abcam

Product datasheet

Anti-Tau (phospho T205) antibody [EPR23505-13] ab254410

重组 RabMAb

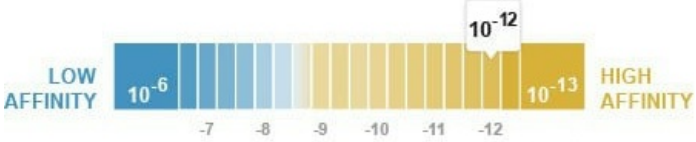
2 References 13 图像

概述

产品名称	Anti-Tau (phospho T205)抗体[EPR23505-13]
描述	兔单克隆抗体[EPR23505-13] to Tau (phospho T205)
宿主	Rabbit
特异性	The specificity of this antibody refers to P10636-8.
经测试应用	**适用于:** IHC-P, IHC-Fr, Dot blot, IP, WB **不适用于:** ICC/IF
种属反应性	**与反应:** Mouse, Rat, Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: Human brain tissue lysate; Mouse brain tissue lysate; rat hippocampus tissue lysate. IHC-P: Human Alzheimer's disease cerebrum and breast tissue; Rat cerebrum tissue. IHC-Fr: Rat cerebrum tissue; Mouse cerebrum tissue. IP: Rat brain tissue lysate; Mouse brain tissue 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.
解离常数(K_D)	K_D = 1.00 x 10^{-12} M



Learn more about K_D

存储溶液	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR23505-13
同种型	IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab254410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
IHC-P		1/20000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IHC-Fr		1/500. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).
Dot blot		1/1000.
AP		Use at an assay dependent concentration. **Antibody concentration range -** 6.67, 3.33, 1.67, 0.83, 0.42, 0 nM/mL
IP		1/30.
WB		1/1000. Detects a band of approximately 50-70 kDa (predicted molecular weight: 78 kDa).

应用说明 Is unsuitable for ICC/IF.

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.

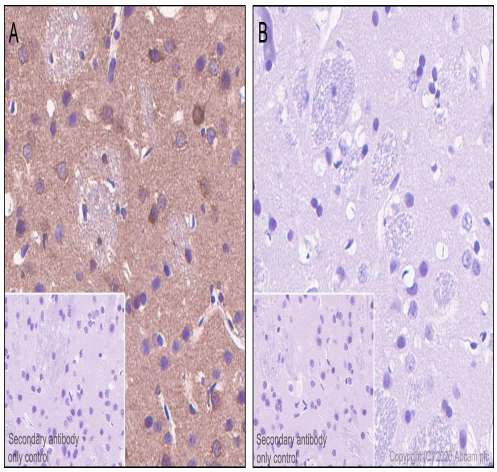
结构域 The tau/MAP repeat binds to tubulin. Type I isoforms contain 3 repeats while type II isoforms contain 4 repeats.

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

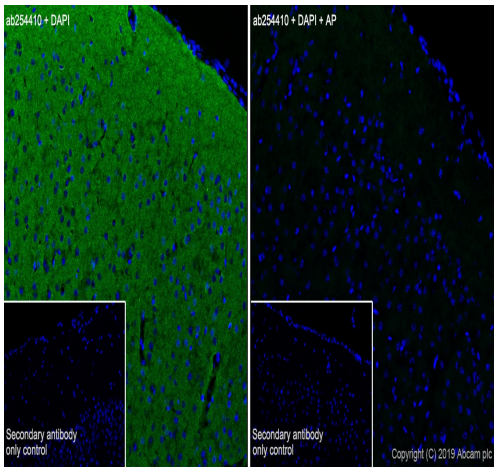


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling Tau (phospho T205) with ab254410 at 1/20000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on rat cerebrum without alkaline phosphatase treatment (image A, PMID: 28035925). No signal was detected when tissues were treated with alkaline phosphatase (image B).The section was incubated with ab254410 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins.

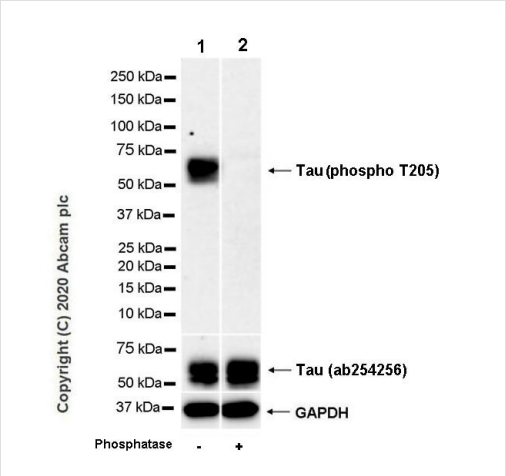


Immunohistochemistry (Frozen sections) - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse cerebrum tissue labeling Tau (phospho T205) with ab254410 at 1/500 (1.034 ug/ml) dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on mouse cerebrum, while nearly no staining on mouse cerebrum after alkaline phosphatase (AP) treatment. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

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



Western blot - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

All lanes : Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410) at 1/1000 dilution

Lane 1 : Human brain tissue lysate
Lane 2 : Human brain tissue lysate (phosphatase treated membrane)

Lysates/proteins at 10 µg per lane.

