Product Datasheet

GAP-43 Antibody

NB300-143

Unit Size: 0.1 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

Reviews: 1  Publications: 62

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Updated 2/28/2019 v.20.1

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**NB300-143**

**GAP-43 Antibody**

**Product Information**

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<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Size</td>
<td>0.1 ml</td>
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<tr>
<td>Concentration</td>
<td>1 mg/ml</td>
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<tr>
<td>Storage</td>
<td>Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Preservative</td>
<td>0.05% Sodium Azide</td>
</tr>
<tr>
<td>Isotype</td>
<td>IgG</td>
</tr>
<tr>
<td>Purity</td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td>Buffer</td>
<td>50% PBS, 50% Glycerol</td>
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<tr>
<td>Target Molecular Weight</td>
<td>43 kDa</td>
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</table>

**Product Description**

- **Host**: Rabbit
- **Gene ID**: 2596
- **Gene Symbol**: GAP43
- **Species**: Human, Mouse, Rat, Porcine, Bovine, Canine, Chicken, Equine, Primate
- **Marker**: Neuronal Marker
- **Immunogen**: C-terminal peptide of rat and mouse GAP43, which is KEDPEADQEHA, with an N-terminal Cys added to allow chemical coupling to KLH carrier protein.

**Product Application Details**

- **Applications**: Western Blot, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
- **Recommended Dilutions**: Western Blot 1:10000, Immunohistochemistry 1:1000, Immunocytochemistry/Immunofluorescence 1:1000, Immunohistochemistry-Paraffin 1:1000, Immunohistochemistry-Frozen 1:1000
- **Application Notes**: This GAP43 antibody is useful for Immunocytochemistry/Immunofluorescence, Immunohistochemistry on paraffin-embedded and frozen sections and Western blot, where it recognizes a band at 43 kDa.

**Images**

Immunocytochemistry/Immunofluorescence: GAP-43 Antibody [NB300-143] - Cortical neuron-glial cell culture from E20 rat stained with rabbit pAb to GAP43, dilution 1:2,000 in green, and costained with mouse mAb to vimentin, dilution 1:2,000, in red. Blue: DAPI staining of nuclear DNA. GAP43 antibody labels protein expressed in the axonal membrane of neuronal cells, while vimentin antibody stains intermediate filaments in fibroblasts and other non-neuronal cells.

Immunohistochemistry-Paraffin: GAP-43 Antibody [NB300-143] - Review image from confirmed customer on mouse E15.5 paraffin sections.

Western Blot: GAP-43 Antibody [NB300-143] - Western blots of homogenate of cow cerebellum stained with RPCA-GAP-43. A prominent band running at ~43kDa represents the full length GAP-43.

Immunocytochemistry/Immunofluorescence: GAP-43 Antibody [NB300-143] - Immunofluorescence of GAP-43 (green), a molecular marker of neurite outgrowth, demonstrates intense staining in overexpressing wild-type PS-1 (E) PC-12 cells. (Teo, et al, 2005)
Immunocytochemistry/Immunofluorescence: GAP-43 Antibody [NB300-143] - Mixed neuron-glial cultures stained with RPCA-GAP43 (red), blue is DNA staining.

Immunocytochemistry/Immunofluorescence: GAP-43 Antibody [NB300-143] - Rat E18 mixed neuron/glia cultures with rabbit GAP43 (red) and 5B10, mouse monoclonal to MAP-tau (green).
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Journal</th>
<th>Date</th>
<th>PMID</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>mTORC1 Signaling Is Palmitoylation-Dependent in Hippocampal Neurons and Non-neuronal Cells and Involves Dynamic Palmitoylation of LAMTOR1 and mTOR</td>
<td>Sanders SS, De Simone FI, Thomas GM</td>
<td>Front Cell Neurosci</td>
<td>Apr 2 2019</td>
<td>31001086</td>
<td>(WB, Human)</td>
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<tr>
<td>Cell-autonomous role of GFRα1 in the development of olfactory bulb GABAergic interneurons</td>
<td>Zechel S, Fernandez-Suarez D, Ibanez CF</td>
<td>Biol Open</td>
<td>May 18 2018</td>
<td>29716946</td>
<td>(IHC, Mouse)</td>
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<tr>
<td>A Population of Navigator Neurons Is Essential for Olfactory Map Formation during the Critical Period</td>
<td>Wu Y, Ma L, Duyck K et al.</td>
<td>Neuron</td>
<td>Oct 1 2018</td>
<td>30482691</td>
<td></td>
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<tr>
<td>The Mechanosensitive Ion Channel Piezo Inhibits Axon Regeneration</td>
<td>Song Y, Li D, Farrelly O et al.</td>
<td>Neuron</td>
<td>Feb 15 2019</td>
<td>30819546</td>
<td></td>
</tr>
<tr>
<td>Dose-Dependent Effects of Insulin-Like Growth Factor 1 in the Aged Olfactory Epithelium</td>
<td>Ueha R, Kondo K, Ueha S, Yamasoba T.</td>
<td>Front Aging Neurosci</td>
<td>Nov 20 2018</td>
<td>30515092</td>
<td>(IHC, Mouse)</td>
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<tr>
<td>Regulation of Neuroregeneration by Long Noncoding RNAs.</td>
<td>Perry RBT, Hezroni H, Goldrich MJ, Ulitsky I.</td>
<td>Molecular cell.</td>
<td></td>
<td>30401432</td>
<td>(ICC/IF, Mouse)</td>
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More publications at [http://www.novusbio.com/NB300-143](http://www.novusbio.com/NB300-143)
Procedures

