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Datasheet for ABIN1580436
anti-MAPT antibody

2 Images

Overview

Quantity:	100 µL
Target:	MAPT
Reactivity:	Human, Rat, Mouse
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This MAPT antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Clone:	2E9
Isotype:	IgG1
Purification:	affinity purified antibody

Target Details

Target:	MAPT
Alternative Name:	Microtubule Associated Protein tau (MAPT) (MAPT Products)
Background:	Tau is a relatively low molecular weight member of the microtubule associated protein or MAP family. Most of these proteins were discovered since microtubules can be polymerized in cell homogenates and pelleted out by centrifugation, typically taking MAP proteins with them. This early work showed that tau protein facilitated the polymerization of microtubules, and was

Target Details

therefore given the name tau, the Greek letter tau, since it promoted tubule formation. The protein is now usually referred to simply as tau or by the HGNC name which is MAPT. Tau is heavily concentrated in axons of neurons, but may also be found in dendrites and in some non neuronal cells. Much interest has focused on tau as it is a major component of the neurofibrillary tangles of Alzheimer's disease. Tau in neurofibrillary tangles is typically heavily and aberrantly phosphorylated, and it is believed that phosphorylation may be involved in tangle formation. In addition, numerous different point mutations in the tau gene are causative of Fronto-temporal dementia with Parkinsonism linked to chromosome 17 (FTDP-17, see 5). There is one mammalian tau gene which produces at least 9 different proteins by alternate transcription. In the central nervous system 6 isoforms predominant which either include or do not include three short exon coded inserts. These proteins range in size from 352-441 amino acids and run on SDS-PAGE gels as multiple bands ranging from 48-67 kDa. In peripheral nervous system a form called big tau predominates, another alternate transcript which includes a 254 amino acid insert. This form of tau is found in small amounts in the brain also, in cranial nerve motor nuclei and sensory processes of most sensory ganglia, and runs on SDS-PAGE with an apparent molecular weight of 100 kDa. Each tau protein contains 3 or 4 copies of an 18 amino acid peptide which are responsible for binding to the microtubules and are similar to those found in MAP2 and other members of the MAP family. Tau is a highly charged acidic protein with few hydrophobic residues which belongs to the family of intrinsically unstructured proteins. As with GAP43, MARCKS and several other similar proteins, tau isoforms run on SDS-PAGE much more slowly than expected from their actual molecular weight. Our antibody was made against a recombinant construct expressed in and purified from E. coli and which corresponded to the shortest version of the various tau proteins, so the antibody is expected to bind to all tau isoforms.

Pathways: [MAPK Signaling](#), [Microtubule Dynamics](#), [M Phase](#), [Regulation of Cell Size](#)

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

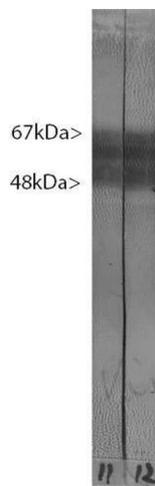
Handling

Format: Liquid

Handling

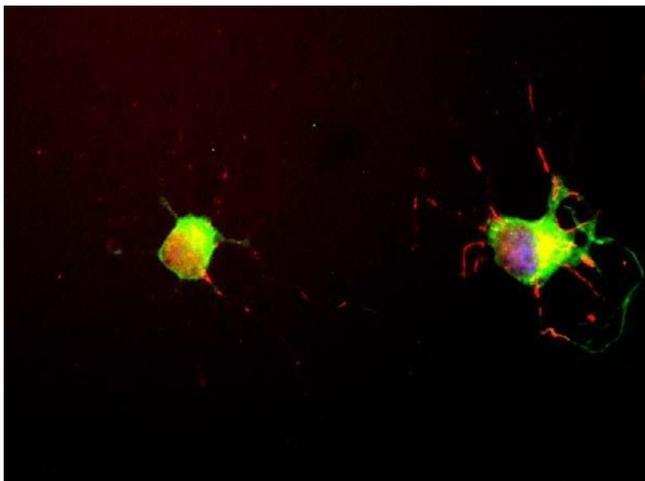
Concentration:	1 mg/mL
Preservative:	Sodium azide
Precaution of Use:	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	Avoid repeated freezing and thawing.
Storage:	4 °C/-20 °C
Storage Comment:	Store at 4°C short term or -20°C long term.

Images



Western Blotting

Image 1. Blots of crude rat brain extract stained with ABIN1580436, revealing, as expected, multiple bands in the range 48-67kDa.



Immunofluorescence

Image 2. We obtained Neuromics E18 hippocampal neurons and grew them for seven days following the Neuromics protocol. We fixed and immunostained with ABIN1580436 using our standard immunostaining protocol (green), 's chicken antibody to α -interneixin (CPCA-Int, red) and for DNA (blue). ABIN1580436 stains the neuronal perikarya and process strongly, and does not stain non neuronal cells in these cultures. The α -interneixin antibody stains intermediate or 10nm filament bundles in the cytoplasm of these cells.