Datasheet for ABIN7043228

anti-NMDAR2A antibody (Extracellular)

5 Images

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Overview

Quantity:	25 µL
Target:	NMDAR2A (GRIN2A)
Binding Specificity:	AA 41-53, Extracellular
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This NMDAR2A antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunoprecipitation (IP), Immunofluorescence (Cultured Cells) (IF (cc)), Immunochromatography (IC), Live Cell Imaging (LCI)

Product Details

Purpose:	A Rabbit Polyclonal Antibody to NMDA Receptor 2A (GluN2A)
Immunogen:	Immunogen: Synthetic peptide Immunogen Sequence: GHSHDVTERELRN(C), corresponding to amino acid residues 41-53 of rat NR2A
Isotype:	IgG
Specificity:	Extracellular, N-terminus
Cross-Reactivity:	Human, Mouse, Rat
Predicted Reactivity:	Human,mouse - identical

Product Details

Characteristics:	Anti-NMDAR2A (GluN2A) (extracellular) Antibody (ABIN7043228, ABIN7044324 and ABIN7044325) is a highly specific antibody directed against an epitope of the rat protein. The antibody can be used in western blot, immunoprecipitation, immunocytochemistry, and immunohistochemistry. The antibody recognizes an extracellular epitope and is thus ideal for detecting GluN2A in living cells. It has been designed to recognize GluN2A from rat, mouse, and human samples.
Purification:	Affinity purified on immobilized antigen.

Target Details

Target:	NMDAR2A (GRIN2A)
Alternative Name:	GRIN2A (GRIN2A Products)
Background:	NMDA receptor 2A, NR2A, GRIN2A, Ionotropic glutamate receptor subunit ε1, N-methyl-D-aspartate receptor subunit 2A,The NMDA receptors are members of the glutamate receptor family of ion channels that also include the AMPA and Kainate receptors.The NMDA receptors are encoded by seven genes: one NMDAR1 (or NR1) subunit, four NR2 (NR2A-NR2D) and two NR3 (NR3A-NR3B) subunits. The functional NMDA receptor appears to be a heterotetramer composed of two NMDAR1 and two NMDAR2 subunits. Whereas the NMDAR2 subunits that assemble with the NMDAR1 subunit can be either of the same kind (i.e. two NMDAR2A subunits) or different (one NMDAR2A with one NMDAR2B). NMDAR3 subunits can substitute the NMDAR2 subunits in their complex with the NMDAR1 subunit.The NMDAR is unique among ligand-gated ion channels in that it requires the simultaneous binding of two obligatory agonists: glycine and glutamate that bind to the NMDAR1 and NMDAR2 binding sites respectively. Another unique characteristic of the NMDA receptors is their dependence on membrane potential. At resting membrane potentials the channels are blocked by extracellular Mg2+. Neuronal depolarization relieves the Mg2+ blockage and allows ion influx into the cells. NMDA receptors are strongly selective for Ca2+ influx differing from the other glutamate receptor ion channels that are non-selective cation channels.Ca2+ entry through the NMDAR regulates numerous downstream signaling pathways including long term potentiation (a molecular model of memory) and synaptic plasticity that may underlie learning. In addition, the NMDA receptors have been implicated in a variety of neurological disorders including epilepsy, ischemic brain damage, Parkinson's and Alzheimer's disease.NMDA receptors expression and function are modulated by a variety of factors including receptor trafficking to the synapses and internalization as well as phosphorylation and interaction with other intracellular proteins.

Target Details

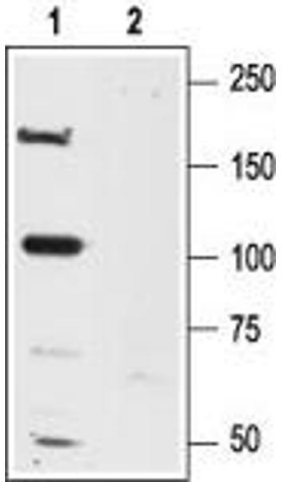
	Alternative names: NMDAR2A (GluN2A), NMDA receptor 2A, Ionotropic glutamate receptor subunit epsilon1, N-methyl-D-aspartate receptor subunit 2A, GRIN2A, GLUN2A, NR2A
Gene ID:	24409
NCBI Accession:	NM_000833
UniProt:	Q00959
Pathways:	Synaptic Membrane, Regulation of long-term Neuronal Synaptic Plasticity