Protocol specific for GAP43 Antibody (NB300-143)
IHC-FFPE sections

I. Deparaffinization:
   A. Treat slides with Xylene: 3 changes for 5 minutes each. Drain slides for 10 seconds between changes.
   B. Treat slides with 100% Reagent Alcohol: 3 changes for 5 minutes each. Drain slides for 10 seconds between changes.

II. Quench Endogenous Peroxidase:
   A. Place slides in peroxidase quenching solution: 15-30 minutes. To Prepare 200 ml of Quenching Solution:
      Add 3 ml of 30% Hydrogen Peroxide to 200 ml of Methanol.
      Use within 4 hours of preparation
   B. Place slides in distilled water: 2 changes for 2 minutes each.

III. Retrieve Epitopes:
   A. Preheat Citrate Buffer. Place 200 ml of Citrate Buffer Working Solution into container, cover and place into steamer. Heat to 90-96 degrees Celsius.
   B. Place rack of slides into hot Citrate Buffer for 20 minutes. Cover.
   C. Carefully remove container with slides from steamer and cool on bench, uncovered, for 20 minutes.
   D. Slowly add distilled water to further cool for 5 minutes.
   E. Rinse slides with distilled water. 2 changes for 2 minutes each.

IV. Immunostaining Procedure:
   A. Remove each slide from rack and circle tissue section with a hydrophobic barrier pen (e.g. Liquid Blocker-Super Pap Pen).
   B. Flood slide with Wash Solution. Do not allow tissue sections to dry for the rest of the procedure.
   C. Drain wash solution and apply 4 drops of Blocking Reagent to each slide and incubate for 15 minutes.
   D. Drain Blocking Reagent (do not wash off the Blocking Reagent), apply 200 ul of Primary Antibody solution to each slide, and incubate for 1 hour.
   E. Wash slides with Wash Solution: 3 changes for 5 minutes each.
   F. Drain wash solution, apply 4 drops of Secondary antibody to each slide and incubate for 1 hour.
   G. Wash slides with Wash Solution: 3 changes for 5 minutes each.
   H. Drain wash solution, apply 4 drops of DAB Substrate to each slide and develop for 5-10 minutes. Check development with microscope.
   I. Wash slides with Wash Solution: 3 changes for 5 minutes each.
   J. Drain wash solution, apply 4 drops of Hematoxylin to each slide and stain for 1-3 minutes. Increase time if darker counterstaining is desired.
   K. Wash slides with Wash Solution: 2-3 changes for 2 minutes each.
   L. Drain wash solution and apply 4 drops of Bluing Solution to each slide for 1-2 minutes.
   M. Rinse slides in distilled water.
   N. Soak slides in 70% reagent alcohol: 3 minutes with intermittent agitation.
   O. Soak slides in 95% reagent alcohol: 2 changes for 3 minutes each with intermittent agitation.
   P. Soak slides in 100% reagent alcohol: 3 changes for 3 minutes each with intermittent agitation. Drain slides for 10 seconds between each change.
   Q. Soak slides in Xylene: 3 changes for 3 minutes each with intermittent agitation. Drain slides for 10 seconds between each change.
   R. Apply 2-3 drops of non-aqueous mounting media to each slide and mount coverslip.
   S. Lay slides on a flat surface to dry prior to viewing under microscope.

NOTES:
-Use treated slides (e.g. HistoBond) to assure adherence of FFPE sections to slide.
-Prior to deparaffinization, heat slides overnight in a 60 degrees Celsius oven.
-All steps in which Xylene is used should be performed in a fume hood.
- For Epitope Retrieval, a microwave or pressure cooker may be substituted for the steamer method. Adjust times as necessary depending on conditions.
- For the initial IHC run with a new primary antibody, test tissues with and without Epitope Retrieval. In some instances, Epitope Retrieval may not be necessary.
- 200 ul is the recommended maximum volume to apply to a slide for full coverage. Using more than 200 ul may allow solutions to wick off the slide and create drying artifacts. For small tissue sections less than 200 ul may be used.
- 5 minutes of development with DAB Substrate should be sufficient. Do not develop for more than 10 minutes. If 5 minutes of development causes background staining, further dilution of the primary antibody may be necessary.
- Hematoxylin should produce a light nuclear counterstain so as not to obscure the DAB staining. Counterstain for 1-1.5 minutes for nuclear antigens. Counterstain for 2-3 minutes for cytoplasmic and membranous antigens. If darker counterstaining is desired increase time (up to 10 minutes).
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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