

Product datasheet

Anti-NMDAR1 antibody [EPR2481(2)] ab109182

KO VALIDATED Recombinant RabMAb

★★★★☆ 4 Abreviews 58 References 7 Images

Overview

| | |
|---------------------|---|
| Product name | Anti-NMDAR1 antibody [EPR2481(2)] |
| Description | Rabbit monoclonal [EPR2481(2)] to NMDAR1 |
| Host species | Rabbit |
| Tested applications | Suitable for: WB, ICC/IF 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 | Fetal brain cell lysate. ICC/IF: Mouse primary neuron cells |
| General notes | This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> - 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 -20°C. Stable for 12 months at -20°C. |
| Storage buffer | pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 59% PBS, 0.05% BSA |
| Purity | Protein A purified |
| Clonality | Monoclonal |
| Clone number | EPR2481(2) |
| Isotype | IgG |

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109182 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

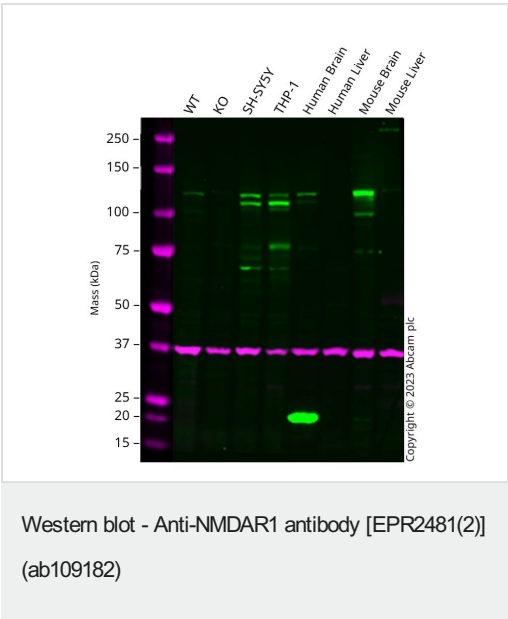
| Application | Abreviews | Notes |
|-------------|-----------|--|
| WB | ★★★★★ (4) | 1/1000 - 1/10000. Detects a band of approximately 120 kDa (predicted molecular weight: 105 kDa). |
| ICC/IF | | 1/50. |

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



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

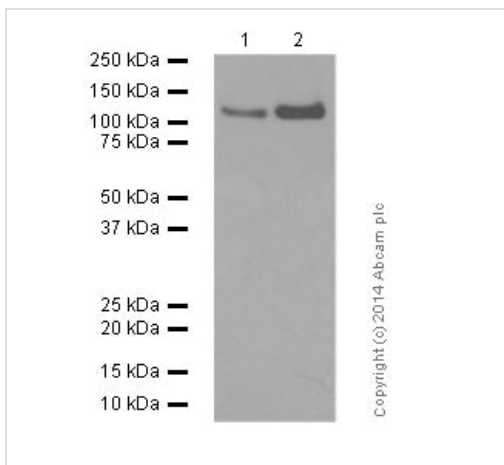
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 105 kDa

Observed band size: 120 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.



Western blot - Anti-NMDAR1 antibody [EPR2481(2)] (ab109182)

All lanes : Anti-NMDAR1 antibody [EPR2481(2)] (ab109182) at 1/5000 dilution (purified)

Lane 1 : Mouse brain tissue lysate

Lane 2 : Rat brain tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary

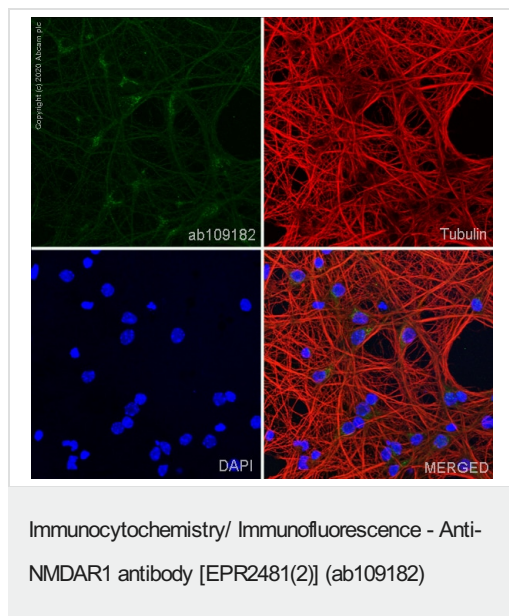
All lanes : HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 105 kDa

