


### Anti-Tau (phospho S214) antibody [EPR1884(2)] ab170892

**重组 RabMAb**

★★★★★ **1 Abreviews** **10 References** **11 图像**

#### 概述

<b>产品名称</b>	Anti-Tau (phospho S214)抗体[EPR1884(2)]
<b>描述</b>	兔单克隆抗体[EPR1884(2)] to Tau (phospho S214)
<b>宿主</b>	Rabbit
<b>特异性</b>	The specificity of this antibody refers to P10636-8.
<b>经测试应用</b>	<b>适用于:</b> Dot blot, IHC-P, WB <b>不适用于:</b> Flow Cyt, ICC/IF or IP
<b>种属反应性</b>	<b>与反应:</b> Mouse, Human <b>预测可用于:</b> Rat 
<b>免疫原</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>阳性对照</b>	WB: SH-SY5Y and C57 mouse cerebral cortex cell lysates. IHC: Human brain, normal spleen, normal kidney, cervical carcinoma and glioma tissues; Mouse brain tissue. Human AD cerebral cortex. Dot Blot: Tau (phospho S214) phospho peptide and Tau non-phospho peptide.
<b>常规说明</b>	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> For more information <a href="#">see here</a> . Our RabMAb <sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a> .

#### 性能

<b>形式</b>	Liquid
<b>存放说明</b>	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.
<b>解离常数 (K<sub>D</sub>)</b>	K <sub>D</sub> = 6.47 x 10 <sup>-11</sup> M





[Learn more about K<sub>D</sub>](#)

<b>存储溶液</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
<b>纯度</b>	Protein A purified
<b>克隆</b>	单克隆
<b>克隆编号</b>	EPR1884(2)
<b>同种型</b>	IgG

**应用**

**The Abpromise guarantee**      **Abpromise™** 承诺保证使用 ab170892 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
<b>Dot blot</b>		1/1000.
<b>IHC-P</b>		1/100 - 1/250. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
<b>WB</b>		1/1000 - 1/10000. Predicted molecular weight: 78 kDa.

**应用说明**      Is unsuitable for Flow Cyt, ICC/IF or IP.

**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 (PDB) [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 disproportionately 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.

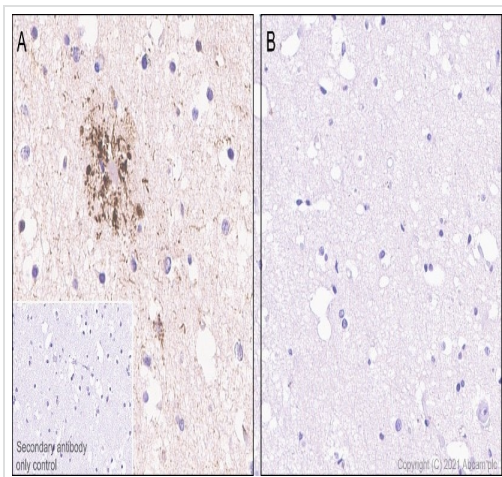
**细胞定位**

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**

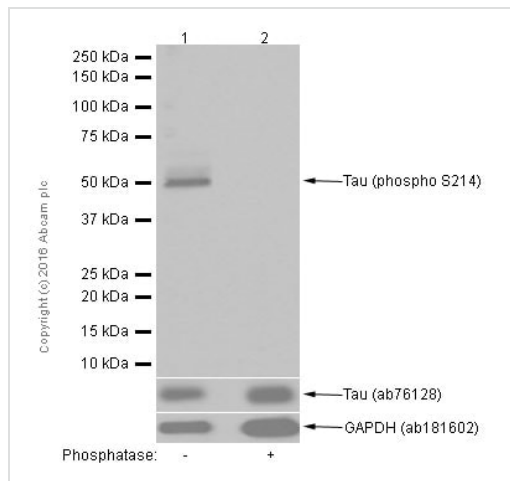


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human AD cerebral cortex tissue labelling Tau with ab170892 at 1/100 dilution. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody. Counterstained with hematoxylin.