Application Details

Application Notes:	Antigen preadsorption control: 1 µg peptide per 1 µg antibody Application Dilutions Immunohistochemistry paraffin embedded sections ihc: 1:200 Application Dilutions Western blot wb: 1:600
Comment:	Cited Application: IP|IHC Negative Control: (ABIN7235626) Blocking Peptide: (ABIN7235626)
Restrictions:	For Research Use only

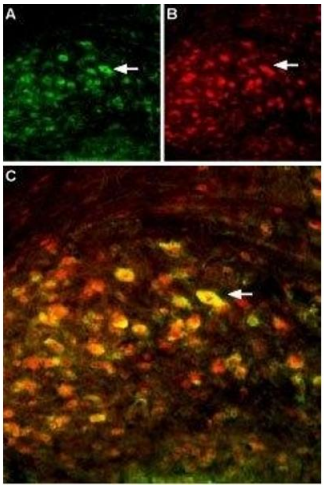
Handling

Format:	Lyophilized
Reconstitution:	Recosntitute with double distilled water (DDW) to a concentration of 1.0 mg/mL.
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4
Storage:	4 °C,-20 °C
Storage Comment:	Storage before reconstitution: The antibody ships as a lyophilized powder at room temperature. Upon arrival, it should be stored at -20°C. Storage after reconstitution: The reconstituted solution can be stored at 4°C for up to 1 week. For longer periods, small aliquots should be stored at -20°C. Avoid multiple freezing and thawing. Centrifuge all antibody preparations before use (10000 x g 5 min).



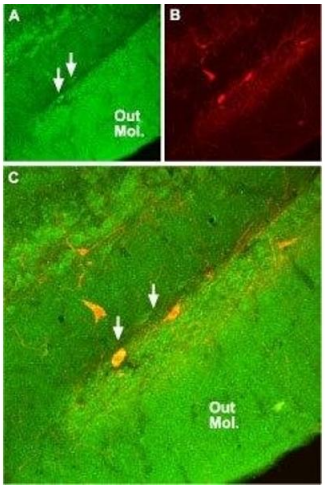
Western Blotting

Image 1. Western blot analysis of rat brain lysates: - 1. Anti-NMDAR2A (GluN2A) (extracellular) Antibody (ABIN7043228, ABIN7044324 and ABIN7044325), (1:600).2. Anti-NMDAR2A (GluN2A) (extracellular) Antibody, preincubated with NMDAR2A/GluN2A (extracellular) Blocking Peptide (#BLP-GC002).



Immunohistochemistry

Image 2. Multiplex staining of GluN2A and GluN2B in mouse deep cerebellar nucleus - Immunohistochemical staining of perfusion-fixed frozen mouse brain sections using Anti-NMDAR2B (GluN2B) (extracellular)-ATTO Fluor-594 Antibody (ABIN7043231), (1:60) and Anti-NMDAR2A (GluN2A) (extracellular) Antibody (ABIN7043228, ABIN7044324 and ABIN7044325), (1:200). A. Sections were incubated with Anti-NMDAR2A (GluN2A) (extracellular) Antibody, followed by goat anti-rabbit-Alexa-488 (green). B. The same sections were incubated with Anti-NMDAR2B (GluN2B) (extracellular)-ATTO Fluor-594 Antibody (red). C. Merge of A and B demonstrates the ubiquitous colocalization of the GluN2A and GluN2B subunits in cells with neuronal profiles in this nucleus. Arrows point at an example of NR2A and NR2B co-expression.



Immunohistochemistry

Image 3. Expression of NR2A in rat hippocampus - Immunohistochemical staining of rat hippocampal dentate gyrus with Anti-NMDAR2A (GluN2A) (extracellular) Antibody (ABIN7043228, ABIN7044324 and ABIN7044325). A. NMDAR2A (green) appears diffusely in the outer molecular layer of the dentate gyrus (Out Mol.) and in cells along the subgranular layer (arrows). B. Staining of parvalbumin (PV, red) identifies interneurons in the dentate gyrus. C. Confocal merge demonstrates localization of PV in some neurons with NMDAR2A.

Please check the product details page for more images. Overall 5 images are available for ABIN7043228.