

# GRIN2A

Purified Mouse Monoclonal Antibody  
Catalog # AO2608a

## Product Information

---

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

## Additional Information

---

<b>Gene ID</b>	2903
<b>Other Names</b>	LKS; EPND; FESD; NR2A; GluN2A; NMDAR2A
<b>Dilution</b>	WB~~ 1/500 - 1/2000 IHC~~1:100~500 ICC~~N/A E~~ 1/10000
<b>Storage</b>	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.
<b>Precautions</b>	GRIN2A is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

---

<b>Name</b>	GRIN2A ( <a href="#">HGNC:4585</a> )
<b>Synonyms</b>	NMDAR2A
<b>Function</b>	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: <a href="#">20890276</a> , PubMed: <a href="#">23933818</a> , PubMed: <a href="#">23933819</a> , PubMed: <a href="#">23933820</a> , PubMed: <a href="#">24504326</a> , PubMed: <a href="#">26875626</a> , PubMed: <a href="#">26919761</a> , PubMed: <a href="#">28242877</a> , PubMed: <a href="#">36117210</a> , PubMed: <a href="#">38538865</a> , PubMed: <a href="#">8768735</a> ). 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,  $Ca^{2+}$  permeability, and binding to allosteric modulators (PubMed:[26875626](#), PubMed:[26919761](#)). Participates in the synaptic plasticity regulation through activation by the L- glutamate released 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

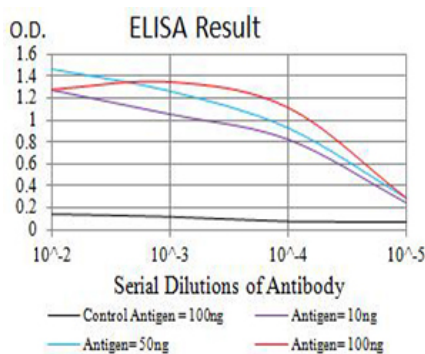


Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

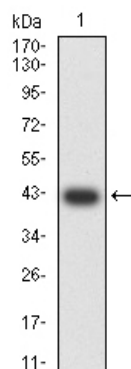


Figure 2:Western blot analysis using GRIN2A mAb against human GRIN2A (AA: extra 23-165) recombinant protein. (Expected MW is 41.3 kDa)

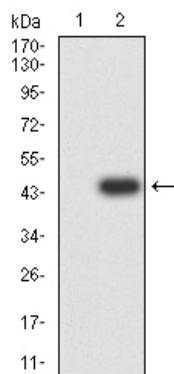


Figure 3: Western blot analysis using GRIN2A mAb against HEK293 (1) and GRIN2A (AA: extra 23-165)-hIgGFc transfected HEK293 (2) cell lysate.

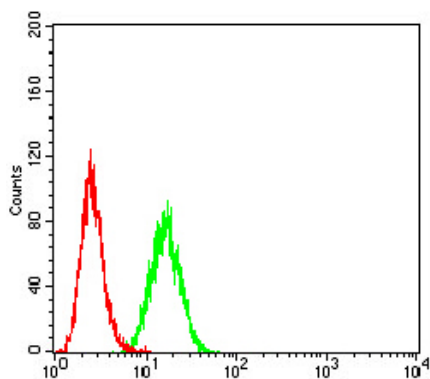


Figure 4: Flow cytometric analysis of Hela cells using GRIN2A mouse mAb (green) and negative control (red).

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