Positive staining on human AD cerebral cortex without alkaline phosphatase treatment (image A). No signal was detected when tissues were treated with alkaline phosphatase (image B).

The section was incubated with ab170892 for 30 mins at room temperature. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument.



Western blot - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

**All lanes :** Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892) at 1/1000 dilution

**Lane 1 :** C57 mouse cerebral cortex whole cell lysates.

**Lane 2 :** C57 mouse cerebral cortex whole cell lysates. The membrane was incubated with phosphatase.

Lysates/proteins at 15 µg per lane.

### Secondary

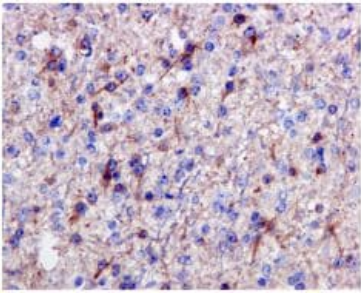
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

**Predicted band size:** 78 kDa

**Observed band size:** 50-70 kDa

**Exposure time:** 30 seconds

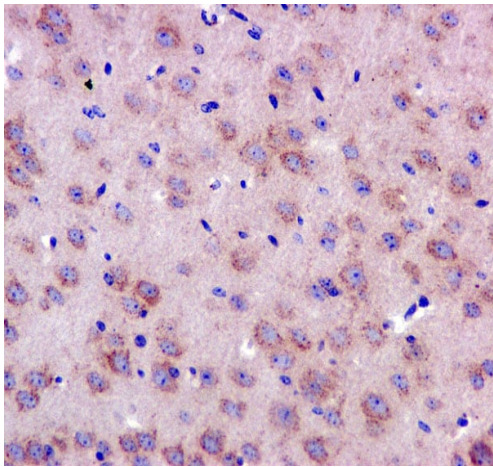
Blocking/Diluting buffer and concentration: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

Immunohistochemical analysis of paraffin-embedded Human glioma tissue labeling Tau (phospho S214) with ab170892 at 1/100 dilution.

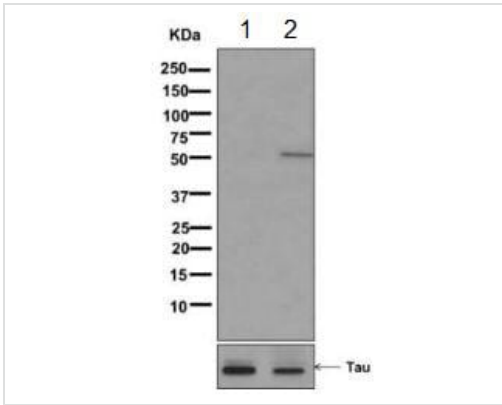
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

ab170892 showing +ve staining in Mouse brain tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Western blot - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

**All lanes :** Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892) at 1/1000 dilution

**Lane 1 :** SH-SY5Y cell lysates untreated

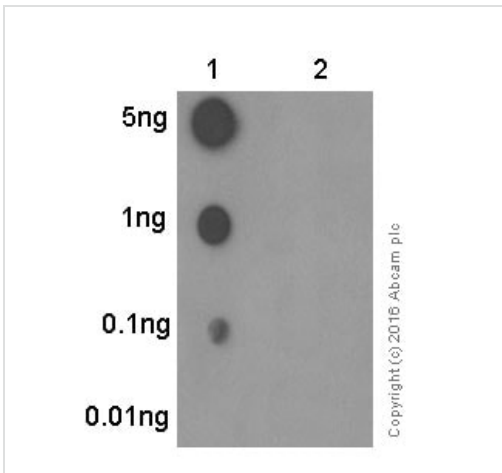
**Lane 2 :** SH-SY5Y cell lysates treated with Okadaic acid + Calyculin A.

