

Product datasheet

Anti-Tau (phospho S199) antibody ab4749

3 References 1 图像

概述

产品名称	Anti-Tau (phospho S199)抗体
描述	兔多克隆抗体to Tau (phospho S199)
宿主	Rabbit
经测试应用	适用于: WB, IHC-P
种属反应性	与反应: Mouse, Human 预测可用于: Rat 
免疫原	Synthetic peptide corresponding to Human Tau. Database link: P10636 (Peptide available as ab5241)
阳性对照	Recombinant human Tau treated with GSK-3 beta; African green monkey kidney (CV-1) cells, stably expressing human four repeat tau and SV40 small T antigen to induce specific inhibition of PP2A.

性能

形式	Liquid
存放说明	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
存储溶液	Preservative: 0.05% Sodium Azide Constituents: 50% Glycerol, PBS, 1mg/ml BSA. pH 7.3
纯度	Immunogen affinity purified
纯化说明	Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively preadsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated tau. The final product is generated by affinity chromatography using a tau-derived peptide that is phosphorylated at serine 199.
克隆	多克隆
同种型	IgG

应用

Our [Abpromise guarantee](#) covers the use of **ab4749** in the following tested applications.

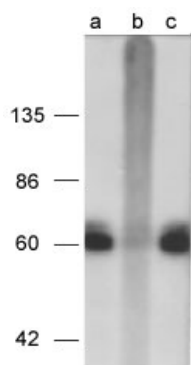
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

应用	Ab评论	说明
WB		1/1000. Detects a band of approximately 60 kDa.
IHC-P		1/1000. PubMed: 23478312

靶标

功能	<p>Promotes microtubule assembly and stability, and might be involved in the establishment and maintenance of neuronal polarity. The C-terminus binds axonal microtubules while the N-terminus binds neural plasma membrane components, suggesting that tau functions as a linker protein between both. Axonal polarity is predetermined by tau localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization.</p>
组织特异性	<p>Expressed in neurons. Isoform PNS-tau is expressed in the peripheral nervous system while the others are expressed in the central nervous system.</p>
疾病相关	<p>Note=In Alzheimer disease, the neuronal cytoskeleton in the brain is progressively disrupted and replaced by tangles of paired helical filaments (PHF) and straight filaments, mainly composed of hyperphosphorylated forms of TAU (PHF-TAU or AD P-TAU).</p> <p>Defects in MAPT are a cause of frontotemporal dementia (FTD) [MIM:600274]; also called frontotemporal dementia (FTD), pallido-ponto-nigral degeneration (PPND) or historically termed Pick complex. This form of frontotemporal dementia is characterized by presenile dementia with behavioral changes, deterioration of cognitive capacities and loss of memory. In some cases, parkinsonian symptoms are prominent. Neuropathological changes include frontotemporal atrophy often associated with atrophy of the basal ganglia, substantia nigra, amygdala. In most cases, protein tau deposits are found in glial cells and/or neurons.</p> <p>Defects in MAPT are a cause of Pick disease of the brain (PIDB) [MIM:172700]. It is a rare form of dementia pathologically defined by severe atrophy, neuronal loss and gliosis. It is characterized by the occurrence of tau-positive inclusions, swollen neurons (Pick cells) and argentophilic neuronal inclusions known as Pick bodies that disproportionally affect the frontal and temporal cortical regions. Clinical features include aphasia, apraxia, confusion, anomia, memory loss and personality deterioration.</p> <p>Note=Defects in MAPT are a cause of corticobasal degeneration (CBD). It is marked by extrapyramidal signs and apraxia and can be associated with memory loss. Neuropathologic features may overlap Alzheimer disease, progressive supranuclear palsy, and Parkinson disease.</p> <p>Defects in MAPT are a cause of progressive supranuclear palsy type 1 (PSNP1) [MIM:601104, 260540]; also abbreviated as PSP and also known as Steele-Richardson-Olszewski syndrome. PSNP1 is characterized by akinetic-rigid syndrome, supranuclear gaze palsy, pyramidal tract dysfunction, pseudobulbar signs and cognitive capacities deterioration. Neurofibrillary tangles and gliosis but no amyloid plaques are found in diseased brains. Most cases appear to be sporadic, with a significant association with a common haplotype including the MAPT gene and the flanking regions. Familial cases show an autosomal dominant pattern of transmission with incomplete penetrance; genetic analysis of a few cases showed the occurrence of tau mutations, including a deletion of Asn-613.</p>
序列相似性	<p>Contains 4 Tau/MAP repeats.</p>

发展阶段	Four-repeat (type II) tau is expressed in an adult-specific manner and is not found in fetal brain, whereas three-repeat (type I) tau is found in both adult and fetal brain.
结构域	The tau/MAP repeat binds to tubulin. Type I isoforms contain 3 repeats while type II isoforms contain 4 repeats.
翻译后修饰	<p>Phosphorylation at serine and threonine residues in S-P or T-P motifs by proline-directed protein kinases (PDPK: CDK1, CDK5, GSK-3, MAPK) (only 2-3 sites per protein in interphase, seven-fold increase in mitosis, and in PHF-tau), and at serine residues in K-X-G-S motifs by MAP/microtubule affinity-regulating kinase (MARK) in Alzheimer diseased brains. Phosphorylation decreases with age. Phosphorylation within tau's repeat domain or in flanking regions seems to reduce tau's interaction with, respectively, microtubules or plasma membrane components. Phosphorylation on Ser-610, Ser-622, Ser-641 and Ser-673 in several isoforms during mitosis.</p> <p>Polyubiquitinated. Requires functional TRAF6 and may provoke SQSTM1-dependent degradation by the proteasome (By similarity). PHF-tau can be modified by three different forms of polyubiquitination. 'Lys-48'-linked polyubiquitination is the major form, 'Lys-6'-linked and 'Lys-11'-linked polyubiquitination also occur.</p> <p>Glycation of PHF-tau, but not normal brain tau. Glycation is a non-enzymatic post-translational modification that involves a covalent linkage between a sugar and an amino group of a protein molecule forming ketoamine. Subsequent oxidation, fragmentation and/or cross-linking of ketoamine leads to the production of advanced glycation endproducts (AGES). Glycation may play a role in stabilizing PHF aggregation leading to tangle formation in AD.</p>
细胞定位	Cytoplasm > cytosol. Cell membrane. Cytoplasm > cytoskeleton. Cell projection > axon. Mostly found in the axons of neurons, in the cytosol and in association with plasma membrane components.
形式	There are 9 isoforms produced by alternative splicing.
图片	



Western blot - Anti-Tau (phospho S199) antibody (ab4749)

Cell extracts from African green monkey kidney (CV-1) cells, stably expressing human four repeat tau and a protein phosphatase inhibitor, were resolved by SDS-PAGE on a 10% Tris-glycine gel. The proteins were transferred to nitrocellulose. Membranes were incubated with 0.50 µg/mL anti-phospho tau [pS199] (ab4749), following prior incubation in the absence (a) or presence of the peptide immunogen (b), or the nonphosphopeptide corresponding to the tau phosphopeptide (c). Cell extracts from African green monkey kidney (CV-1) cells, stably expressing human four repeat tau and a protein phosphatase inhibitor, were resolved by SDS-PAGE on a 10% Tris-glycine gel. The proteins were transferred to nitrocellulose. Membranes were incubated with 0.50 µg/mL anti-phospho tau [pS199] (ab4749), following prior incubation in the absence (a) or presence of the peptide immunogen (b), or the nonphosphopeptide corresponding to the tau phosphopeptide (c).

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