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Datasheet for ABIN1580421

anti-GAP43 antibody

2 Images

Overview

Quantity:	100 µL
Target:	GAP43
Reactivity:	Rat, Mouse
Host:	Mouse
Clonality:	Monoclonal
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Clone:	1E3
Isotype:	IgG1
Purification:	affinity purified antibody

Target Details

Target:	GAP43
Alternative Name:	GAP43 (GAP43 Products)
Background:	GAP43 is very abundant nervous system protein which is found concentrated in neurons. One group discovered it as one of three proteins which becomes unregulated during the regeneration of the toad optic nerve. Three GAPs (Growth associated proteins) were discovered, and the number 43 comes from the apparent SDS-PAGE molecular weight of the one named GAP43. The HGNC name for this protein is, not surprisingly, GAP43. Later work

Target Details

showed that GAP43 does not run on SDS-PAGE in a fashion which accurately reflects its molecular weight, and that GAP43 proteins from different species may run at different apparent molecular weights. Partly due to these features GAP43 was independently discovered by several different groups and therefore has several alternate names, such as protein F1, pp46, neuromodulin, neural phosphoprotein B-50 and calmodulin-binding protein P-57. In each case the number reflects the apparent SDS-PAGE molecular weight, and underlines the unusual SDS-PAGE mobility properties of this molecule. Mammalian GAP43 proteins contains only 226-243 amino acids, and so the real molecular weight is 23.61-25.14KDa (to perform such calculations yourself see this link). GAP43 is one of many highly negatively charged extended molecules which lack well defined tertiary structure and contain few hydrophobic residues and which run anomalously on SDS-PAGE. Other examples are CAP23, MARCKS, microtubule associated proteins MAP2 and tau and the Neurofilament subunits. GAP43 has been extensively studied and is known to be a major protein kinase C substrate and to bind calmodulin avidly. GAP43 is anchored to the plasma membrane by palmitoylation modifications. The HGNC name for this protein is GAP43.

Application Details

Application Notes: The antibody solution can be used at dilutions of at least 1:1,000 in immunofluorescence experiments. In western blotting using chemiluminescence it can be used at dilutions of 1:10,000 or lower.

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: The antibody solution is affinity purified from tissue culture supernatant and is at concentration of 1mg/ml in phosphate buffered saline preparation containing 10 mM sodium azide preservative.

Preservative: Sodium azide

Precaution of Use: This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

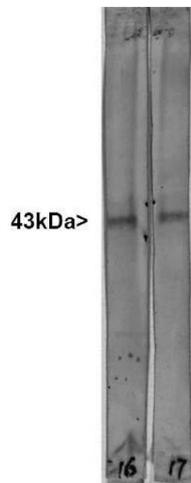
Handling Advice: Avoid repeated freezing and thawing.

Handling

Storage: 4 °C/-20 °C

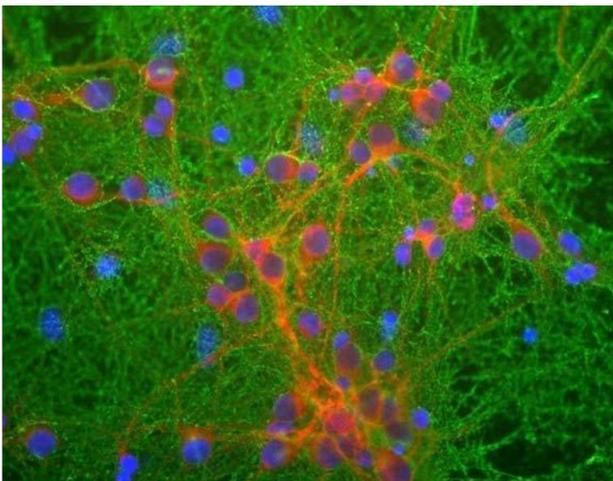
Storage Comment: Store at 4°C short term or -20°C long term.

Images



Western Blotting

Image 1. Western blot of whole rat spinal cord lysates probed with ABIN1580421 antibody to GAP43 in lane 16 and another similar antibody in lane 17. Dots in middle of strips indicate position of 50 kDa and 37 kDa protein bands. Note that the strong single band running at about 43 kDa corresponds to GAP43.



Immunofluorescence

Image 2. Mixed neuronal cultures stained with ABIN1580421 (green), RPCA-MAP2, a rabbit antibody to microtubule associated protein 2 (MAP2, red) and DNA (blue). The GAP43 antibody stains the plasma membrane of neurons and is particularly concentrated in dendrites.