Lysates/proteins at 10 µg per lane.

### Secondary

**All lanes :** Goat anti-rabbit HRP at 1/2000 dilution

**Predicted band size:** 78 kDa

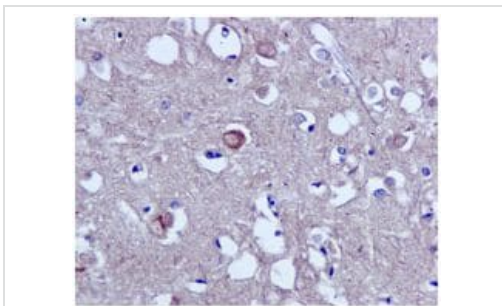


Dot Blot - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

Dot blot analysis of Tau (phospho S214) phospho peptide (Lane 1) and Tau non-phospho peptide (Lane 2) labeling Tau (phospho S214) with ab170892 at a dilution of 1/1000. [ab97051](#) (Peroxidase conjugated goat anti-rabbit IgG) (H+L) at 1/100 000 was used as the secondary antibody.

Blocking and diluting buffer: 5% NFD/MTBST.

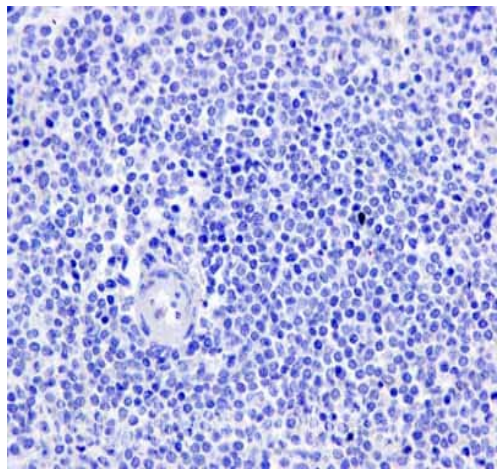
Exposure time: 3 minutes.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

Immunohistochemical analysis of paraffin-embedded Human brain tissue labeling Tau (phospho S214) with ab170892 at 1/100 dilution.

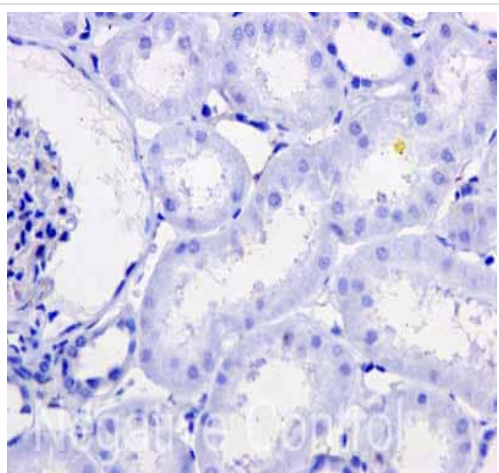
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

ab170892 showing -ve staining in Human normal spleen tissue.

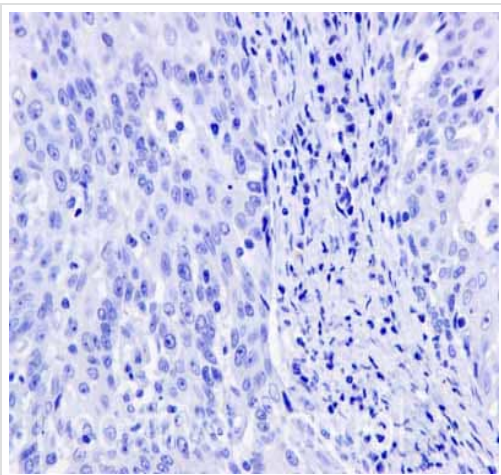
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

ab170892 showing -ve staining in Human normal kidney tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

ab170892 showing -ve staining in Human cervical carcinoma tissue.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



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Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Tau (phospho S214) antibody [EPR1884(2)] (ab170892)

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