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antibody and ELISA experts

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Anti-Ionotropic Glutamate receptor 2/GRIA2 Antibody Picoband™

Catalog Number: PB9205

About GRIA2

Glutamate receptor 2, also known as GLUR2, is a protein that in humans is encoded by the GRIA2 gene. This gene product belongs to a family of glutamate receptors that are sensitive to alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA), and function as ligand-activated cation channels. GLUR2's cytogenetic location is 4q32.1. The crystal structures of the GLUR2 ligand-binding core in the apo state and in the presence of the antagonist DNQX, the partial agonist kainate, and the full agonists AMPA and glutamate.GLUR2 plays a major role in depression at synapses in which glutamate remains in the synaptic cleft for prolonged periods of time during normal operation of the synapse. The overexpression of GLUR2 increases dendritic spine size and density in hippocampal neurons, and more remarkably, induces spine formation in GABA-releasing interneurons that normally lack spines.

Overview

Product Name	Anti-Ionotropic Glutamate receptor 2/GRIA2 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Ionotropic Glutamate receptor 2/GRIA2 Antibody Picoband™ catalog # PB9205. Tested in Flow Cytometry, IF, IHC, IHC-F, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, IHC-F, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
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	P42262

Technical Details

Immunogen	E.coli-derived human GRIA2 recombinant protein (Position: N25-I360). Human GRIA2 shares 99% amino acid (aa) sequence identity with both mouse and rat GRIA2.
Predicted Reactive Species	Bovine, Horse, Monkey, Rabbit
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), IHC(F) and ICC.
Cross Reactivity	No cross-reactivity with other proteins

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Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Mouse, Rat, Human Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Mouse, Rat, Human, By Heat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Rat Immunocytochemistry, 0.5-1ug/ml, Human Immunofluorescence, 2ug/ml, Mouse Flow Cytometry, 1-3ug/1x10^6 cells, Human

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Anti-Ionotropic Glutamate receptor 2/GRIA2 Antibody Picoband™ (PB9205) Images

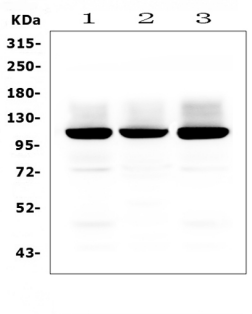

Figure 1. Western blot analysis of GRIA2 using anti-GRIA2 antibody (PB9205).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: rat brain tissue lysates,
Lane 2: rat C6 whole cell lysates,
Lane 3: mouse brain tissue lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-GRIA2 antigen affinity purified polyclonal antibody (Catalog # PB9205) 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 1:10000 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 GRIA2 at approximately 110KD. The expected band size for GRIA2 is at 99KD.

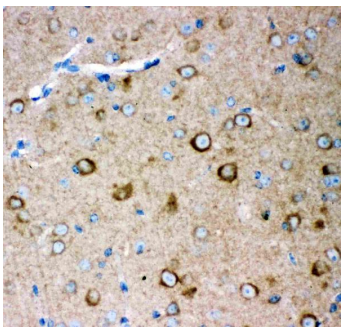

Figure 2. IHC analysis of GRIA2 using anti-GRIA2 antibody (PB9205).
GRIA2 was detected in paraffin-embedded section of Mouse Brain Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GRIA2 Antibody (PB9205) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

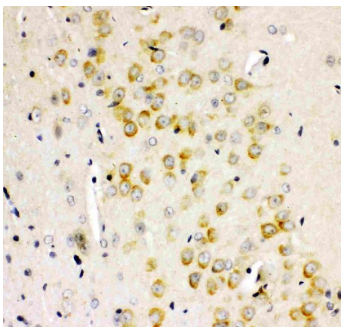

Figure 3. IHC analysis of GRIA2 using anti-GRIA2 antibody (PB9205).
GRIA2 was detected in paraffin-embedded section of Rat Brain Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-GRIA2 Antibody (PB9205) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Figure 4. IF analysis of GRIA2 using anti-GRIA2 antibody (PB9205)
GRIA2 was detected in paraffin-embedded section of mouse

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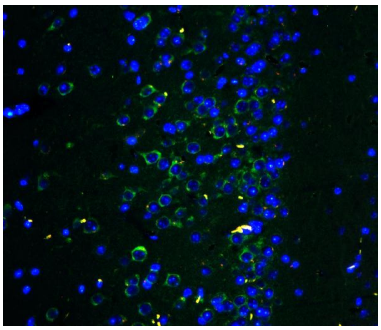

brain tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/mL rabbit anti-GRIA2 Antibody (PB9205) overnight at 4°C. Biotin conjugated goat anti-rabbit IgG (BA1003) was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using DyLight®488 Conjugated Avidin (BA1128). The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

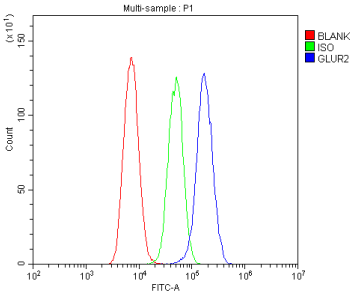

Figure 5. Flow Cytometry analysis of U-87MG cells using anti-GRIA2 antibody (PB9205).
Overlay histogram showing U-87MG cells stained with PB9205 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GRIA2 Antibody (PB9205,1ug/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

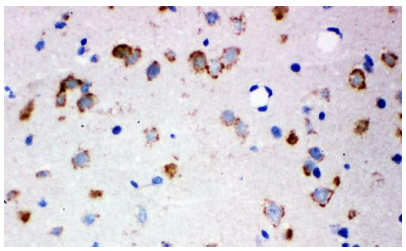

Figure 6. IHC analysis of GRIA2 using anti-GRIA2 antibody (PB9205).
GRIA23 was detected in a frozen section of rat brain tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-GRIA2 Antibody (PB9205) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

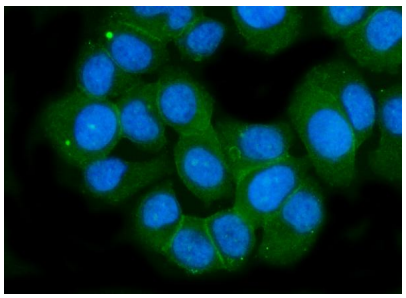

Figure 7. IF analysis of GRIA2 using anti-GRIA2 antibody (PB9205).
GRIA2 was detected in an immunocytochemical section of T-47D cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 1 ug/mL rabbit anti-GRIA2 Antibody (PB9205) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

4 Publications Citing This Product

1. PubMed ID: 10.1016/j.bbr.2017.05.055, The paracrine effect of cobalt chloride on BMSCs during cognitive function rescue in the HIBD rat

2. PubMed ID: 10.1016/j.tox.2017.03.021, Disruption of glutamate neurotransmitter transmission is modulated by SNAP-25 in benzo[a]pyrene-induced neurotoxic effects

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3. PubMed ID: 28028212, Loss of the golgin GM130 causes Golgi disruption, Purkinje neuron loss, and ataxia in mice

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