abcam

Product datasheet

Anti-NMDAR1 antibody [EPR2481(2)] - BSA and Azide free ab239949

KO VALIDATED Recombinant RabMAb

3 Images

Overview

Product name	Anti-NMDAR1 antibody [EPR2481(2)] - BSA and Azide free
Description	Rabbit monoclonal [EPR2481(2)] to NMDAR1 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB **Unsuitable for:** IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	ICC/IF: Mouse primary neuron cells
General notes	ab239949 is the carrier-free version of **ab109182**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR2481(2)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab239949 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

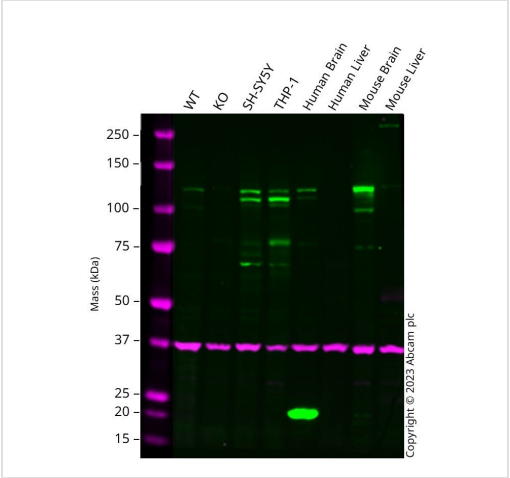
Application	Abreviews	Notes
ICC/IF		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Detects a band of approximately 120 kDa (predicted molecular weight: 105 kDa).

Application notes Is unsuitable for IHC-P.

Target

Function	NMDA receptor subtype of glutamate-gated ion channels with high calcium permeability and voltage-dependent sensitivity to magnesium. Mediated by glycine. This protein plays a key role in synaptic plasticity, synaptogenesis, excitotoxicity, memory acquisition and learning. It mediates neuronal functions in glutamate neurotransmission. Is involved in the cell surface targeting of NMDA receptors.
Sequence similarities	Belongs to the glutamate-gated ion channel (TC 1.A.10.1) family. NR1/GRIN1 subfamily.
Post-translational modifications	NMDA is probably regulated by C-terminal phosphorylation of an isoform of NR1 by PKC. Dephosphorylated on Ser-897 probably by protein phosphatase 2A (PPP2CB). Its phosphorylated state is influenced by the formation of the NMDAR-PPP2CB complex and the NMDAR channel activity.
Cellular localization	Cell membrane. Cell junction > synapse > postsynaptic cell membrane. Cell junction > synapse > postsynaptic cell membrane > postsynaptic density. Enriched in post-synaptic plasma membrane and post-synaptic densities.

Images



Western blot - Anti-NMDAR1 antibody [EPR2481(2)] - BSA and Azide free (ab239949)

All lanes : Anti-NMDAR1 antibody [EPR2481(2)] (**ab109182**) at 1/1000 dilution

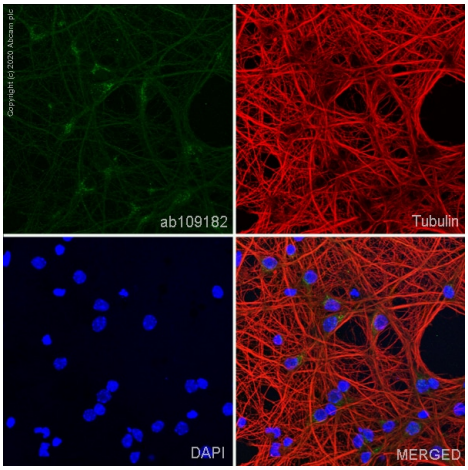
Lane 1 : Wild-type Neuro-2a cell lysate
Lane 2 : GRIN1 knockout Neuro-2a cell lysate
Lane 3 : SH-SY5Y UNBOILED cell lysate
Lane 4 : THP-1 UNBOILED cell lysate
Lane 5 : Human Brain UNBOILED cell lysate
Lane 6 : Human Liver UNBOILED cell lysate
Lane 7 : Mouse Brain UNBOILED cell lysate
Lane 8 : Mouse Liver UNBOILED cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 105 kDa

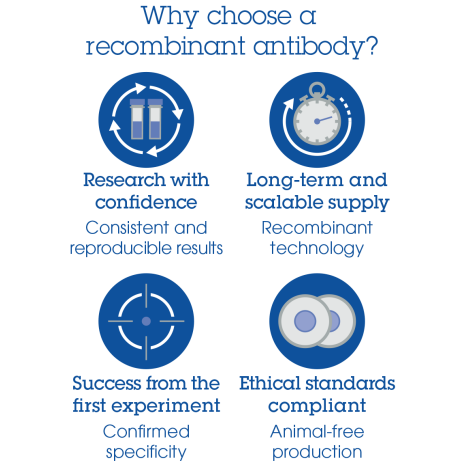
Western blot: Anti-GRIN1 antibody [EPR2481(2)] (**ab109182**) staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (**ab8245**) loading control staining at 1/20000 dilution, shown in magenta. In Western blot, **ab109182** was shown to bind specifically to GRIN1. A band was observed at 120 kDa in wild-type Neuro-2a cell lysates with no signal observed at this size in GRIN1 knockout cell line **ab281960** (knockout cell lysate **ab282987**). To generate this image, wild-type and GRIN1 knockout Neuro-2a cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% milk in TBS-0.1% Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-NMDAR1 antibody [EPR2481(2)] - BSA and Azide free (ab239949)

Immunocytochemistry/ Immunofluorescence analysis of mouse primary neuron cells labeling NMDAR1 with purified **ab109182** at 1/50 (9.5µg/mL). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109182**).



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