abcam

Product datasheet

Anti-Tau antibody [EPR22524-95] ab254256

重组 RabMAb

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概述

产品名称	Anti-Tau抗体[EPR22524-95]
描述	兔单克隆抗体[EPR22524-95] to Tau
宿主	Rabbit
特异性	The specificity of this antibody refers to P10637-1. Our testing suggests that this antibody clone does not cross-reacts with MAP2 or MAP4.
经测试应用	**适用于:** IP, IHC-Fr, WB, IHC-P
种属反应性	**与反应:** Mouse, Human
免疫原	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: Human and mouse brain lysate. IHC-P: Mouse cerebral cortex and hippocampus tissue. Human cerebral cortex tissue. IHC-Fr: Mouse cerebral cortex tissue. IP: Human brain lysate.
常规说明	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
存储溶液	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 0.05% BSA, PBS
纯度	Protein A purified
克隆	单克隆

克隆编号	EPR22524-95
同种型	IgG

应用

The Abpromise guarantee **Abpromise™承诺保证使用ab254256于以下的经测试应用**

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
IP		1/30.
IHC-Fr		1/100.
WB		1/1000. Detects a band of approximately 50-70 kDa (predicted molecular weight: 76 kDa).
IHC-P	★★★★★ (3)	1/4000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

靶标

功能 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.

组织特异性 Expressed in neurons. Isoform PNS-tau is expressed in the peripheral nervous system while the others are expressed in the central nervous system.

疾病相关 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).
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.
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.
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.
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.

序列相似性 Contains 4 Tau/MAP repeats.

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.

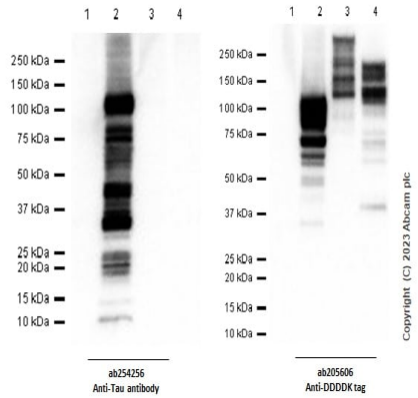
结构域 The tau/MAP repeat binds to tubulin. Type I isoforms contain 3 repeats while type II isoforms contain 4 repeats.

翻译后修饰 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.
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.
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.

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 antibody [EPR22524-95] (ab254256)

All lanes : Anti-Tau antibody [EPR22524-95] (ab254256) at 1/1000 dilution

Lane 1 : 293T cells transfected with an empty vector containing a flag tag whole cell lysate
Lane 2 : 293T cells transfected with a human Tau expression vector containing a flag whole cell lysate
Lane 3 : 293T cells transfected with a human MAP2 expression vector containing a flag whole cell lysate
Lane 4 : 293T cells transfected with a human MAP4 expression vector containing a flag whole cell lysate

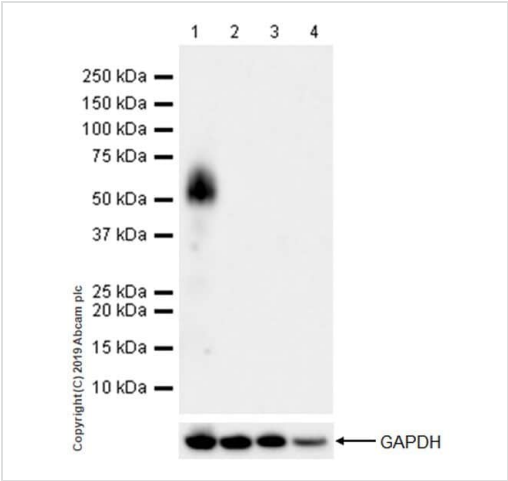
Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

Predicted band size: 76 kDa
Observed band size: 55-100 kDa

Exposure time: 1 second

Blocking/dilution buffer: 5% NFDM/TBST



Western blot - Anti-Tau antibody [EPR22524-95] (ab254256)

All lanes : Anti-Tau antibody [EPR22524-95] (ab254256) at 1/1000 dilution

Lane 1 : Human brain lysate
Lane 2 : Human fetal heart lysate
Lane 3 : Human fetal kidney lysate
Lane 4 : Human spleen lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/1000 dilution

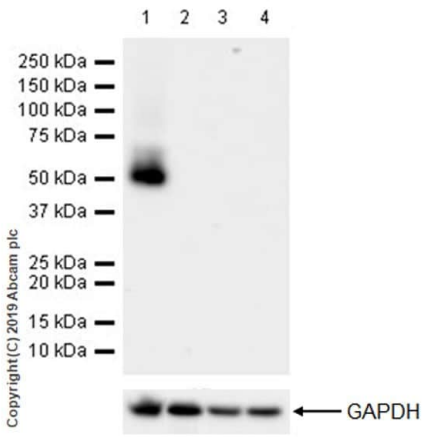
Predicted band size: 76 kDa
Observed band size: 50-70 kDa

Exposure time: 8 seconds

Negative control: human fetal heart, human fetal kidney, human spleen. (PMID: 24386422).

The molecular weight observed is consistent with what has been described in the literature (PMID: 24386422).

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-Tau antibody [EPR22524-95] (ab254256)

All lanes : Anti-Tau antibody [EPR22524-95] (ab254256) at 1/1000 dilution

Lane 1 : Mouse brain lysate
Lane 2 : Mouse heart lysate
Lane 3 : Mouse kidney lysate
Lane 4 : Mouse spleen lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

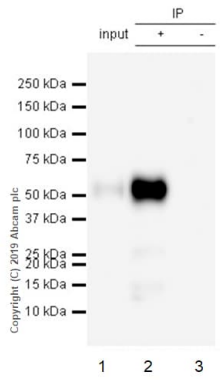
Predicted band size: 76 kDa
Observed band size: 50-70 kDa

Exposure time: 15 seconds

Negative control: mouse heart, mouse kidney, mouse spleen. (PMID: 24386422).

