Product Datasheet

NMDAR2A Antibody - C-terminus - Azide Free
NB300-105-100ul

Unit Size: 100 ul

Store at -20C. Avoid freeze-thaw cycles.

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Publications: 17

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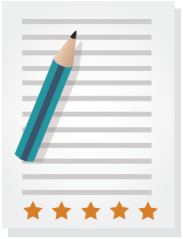
Updated 8/21/2025 v.20.1



NB300-105-100ul

NMDAR2A Antibody - C-terminus - Azide Free

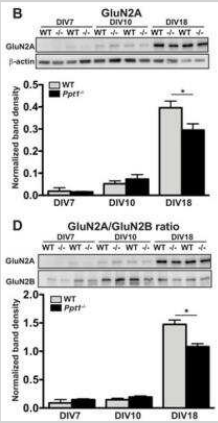
Product Information	
Unit Size	100 ul
Concentration	Please see the vial label for concentration. If unlisted please contact technical services.
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	No Preservative
Isotype	IgG
Purity	Antigen Affinity-purified
Buffer	10mM HEPES (pH 7.5), 0.15M NaCl, 0.1 mg/ml BSA and 50% Glycerol
Target Molecular Weight	180 kDa

Product Description	
Description	PLEASE NOTE: If 0.01mg size is ordered, product will come lyophilized from 5 mM ammonium bicarbonate. Please reconstitute lyophilized product in 50 ul phosphate buffered saline (PBS: 137 mM NaCl, 7.5 mM Na2HPO4, 2.7 mM KCl, 1.5 mM KH2PO4, pH 7.4)
Host	Rabbit
Gene ID	2903
Gene Symbol	GRIN2A
Species	Human, Mouse, Rat, Rabbit
Reactivity Notes	Use in Mouse reported in scientific literature (PMID:35354047).
Specificity/Sensitivity	Specific for endogenous levels of the ~180 kDa NR2A subunit of the NMDA receptor. No reactivity towards the NR2B and NR2C subunits. Immunolabeling is blocked by pre-adsorption of antibody with the fusion protein used to generate the antibody.
Immunogen	Fusion protein from the C-terminal region of the NR2A subunit. Accession # Q00959

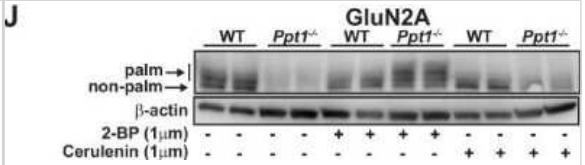
Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Immunohistochemistry, Immunoprecipitation, Knockout Validated
Recommended Dilutions	Western Blot 1:1000, Immunohistochemistry 1:1000 - 1:2000, Immunoprecipitation 3 ul per 200 ug lysate, Immunohistochemistry-Paraffin 1:1000, Knockout Validated
Application Notes	NB 300-105 can be used in Western blot where a band is seen at ~ 180 kDa representing the NMDAR2A.

Images

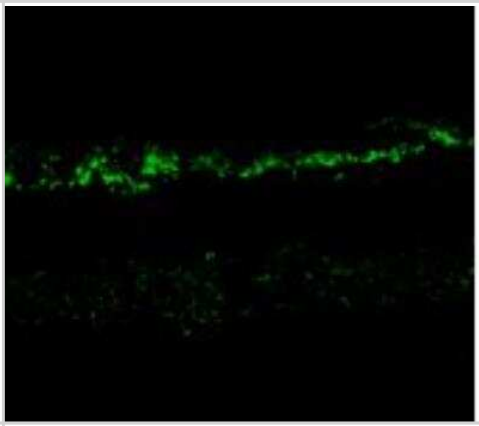
Western Blot: NMDAR2A Antibody [NB300-105] - GluN2B to GluN2A NMDAR switch and Ppt1-/--induced synaptic deficits are recapitulated in primary cortical neurons. (B) Representative immunoblot (top) and quantification of GluN2A levels (bottom) in WT and Ppt1-/- neurons at DIV7, 10, and 18. (D) Representative immunoblot (top) and quantification of the GluN2A/2B ratio (bottom) in WT and Ppt1-/- neurons at DIV7, 10, and 18. For all experiments in Figure 5, Ppt1-/- and WT were compared (n = 2 independent experiments with two repetitions/group) at each time point using t-test and the significance indicated as follows: *p<0.05 where indicated. Error bars represent s.e.m. Image collected and cropped by CiteAb from the following publication (https://elifesciences.org/articles/40316) licensed under a CC-BY license.



