abcam

Product datasheet

Anti-Tau (phospho S199) antibody [EPR2401Y] ab81268

重组 RabMAb

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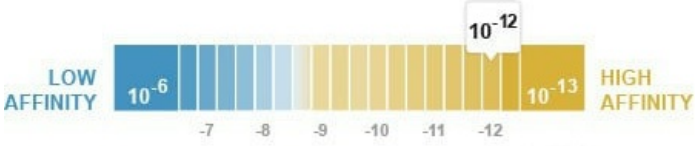
概述

产品名称	Anti-Tau (phospho S199)抗体[EPR2401Y]
描述	兔单克隆抗体[EPR2401Y] to Tau (phospho S199)
宿主	Rabbit
特异性	The specificity of this antibody refers to P10636-8.
经测试应用	**适用于:** WB, Dot blot **不适用于:** IHC-P
种属反应性	**与反应:** Mouse, Human **预测可用于:** Rat
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: Mouse cerebral cortex and human hippocampus tissue lysates, SH SY5Y cell 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. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
解离常数 (K_D)	K_D = 2.95 x 10^{-12} M



Learn more about K_D

存储溶液	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 0.05% BSA, 40% Glycerol (glycerin, glycerine), 59% PBS
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR2401Y
同种型	IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab81268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
WB	★★★★☆ (1)	1/5000 - 1/20000. Detects a band of approximately 55 kDa (predicted molecular weight: 79 kDa).
Dot blot		1/1000.

应用说明 Is unsuitable for IHC-P.

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.

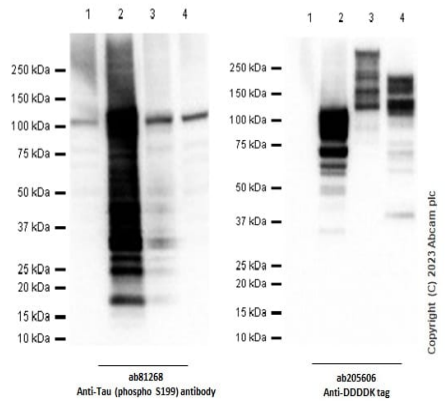
结构域 The tau/MAP repeat binds to tubulin. Type I isoforms contain 3 repeats while type II isoforms contain 4 repeats.

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 (phospho S199) antibody [EPR2401Y] (ab81268)

All lanes : Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268) 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

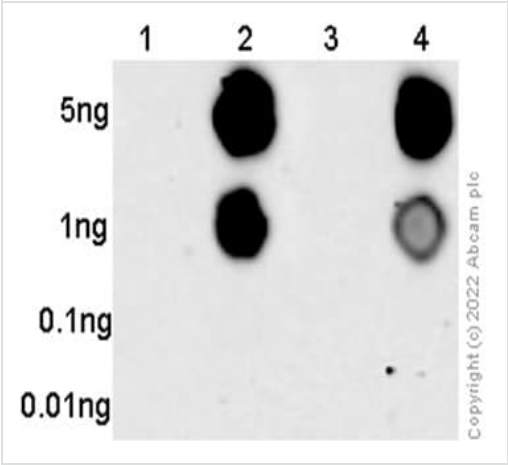
Lysates/proteins at 20 µg per lane.

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: 79 kDa
Observed band size: 55-100 kDa

Exposure time: 1 second

Blocking/dilution buffer: 5% NFDM/TBST



Dot Blot - Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268)

Dot blot analysis using 1/1000 dilution ab81268 and Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) secondary at 1/100000 dilution.

Blocking and diluting buffer: 5% NFDM/TBST

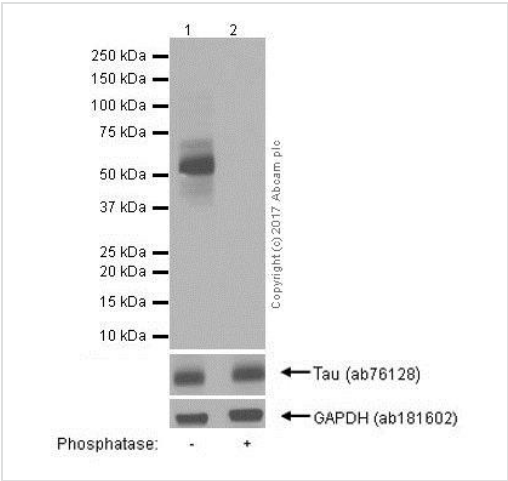
Lane 1: Tau non-phospho peptide

Lane 2: Tau S199 phospho peptide

Lane 3: Tau S202 phospho peptide

Lane 4: Tau S199+S202 phospho peptide

Exposure time: 3 minutes



Western blot - Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268)

