

GRIN2B

Purified Mouse Monoclonal Antibody

Catalog # AO2659a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	Q13224
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	6E9A8
Isotype	Mouse IgG1
Calculated MW	166367
Immunogen	Purified recombinant fragment of human GRIN2B (AA: extra 27-163) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	2904
Other Names	MRD6; NR2B; hNR3; EIEE27; GluN2B; NMDAR2B
Dilution	WB~~ 1/500 - 1/2000 IHC~~1:100~500 ICC~~ 1/100 - 1/500 E~~ 1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GRIN2B is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRIN2B {ECO:0000303 Ref.3, ECO:0000312 HGNC:HGNC:4586}
Function	Component of N-methyl-D-aspartate (NMDA) receptors (NMDARs) that function as heterotetrameric, ligand-gated cation channels with high calcium permeability and voltage-dependent block by Mg(2+) (PubMed: 24272827 , PubMed: 24863970 , PubMed: 26875626 , PubMed: 26919761 , PubMed: 27839871 , PubMed: 28095420 , PubMed: 28126851 , PubMed: 38538865 , PubMed: 8768735). Participates in synaptic plasticity for learning and memory formation by contributing to the long-term depression (LTD) of hippocampus membrane currents (By similarity). Channel activation requires binding of the neurotransmitter L-glutamate to the GluN2 subunit,

glycine or D-serine binding to the GluN1 subunit, plus membrane depolarization to eliminate channel inhibition by Mg(2+) (PubMed:[24272827](#), PubMed:[24863970](#), PubMed:[26875626](#), PubMed:[26919761](#), PubMed:[27839871](#), PubMed:[28095420](#), PubMed:[28126851](#), PubMed:[38538865](#), PubMed:[8768735](#)). NMDARs mediate simultaneously the potassium efflux and the influx of calcium and sodium (By similarity). Each GluN2 subunit confers differential attributes to channel properties, including activation, deactivation and desensitization kinetics, pH sensitivity, Ca2(+) permeability, and binding to allosteric modulators (PubMed:[26875626](#), PubMed:[28095420](#), PubMed:[28126851](#), PubMed:[38538865](#), PubMed:[8768735](#)). In concert with DAPK1 at extrasynaptic sites, acts as a central mediator for stroke damage. Its phosphorylation at Ser-1303 by DAPK1 enhances synaptic NMDA receptor channel activity inducing injurious Ca2+ influx through them, resulting in an irreversible neuronal death (By similarity).

Cellular Location

Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q00960}; Multi-pass membrane protein. Cell projection, dendrite. Late endosome {ECO:0000250|UniProtKB:Q01097}. Lysosome {ECO:0000250|UniProtKB:Q01097}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:Q01097}. Note=Co-localizes with the motor protein KIF17 along microtubules. {ECO:0000250|UniProtKB:Q01097}

Tissue Location

Primarily found in the fronto-parieto-temporal cortex and hippocampus pyramidal cells, lower expression in the basal ganglia.

References

1.J Neural Transm (Vienna). 2014 May;121(5):533-42. 2.Psychopharmacology (Berl). 2014 Feb;231(4):685-93.

Images

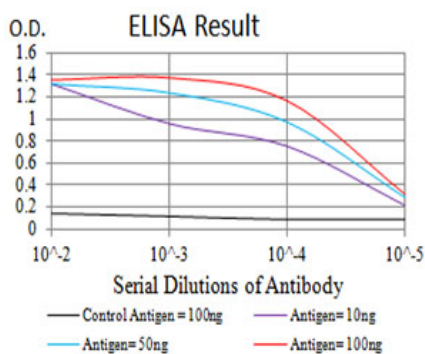


Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

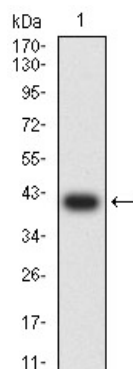


Figure 2:Western blot analysis using GRIN2B mAb against human GRIN2B (AA: extra 27-163) recombinant protein. (Expected MW is 41 kDa)

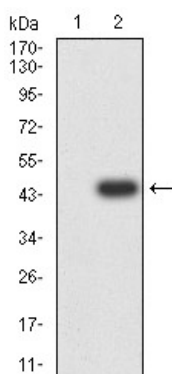


Figure 3: Western blot analysis using GRIN2B mAb against HEK293 (1) and GRIN2B (AA: extra 27-163)-hIgGfc transfected HEK293 (2) cell lysate.

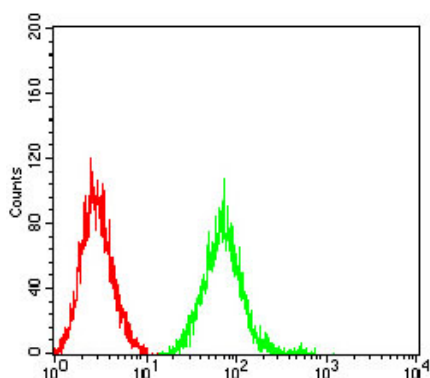


Figure 6: Flow cytometric analysis of SK-N-SH cells using GRIN2B mouse mAb (green) and negative control (red).

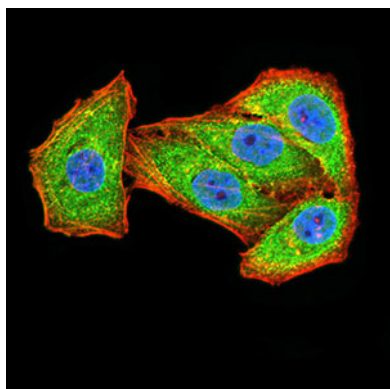


Figure 4: Immunofluorescence analysis of HeLa cells using GRIN2B mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

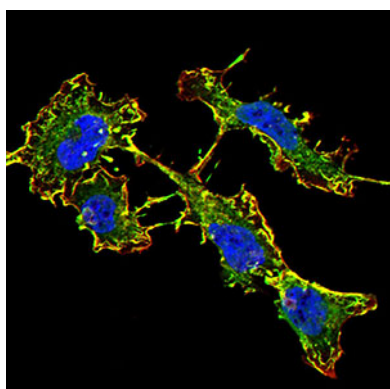


Figure 5: Immunofluorescence analysis of SK-N-SH cells using GRIN2B mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

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