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Product datasheet for TA328845

Grid1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)KDMRKLATWDSEK, corresponding to amino acid residues 407-419 of rat GluD1. Extracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	glutamate ionotropic receptor delta type subunit 1
Database Link:	NP_077354 Entrez Gene 2894 HumanEntrez Gene 14803 MouseEntrez Gene 79219 Rat Q62640

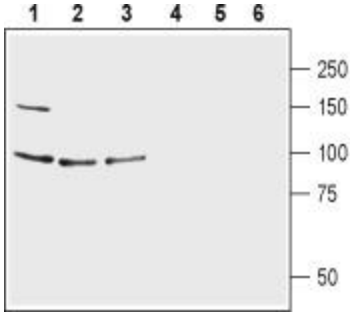
View online »

Background: Excitatory neurotransmission in the vertebrate central nervous system is mainly mediated by ionotropic glutamate receptors (iGluRs). Molecular cloning identified 18 mammalian iGluR subunits, of which only 16 sort into the traditional pharmacological subfamilies of AMPA, kainate (KA), and N-methyl-D-aspartate (NMDA) receptors. The 2 remaining subunits were termed â??orphanâ?? receptors, â??glutamate-likeâ?? receptors, â??nonionotropicâ?? receptors, or, most commonly, delta receptors.Ionotropic glutamate receptors are integral membrane proteins composed of four large subunits that form a central ion channel pore. Sequence similarity among all known glutamate receptor subunits, including the d receptors, suggests they share a similar architecture. Glutamate receptor subunits are modular structures that contain four discrete semiautonomous domains: the extracellular amino-terminal domain (ATD), the extracellular ligand-binding domain (LBD), the transmembrane domain (TMD), and an intracellular carboxyl-terminal domain (CTD). The delta family of ionotropic glutamate receptors (iGluRs) consists of the glutamate d1 (GluD1) and glutamate d2 (GluD2) receptors. GluD1 is highly expressed in the inner hair cells of the organ of Corti, diffusely expressed throughout the forebrain during development with high levels in the hippocampus during adulthood. Deletion of GluD1 leads to a deficit in high frequency hearing in mice5. Genetic association studies have established the GRID1 gene, which codes for GluD1, is a strong candidate gene for schizophrenia, bipolar disorder, and major depressive disorder6. Copy number variation studies have also implicated GRID1 in autism spectrum disorder (ASD). In addition, GRID1 gene is localized to the 10q22â??q23 genomic region which is a site for recurrent deletions associated with cognitive and behavioral abnormalities.

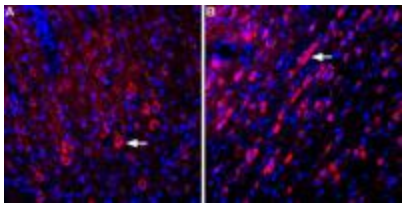
Synonyms: GluD1; KIAA1220; OTTHUMP00000059648

Note: This antibody was tested in live cell imaging. Please see IF/ICC data for detail.

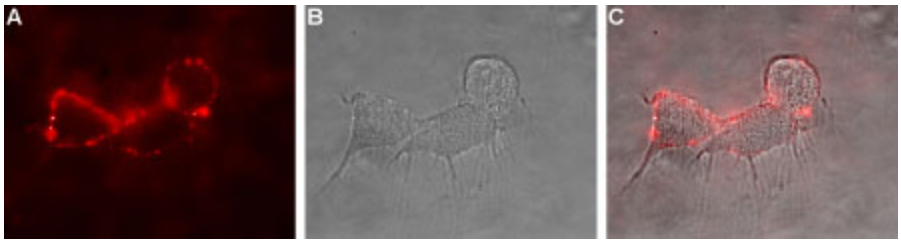
Product images:



Western blot analysis of human CCF-STTG1 astrocytoma cell lysate (lanes 1 and 4), mouse brain lysate (lanes 2 and 5) and rat brain lysate (lines 3 and 6): 1-3. Anti-Glutamate Receptor d1 (GluD1) (extracellular) antibody, (1:200). 4-6. Anti-Glutamate Receptor d1 (GluD1) (extracellular) antibody, preincubated with the control peptide antigen.



Expression of Glutamate Receptor d1 in rat cortex and medial septum. Immunohistochemical staining of perfusion-fixed frozen rat brain sections using Anti-Glutamate Receptor δ1 (GluD1) (extracellular) antibody, (1:400). A. Staining in cortex. B. Staining in medial septum. In both regions, GluD1 expression (red) is detected in neurons (arrows). DAPI is used as the counterstain (blue).



Expression of GluD1 in rat PC12 cells. Immunocytochemical staining of live intact rat PC12 pheochromocytoma cells. A. Extracellular staining of cells with Anti-Glutamate Receptor d1 (GluD1) (extracellular) antibody, (1:50), followed by goat anti-rabbit-AlexaFluor-594 secondary antibody (red). B. Live view of the cells. C. Merge of A and B.