All lanes : Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268) at 1/1000 dilution

Lane 1 : Mouse cerebral cortex tissue lysate
Lane 2 : Mouse cerebral cortex tissue lysate, The membrane was incubated with phosphatase

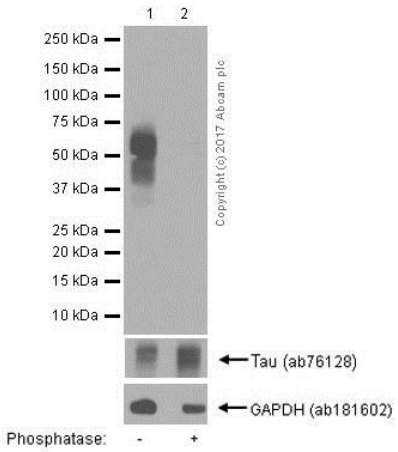
Lysates/proteins at 10 µg per lane.

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

Predicted band size: 79 kDa
Observed band size: 55 kDa

Exposure time: 5 seconds

Blocking and dilution buffer: 5% NFDM/TBST.



Western blot - Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268)

All lanes : Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268) at 1/1000 dilution

Lane 1 : Human hippocampus tissue lysate
Lane 2 : Human hippocampus tissue lysate. The membrane was incubated with phosphatase

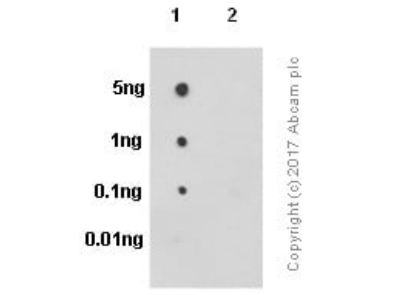
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/2000 dilution

Predicted band size: 79 kDa
Observed band size: 55 kDa

Exposure time: 1 minute

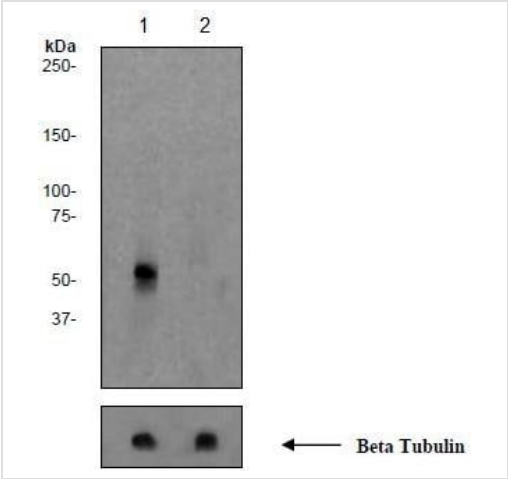
Blocking and dilution buffer: 5% NFDM/TBST.



Dot Blot - Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268)

Dot blot analysis of Tau (pS199) peptide (Lane 1) and Tau non-phospho peptide (Lane 2) labelling Tau (pS199) with ab81268 at a dilution of 1/1000. **ab97051** (peroxidase-conjugated goat anti-rabbit IgG (H+L)) was used as the secondary antibody at a dilution of 1/100000.

Exposure time: 3 minutes.
Blocking and dilution buffer: 5% NFDM/TBST.



Western blot - Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268)

All lanes : Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268) at 1/20000 dilution

Lane 1 : SH SY5Y cell lysate

Lane 2 : SH SY5Y cell lysate treated with alkaline phosphatase

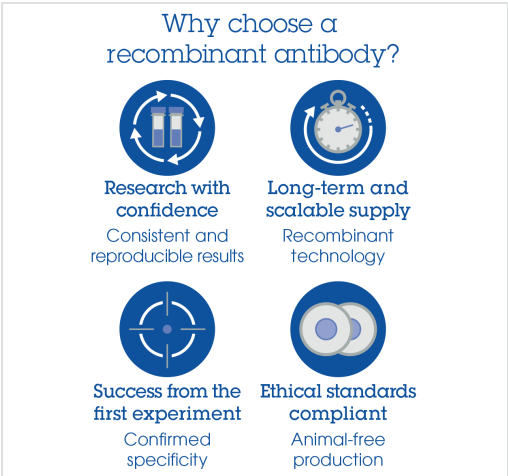
Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 79 kDa

Observed band size: 55 kDa



Anti-Tau (phospho S199) antibody [EPR2401Y] (ab81268)

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