The molecular weight observed is consistent with what has been described in the literature (PMID: 24386422).

Blocking/Dilution buffer: 5% NFDM/TBST.

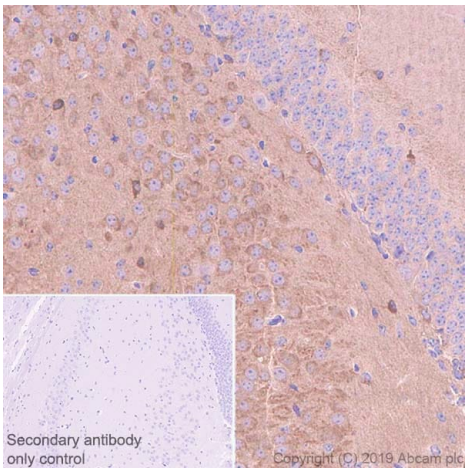


Immunoprecipitation - Anti-Tau antibody [EPR22524-95] (ab254256)

Tau was immunoprecipitated from 0.35 mg human brain lysate with ab254256 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab254256 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used at 1/5000 dilution.

Lane 1: Human brain lysate 10 µg (Input).
Lane 2: ab254256 IP in human brain lysate.
Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab254256 in human brain lysate.

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 10 seconds.



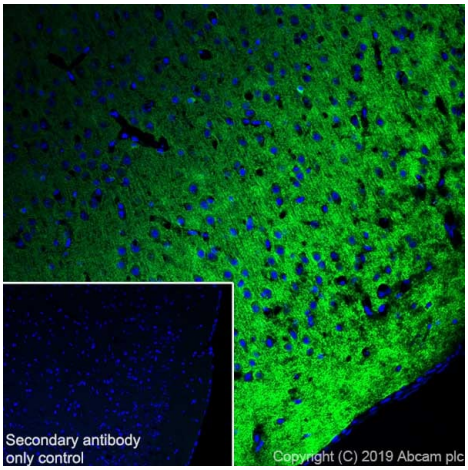
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau antibody [EPR22524-95] (ab254256)

Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue labeling Tau with ab254256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on mouse hippocampus (PMID: 22961084) is observed. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab254256 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

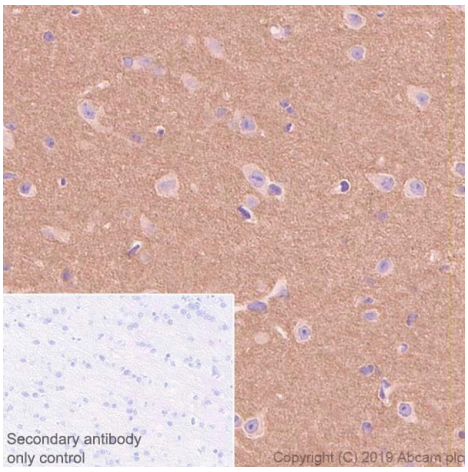


Immunohistochemistry (Frozen sections) - Anti-Tau antibody [EPR22524-95] (ab254256)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse cerebral cortex tissue labeling Tau with ab254256 at 1/100 dilution (green), followed by **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1,000 dilution. Positive staining on mouse cerebral cortex (PMID: 22961084) is observed. Counterstained with DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is **ab150077** AlexaFluor®488 Goat anti-Rabbit used at a 1/1,000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20).



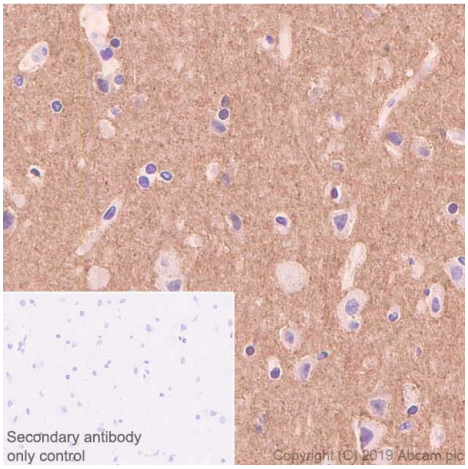
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau antibody [EPR22524-95] (ab254256)

Immunohistochemical analysis of paraffin-embedded mouse cerebral cortex tissue labeling Tau with ab254256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on mouse cerebral cortex (PMID: 22961084) is observed. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab254256 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



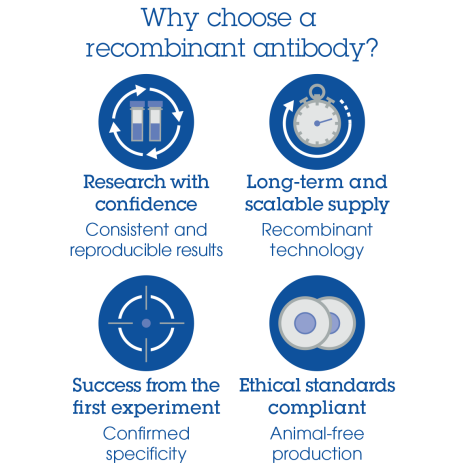
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau antibody [EPR22524-95] (ab254256)

Immunohistochemical analysis of paraffin-embedded human cerebral cortex tissue labeling Tau with ab254256 at 1/4000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on human cerebral cortex (PMID: 22961084) is observed. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab254256 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Anti-Tau antibody [EPR22524-95] (ab254256)

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