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RABBIT ANTI-GABA POLYCLONAL ANTIBODY

CATALOG NUMBER: AB131

LOT NUMBER:

QUANTITY: 100 μL, sufficient for approximately 75-100 immunohistochemical determinations.

SPECIFICITY: Gamma Aminobutyric Acid (GABA). The antibody specifically stains GABA-ergic neurons. Stellate and basket cells of the cerebellum, as well as their processes are intensely stained. GABA-ergic nerve terminals in the granular layer of cerebellum and nerve terminals ending on neurons on nucleus Deiter are also stained. The antisera has been tested for specificity using the free-floating PAP technique on rat and human cerebellum. The immunostaining can be completely abolished by pre-incubation of the antibody with 10-100 μg of GABA-gluteraldehyde-BSA per mL of diluted antibody.

IMMUNOGEN: GABA-gluteraldehyde-BSA

APPLICATIONS: Immunohistochemistry: 1:500-1:2,000 by PAP (see suggested protocol).
Optimal working dilutions must be determined by the end user.

FORMAT: Rabbit antiserum adsorbed against BSA-glutaraldehyde.

PRESENTATION: Liquid containing 0.1% sodium azide.

STORAGE: Maintain at -20°C in undiluted aliquots for up to 6 months after date of receipt. Avoid repeated freeze/thaw cycles.

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SAMPLE PROTOCOL for Neurotransmitter Detection by Immunocytochemistry. Example for a rat brain.

1. **SOLUTIONS TO BE PREPARED** - Solution must be prepared as needed.
Note:Tris can be replaced by a 0.01M phosphate solution.

   Solution A: 50 mM cacodylate acid, 1% sodium metabisulfite, pH 6.2.(*)

   Solution B: 100 mM cacodylate acid, 2.5-5% glutaraldehyde, 1% sodium metabisulfite, pH 7.5.(*)

   Solution C: 50 mM Tris, 1% sodium metabisulfite, pH 7.5.(*)

   Solution D: 0.05 M Tris, 8.5 g/L sodium chloride pH 7.5.(*)

   (*) Adjust pH with NaOH or HCl if necessary.

2. **RAT ANAESTHESIA** - The rat is anaesthetized with sodium pentobarbital or chloral hydrate. The anaesthesia is correct when: on it's back, rat doesn't return to it's side & light reaction occurs pinching the tail.

3. **RAT PERFUSION** - Open the animal's thorax and rapidly cannulate the aorta via the left ventricle. Cut the right atrium or ventricle to allow efflux of blood and perfusate. Clamp off the descending aorta. Perfuse intracardially through the aorta, using either a multi-speed pump or a large syringe.
   Solution A (30 mL): 150-300mL/min
   Solution B (500 mL): 150 mL/min

   Solutions A and B must be perfused through the rat brain continuously without flow stopping when changing solutions.

   Indications of a good perfusion:
   -Limbs are blanching. Ears are bleached and very white.
   -Liver loses it's color and becomes very hard.
   -When cutting the rat nose, glutaraldehyde must leak drop by drop.
   -The brain must be dark yellow and hard. (The color is homogeneous without any white blots).
   Indications of a incorrect perfusion:
   -All the above indications do not appear.
   -Glutaraldehyde leaks by the mouth. Rat eyes are swollen.

4. **POST FIXATION:** Cover rat brain with Solution B and let soak 30-120 minutes, then soft wash 4 times in Solution C.

5. **TISSUE SECTIONING:** 50 um slices, preferably by the "vibratome" technique, using Solution C.

PROTOCOL (cont)

6. **WASHING:** The sections are washed 3X in cold (4 deg) Sol'n C, then incubated 1-1.5 hrs at room temp. in Sol'n C plus 2% of non-specific serum (normal goat serum).

7. **PRIMARY ANTIBODY:** Use a final dilution of 1:500-1:2,000 in Solution C containing 0.5% Triton X100 and 1% non-specific serum. Incubate 12 sections per 2 mL diluted antibody overnight, +4°C. Then wash the sections three times for 10 minutes each in Solution D. (Note that the antibody may be usable at a higher dilution. This should be explored to minimize the possibility of high background. Additionally, note that a change in the buffering system as indicated in the protocol may change the background and antibody recognition). The specific reaction is then revealed by PAP procedure.

8. **SECOND ANTIBODY:** Incubate the sections with a 1:50 to 1:200 dilution of goat anti-rabbit in Solution D containing 1% non-specific serum for either 3 hrs at 20°C or 2 hr at 37°C. Then wash the sections, 3 times, for 10 minutes each with Solution D.

9. **PAP:** Incubate the sections with the appropriate dilution of peroxidase anti-peroxidase (for free floating method) in Solution D containing 1% non-specific serum for 1-2 hours at 37°C. Then wash sections 3 times for 10 min each in solution D.

10. **VISUALIZATION:** The antigen-antibody complexes are visualized using DAB-4-HCl (25 mg/100 mL) in 0.05M Tris and filtered; 0.05% hydrogen peroxide is added. Incubate the sections for 10 minutes at room temp. Stop the reaction by transferring the sections to 5 mL 0.05M Tris. Wash tissue with solution D using 2, 10 min washes. Mount sections on chrome-alum coated slides. Dry overnight at 37°C. Rehydrate sections using conventional histological procedures. Coverslip using rapid mounting media.

Important Note: *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 µL or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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