia, a chronic and severe brain disorder.

Additional Information

Gene ID	2894
Other Names	Glutamate receptor ionotropic, delta-1, GluD1, GluR delta-1 subunit, GRID1 (HGNC:4575), KIAA1220

Dilution	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	GRID1 (HGNC:4575)
Synonyms	KIAA1220
Function	Member of the ionotropic glutamate receptor family, which plays a crucial role in synaptic organization and signal transduction in the central nervous system. Although it shares structural features with ionotropic glutamate receptors, does not bind glutamate as a primary ligand (PubMed:38060673). Instead, forms trans-synaptic adhesion complexes with presynaptic neurexins and cerebellins, regulating NMDA and AMPA receptor activity and influencing synaptic plasticity through signal transduction (By similarity). In the presence of neurexins and cerebellins, forms cation-selective channels that are proposed to be gated by glycine and D-serine (By similarity). However, recent research disputes this ligand-gated cation channel activity (PubMed:39052831). Cation-selective ion channel can be triggered by GRM1 in dopaminergic neurons (By similarity). Also acts as a receptor for GABA, modulating inhibitory synaptic plasticity through non- ionotropic mechanisms (PubMed:38060673).
Cellular Location	Postsynaptic cell membrane; Multi-pass membrane protein

Background

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