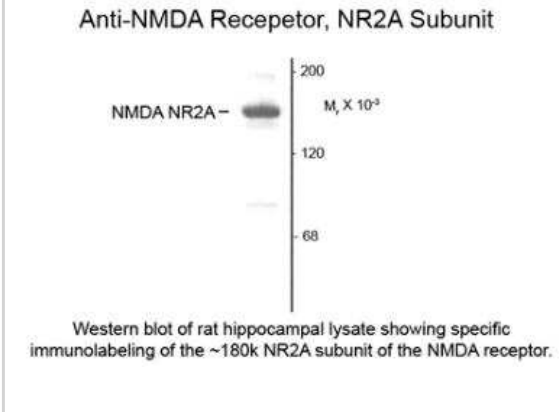
Western Blot: NMDAR2A Antibody [NB300-105] - Hyperpalmitoylation of Fyn kinase and GluN2B is reversed in Ppt1-/- primary cortical neurons by palmitoylation inhibitor treatment. Representative post-APEGS immunoblot of GluN2A (NMDAR2A) with beta-actin loading control. Image collected and cropped by CiteAb from the following publication (https://elifesciences.org/articles/40316), licensed under a CC-BY license.



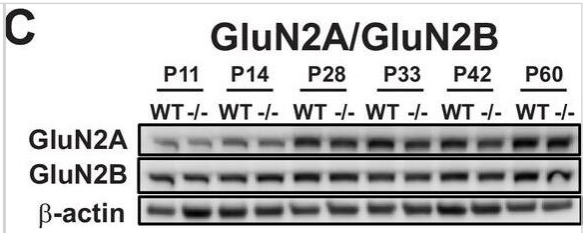
Immunohistochemistry: NMDAR2A Antibody [NB300-105] - Immunostaining of rabbit retina showing NR2A in the rod and cone photoreceptors in the outer plexiform layer as well as the entire inner plexiform layer.



Western Blot: NMDAR2A Antibody [NB300-105]



Western Blot: NMDAR2A Antibody [NB300-105] - NMDAR subunit composition is immature in whole lysates from Ppt1-/- visual cortex.(A) Representative immunoblots of the GluN2A in whole lysates across age & genotype as indicated (top) & quantification of band density (bottom) normalized to β-actin loading control within lane. (B) Representative immunoblots of the GluN2B in whole lysates across age & genotype as indicated (top) & quantification of band density (bottom) normalized to β-actin loading control within lane. (C) Representative immunoblots of GluN2A & GluN2B (top) from whole lysates across age & genotype & quantification of the ratio of GluN2A/GluN2B band density within animal (bottom). (D) Representative immunoblots of GluN1 in whole lysates across age & genotype as indicated (top) & quantification of band density (bottom) normalized to β-actin loading control within lane. (E) Representative immunoblot from whole lysates of PPT1 across age & genotype as indicated (top) & protein expression level (bottom) normalized to β-actin. For experiments in Figure 2—figure supplement 1A–C, Ppt1-/- & WT were compared (n = 4 independent experiments/animals with two repetitions/group) at each age using t-test & the significance is indicated: *p<0.05. In Figure 2D, WT expression levels at each age were compared (n = 4 independent experiments/animals with two repetitions/group) by ANOVA followed by Tukey's post-hoc test. Significance between ages is indicated: *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001. Error bars represent s.e.m. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30946007), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: NMDAR2A Antibody [NB300-105] - GluN2B to GluN2A NMDAR switch & Ppt1-/--induced synaptic deficits are recapitulated in primary cortical neurons.(A) Representative immunoblot (top) & quantification of GluN2B levels in WT & Ppt1-/- neurons at DIV7, 10, & 18. (B) Representative immunoblot (top) & quantification of GluN2A levels (bottom) in WT & Ppt1-/- neurons at DIV7, 10, & 18. (C) Representative immunoblot (top) & quantification of PSD-95 levels (bottom) in WT & Ppt1-/- neurons at DIV7, 10, & 18. (D) Representative immunoblot (top) & quantification of the GluN2A/2B ratio (bottom) in WT & Ppt1-/- neurons at DIV7, 10, & 18. For all experiments in Figure 5, Ppt1-/- & WT were compared (n = 2 independent experiments with two repetitions/group) at each time point using t-test & the significance indicated as follows: *p<0.05 where indicated. Error bars represent s.e.m. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30946007), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

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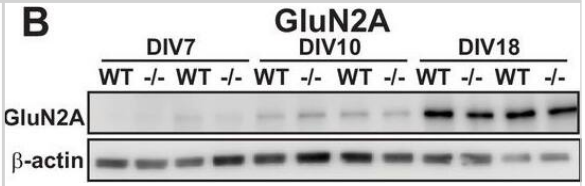

Publications

Zhang N, Zhang Z, He R et al. GLAST-CreER(T2) mediated deletion of GDNF increases brain damage and exacerbates long-term stroke outcomes after focal ischemic stroke in mouse model Glia 2020-06-04 [PMID: 32497340] (Immunoprecipitation, Western Blot, Rat)