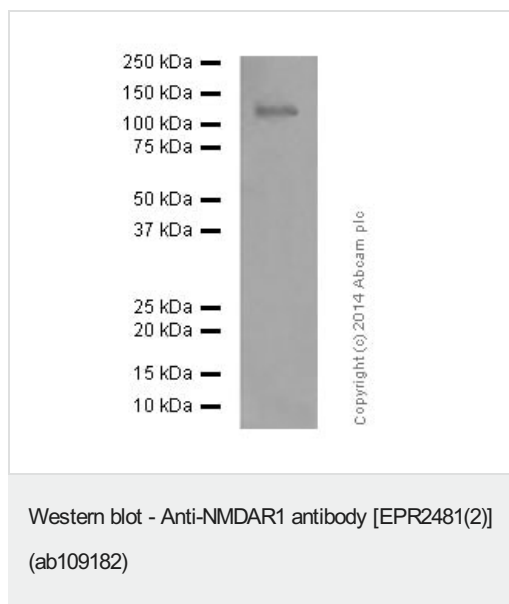
Observed band size: 120 kDa

Blocking buffer: 5% NFDM/TBST

Dilution buffer: 5% NFDM/TBST



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.



Anti-NMDAR1 antibody [EPR2481(2)] (ab109182) at 1/1000 dilution (purified) + Human cerebellum tissue lysate at 20 µg

Secondary

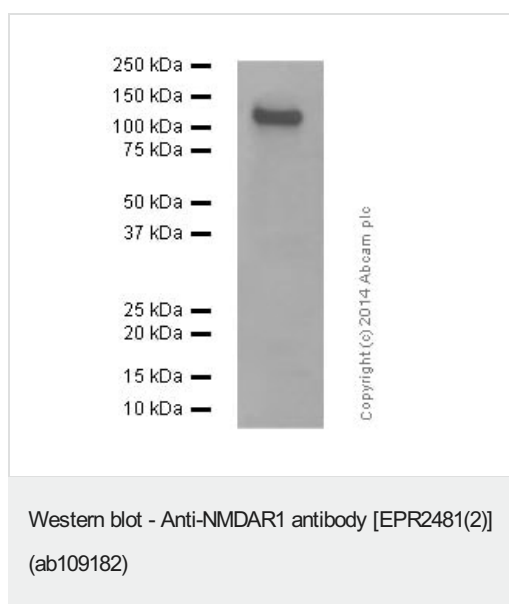
HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 105 kDa

Observed band size: 120 kDa

Blocking buffer: 5% NFDM/TBST

Dilution buffer: 5% NFDM/TBST



Anti-NMDAR1 antibody [EPR2481(2)] (ab109182) at 1/5000 dilution (purified) + Human fetal brain tissue lysate at 20 µg

Secondary

HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 105 kDa

Observed band size: 120 kDa

Blocking buffer: 5% NFDM/TBST

Dilution buffer: 5% NFDM/TBST



Western blot - Anti-NMDAR1 antibody [EPR2481(2)]
(ab109182)

Anti-NMDAR1 antibody [EPR2481(2)] (ab109182) at 1/1000
dilution (unpurified) + Human fetal brain cell lysate at 10 µg

Predicted band size: 105 kDa

Observed band size: 120 kDa

Secondary antibody - **anti-rabbit HRP (ab6721)**

Why choose a recombinant antibody?



**Research with
confidence**
Consistent and
reproducible results



**Long-term and
scalable supply**
Recombinant
technology



**Success from the
first experiment**
Confirmed
specificity



**Ethical standards
compliant**
Animal-free
production

Anti-NMDAR1 antibody [EPR2481(2)] (ab109182)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors