

## Anti-NMDAR2A/GRIN2A Antibody Picoband®

Catalog Number: PA1058-1

### About GRIN2A

GRIN2A is also known as N-methyl-D-aspartate receptor channel, subunit epsilon-1 (NMDAR2A). This gene encodes a member of the glutamate-gated ion channel protein family. The encoded protein is an N-methyl-D-aspartate (NMDA) receptor subunit. NMDA receptors are both ligand-gated and voltage-dependent, and are involved in long-term potentiation, an activity-dependent increase in the efficiency of synaptic transmission thought to underlie certain kinds of memory and learning. These receptors are permeable to calcium ions, and activation results in a calcium influx into post-synaptic cells, which results in the activation of several signaling cascades. Disruption of this gene is associated with focal epilepsy and speech disorder with or without mental retardation. Alternative splicing results in multiple transcript variants.

### Overview

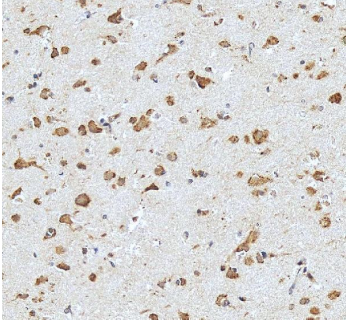
Product Name	Anti-NMDAR2A/GRIN2A Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-NMDAR2A/GRIN2A Antibody catalog # PA1058-1. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q12879

### Technical Details

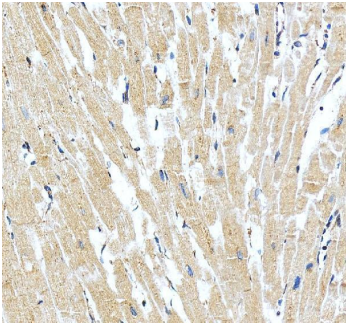
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human NMDAR2A, different from the related mouse sequence by three amino acids, and from the related rat sequence by four amino acids.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross reactivity with other proteins
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Rat

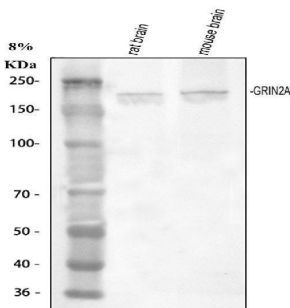
## Anti-NMDAR2A/GRIN2A Antibody Picoband® (PA1058-1) Images



IHC analysis of NMDAR2A/GRIN2A using anti-NMDAR2A/GRIN2A antibody (PA1058-1). NMDAR2A/GRIN2A was detected in a paraffin-embedded section of human brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NMDAR2A/GRIN2A Antibody (PA1058-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

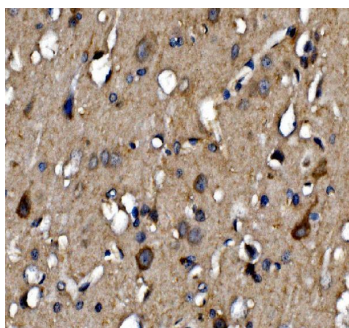


IHC analysis of NMDAR2A/GRIN2A using anti-NMDAR2A/GRIN2A antibody (PA1058-1). NMDAR2A/GRIN2A was detected in a paraffin-embedded section of human heart tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NMDAR2A/GRIN2A Antibody (PA1058-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



Western blot analysis of GRIN2A using anti-GRIN2A antibody (PA1058-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GRIN2A antigen affinity purified polyclonal antibody (Catalog # PA1058-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for GRIN2A at approximately 180 kDa. The expected band size for GRIN2A is at 165 kDa.

IHC analysis of GRIN2A using anti-GRIN2A antibody (PA1058-1). GRIN2A was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval



solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GRIN2A Antibody (PA1058-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

## 2 Publications Citing This Product

1. PubMed ID: 10.1016/j.neuro.2016.01.005, Impaired hippocampal synaptic plasticity and NR2A/2B expression ratio in remifentanil withdrawal rats
2. PubMed ID: 33099751, Liang Y, Ma Y, Wang J, Nie L, Hou X, Wu W, Zhang X, Tian Y. Leptin Contributes to Neuropathic Pain via Extrasynaptic NMDAR-nNOS Activation. Mol Neurobiol. 2020 Oct 25. doi:10.1007/s12035-020-02180-1. Epub ahead of print. PMID:33099751.

Visit [bosterbio.com/anti-nmdar2a-antibody-pa1058-1-boster.html](https://bosterbio.com/anti-nmdar2a-antibody-pa1058-1-boster.html) to see all 2 publications.

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Anti-NMDAR2A/GRIN2A Antibody

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