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antibody and ELISA experts

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Anti-GAP43 Antibody Picoband™

Catalog Number: A01868

About GAP43

Growth Associated Protein 43 (GAP43) is a protein encoded by the GAP43 gene in humans. It is mapped to 3q13.31. The protein encoded by this gene has been termed a 'growth' or 'plasticity' protein because it is expressed at high levels in neuronal growth cones during development and axonal regeneration. This protein is considered a crucial component of an effective regenerative response in the nervous system. Alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.

Overview

Product Name	Anti-GAP43 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-GAP43 Antibody Picoband™ catalog # A01868. Tested in Flow Cytometry, IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
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	P17677

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human GAP43, which shares 95.2% amino acid (aa) sequence identity with both mouse and rat GAP43.
Predicted Reactive Species	Human
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.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

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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, 0.25-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Rat Immunofluorescence, 5ug/ml, Rat Flow Cytometry, 1-3ug/1x10^6 cells, Human

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Anti-GAP43 Antibody Picoband™ (A01868) Images

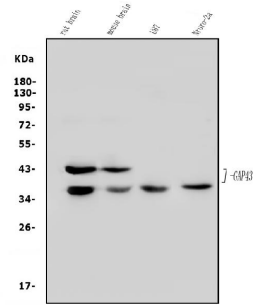

Figure 1. Western blot analysis of GAP43 using anti-GAP43 antibody (A01868).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: rat brain tissue lysates,
Lane 2: mouse brain tissue lysates,
Lane 3: human U87 whole cell lysates,
Lane 4: mouse Neuro-2a whole cell 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-GAP43 antigen affinity purified polyclonal antibody (Catalog # A01868) 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 GAP43 at approximately 38-43KD. The expected band size for GAP43 is at 38-43KD.

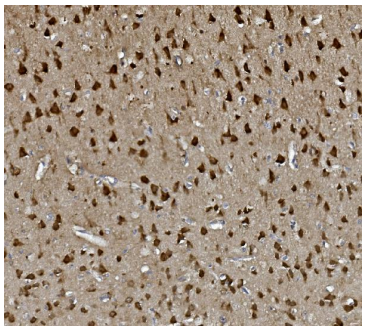

Figure 2. IHC analysis of GAP43 using anti-GAP43 antibody (A01868).
GAP43 was detected in paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GAP43 Antibody (A01868) 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.

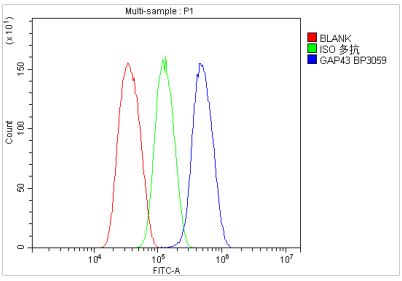

Figure 3. Flow Cytometry analysis of HEPG2 cells using anti-GAP43 antibody (A01868).
Overlay histogram showing HEPG2 cells stained with A01868 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GAP43 Antibody (A01868, 1ug/1x10^6 cells) for 30 min at 20°C. 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 4. IF analysis of GAP43 using anti-GAP43 antibody (A01868).
GAP43 was detected in paraffin-embedded section of rat

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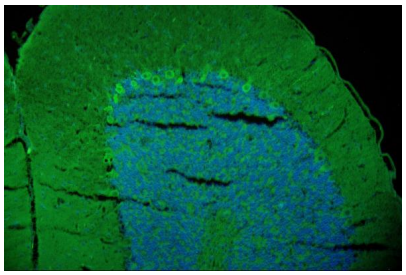

brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5ug/mL rabbit anti-GAP43 Antibody (A01868) overnight at 4°C. Biotin conjugated goat anti-rabbit 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.

2 Publications Citing This Product

1. PubMed ID: , Cograft of neural stem cells and schwann cells overexpressing TrkC and neurotrophin-3 respectively after rat spinal cord transection

2. PubMed ID: -, Ou Qiao,Xinyu Zhang,Yi Zhang et al.Cerebralcare Granule® enhances memantine hydrochloride efficacy in APP/PS1 mice by ameliorating amyloid pathology and cognitive functions,08 April 2021,PREPRINT (Version 1) available at Research Square [https://doi.org/10.21203/rs.3.rs-366097/v1]

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