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

GRIN2A

Purified Mouse Monoclonal Antibody
Catalog # AO2608a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	Q12879
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3G10F9
Isotype	Mouse IgG1
Calculated MW	165283
Immunogen	Purified recombinant fragment of human GRIN2A (AA: extra 23-165) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	2903
Other Names	LKS; EPND; FESD; NR2A; GluN2A; NMDAR2A
Dilution	WB~~ 1/500 - 1/2000 IHC~~1:100~500 ICC~~N/A 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	GRIN2A is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRIN2A (HGNC:4585)
Synonyms	NMDAR2A
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:20890276, PubMed:23933818, PubMed:23933819, PubMed:23933820, PubMed:24504326, PubMed:26875626, PubMed:26919761, PubMed:28242877, PubMed:36117210, PubMed:38538865, PubMed:8768735). NMDARs participate in synaptic plasticity for learning and

memory formation by contributing to the slow phase of excitatory postsynaptic current, long-term synaptic potentiation, and learning (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:23933818, PubMed:23933819, PubMed:23933820, PubMed:24504326, PubMed:26875626, PubMed:26919761, PubMed:27288002, PubMed:28095420, PubMed:28105280, PubMed:28126851, PubMed:28182669, PubMed:29644724, PubMed:38307912, 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:26919761). Participates in the synaptic plasticity regulation through activation by the L- glutamate releaseed by BEST1, into the synaptic cleft, upon F2R/PAR-1 activation in astrocyte (By similarity).

Cellular Location

Cell projection, dendritic spine {ECO:0000250|UniProtKB:Q00959}. Cell membrane; Multi-pass membrane protein. Synapse {ECO:0000250|UniProtKB:P35436} Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q00959}; Multi-pass membrane protein. Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:P35436}. Note=Expression at the dendrite cell membrane and at synapses is regulated by SORCS2 and the retromer complex. {ECO:0000250|UniProtKB:P35436}

References

1.PLoS Genet. 2014 Nov 20;10(11):e1004788.2.PLoS One. 2014 Jun 10;9(6):e99294.

Images

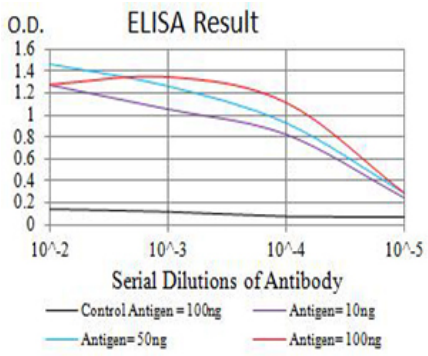


Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

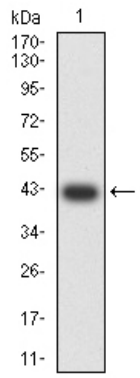


Figure 2:Western blot analysis using GRIN2A mAb against human GRIN2A (AA: extra 23-165) recombinant protein. (Expected MW is 41.3 kDa)

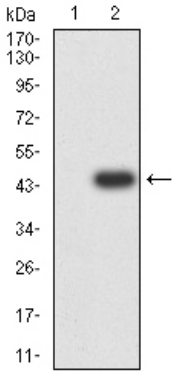


Figure 3:Western blot analysis using GRIN2A mAb against HEK293 (1) and GRIN2A (AA: extra 23-165)-hIgGFc transfected HEK293 (2) cell lysate.

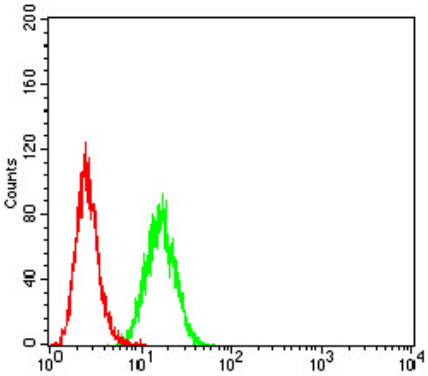


Figure 4:Flow cytometric analysis of Hela cells using GRIN2A mouse mAb (green) and negative control (red).

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