Kl□ssendorf M, Song I, Schau L et al. The Golgi-Associated PDZ Domain Protein Gopc/PIST Is Required for Synaptic Targeting of mGluR5 Molecular Neurobiology 2021-11-01 [PMID: 34383253] (Immunoprecipitation, Western Blot, Rat)

Funke JR, Hwang EK, Wunsch AM et al. Persistent neuroadaptations in the nucleus accumbens core accompany incubation of methamphetamine craving in male and female rats eNeuro 2023-02-13 [PMID: 36792361] (WB, Rat)

Zhou J, Geng Y, Su T et al. NMDA receptor-dependent prostaglandin-endoperoxide synthase 2 induction in neurons promotes glial proliferation during brain development and injury Cell reports 2022-03-29 [PMID: 35354047] (WB, Mouse)

Yu XJ, Xiao T, Liu XJ et al. Effects of Nrf1 in Hypothalamic Paraventricular Nucleus on Regulating the Blood Pressure During Hypertension Frontiers in neuroscience 2021-12-06 [PMID: 34938159] (WB, Rat)

Hassani Nia, F, Woike, D Et al. Targeting of delta-catenin to postsynaptic sites through interaction with the Shank3 N-terminus. Mol Autism 2020-10-28 [PMID: 33115499] (ICC/IF, Human)

Ni J, Ren Y, Su T Et al. Loss of TDP-43 function underlies hippocampal and cortical synaptic deficits in TDP-43 proteinopathies Molecular psychiatry 2021-10-25 [PMID: 34697451]

Jiang A, Su P, Li S et al. Disrupting the alpha 7nAChR-NR2A protein complex exerts antidepressant-like effects Molecular brain 2021-07-05 [PMID: 34225758] (WB)

Li Y, Lu YX, Chi HL et al. Chronic Blockade of NMDAR Subunit 2A in the Hypothalamic Paraventricular Nucleus Alleviates Hypertension through Suppression of MEK/ERK/CREB Pathway American journal of hypertension 2021-04-15 [PMID: 33856436]

Koster, KP;Francesconi, W;Berton, F;Alahmadi, S;Srinivas, R;Yoshii, A; Developmental NMDA receptor dysregulation in the infantile neuronal ceroid lipofuscinosis mouse model Elife 2019-04-04 [PMID: 30946007] (WB, Mouse)

Koster K, Francesconi W, Berton F et al. NMDA Receptor Dysregulation by Defective Depalmitoylation in the Infantile Neuronal Ceroid Lipofuscinosis Mouse Model bioRxiv 2018-08-13 [PMID: 30946007] (WB, Mouse)

Wang X, Zhao L, Zhang J et al. Requirement for Microglia for the Maintenance of Synaptic Function and Integrity in the Mature Retina. J Neurosci 2016-03-02 [PMID: 26937019] (IF/IHC)

More publications at http://www.novusbio.com/NB300-105

Procedures

Western Blot protocol for NMDAR2A Antibody (NB300-105)
Western Blot Protocol specific for NMDAR2A Antibody (NB300-105):
Western Blot:

**For brain tissue homogenize in hot 1% SDS then run 7.5 % (as 2A is ~ 180 kDa) standard SDS gels and blot.

1. Thoroughly sonicate cell lysates or tissue homogenates to be loaded onto gel then dilute in appropriate sample buffer and boil for 5 minutes at 100C. Let samples cool to room temperature then load onto gel.
2. Run SDS-PAGE per gel apparatus manufacturer'??s instructions.
3. Transfer proteins to nitrocellulose or PVDF membrane (if using PVDF, be sure to activate membrane in Methanol prior to use).
4. After transfer, air-dry blot to more stably fix proteins onto membrane.
5. Block non-specific sites on membrane in 5% NFDM (Non-fat dry milk) or 3% BSA-TTBS (Tris-Buffered Saline + 0.1% Tween-20) for 1 hour while shaking at room temperature.
6. Incubate membrane in primary antibody diluted in 1% NFDM (or BSA)-TTBS while shaking overnight at 4C.
7. Decant unbound primary antibody solution and wash blot 3 x 10 minutes in TTBS.
8. Incubate blots in appropriate HRP-conjugated (for ECL detection) secondary antibody at a 1:10,000 -1:20,000 dilution in 1% Milk (or BSA)-TTBS for 1 hour while shaking at room temperature.
9. Decant secondary antibody solution and wash blots 3 x 10 minutes in TTBS or use TBS + 0.1% Triton(R) X-100 to reduce excessive background if needed.
10. ECL Detect.

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Products Related to NB300-105-100ul

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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
DBD00	BDNF [HRP]

Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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