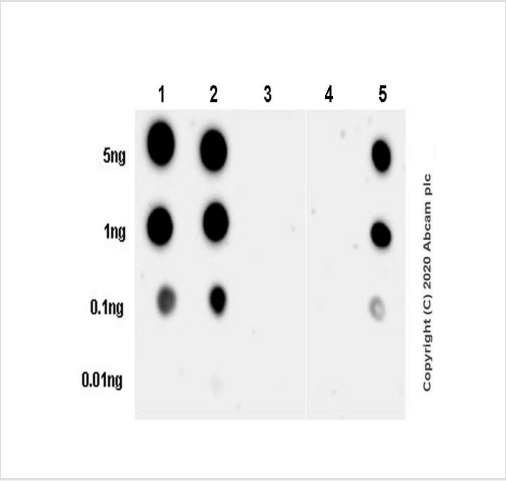
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/100000 dilution

Predicted band size: 78 kDa
Observed band size: 50-70 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

The molecular weight observed is consistent with what has been described in the literature (PMID: 21722209).



Dot Blot - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Dot blot analysis of Tau (phospho T205) labeled with ab254410 at 1/1000 dilution.

Lane 1: Tau (phospho S202+T205) peptide (aa 199-211).

Lane 2: Tau (phospho S202+T205) peptide (aa 197-209).

Lane 3: Tau peptide (aa 197-211).

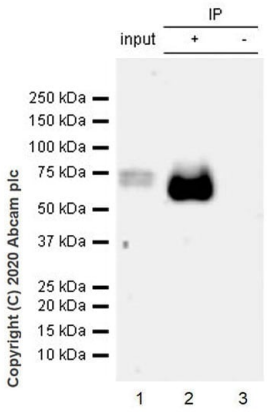
Lane 4: Tau (phospho S202) peptide (aa 197-211).

Lane 5: Tau (phospho T205) peptide (aa 197-211).

Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution was used as secondary antibody.

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.



Immunoprecipitation - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Tau (phospho T205) was immunoprecipitated from 0.35 mg Rat brain tissue lysate with ab254410 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab254410 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/5000 dilution.

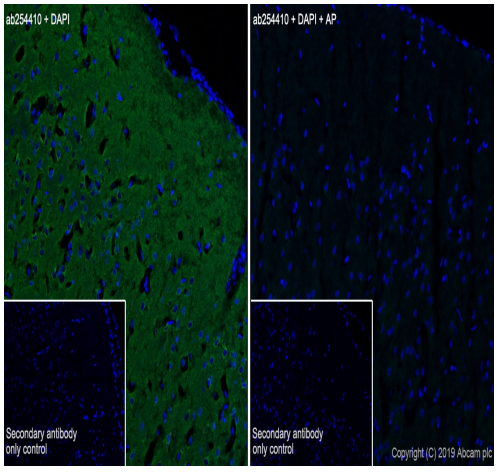
Lane 1: Rat brain tissue lysate 10 ug

Lane 2: ab254410 IP in Rat brain tissue lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab254410 in Rat brain tissue lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

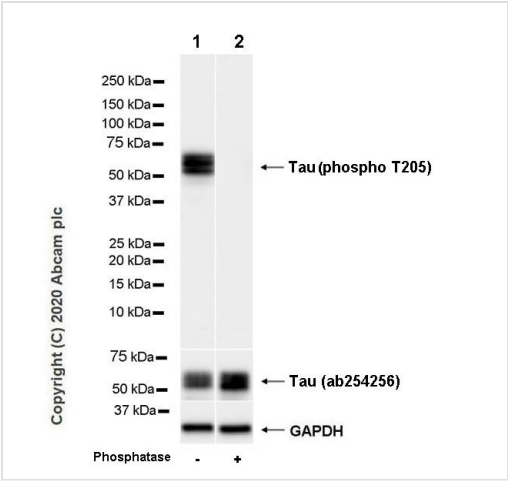


Immunohistochemistry (Frozen sections) - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat cerebrum tissue labeling Tau (phospho T205) with ab254410 at 1/500 (1.034 ug/ml) dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on rat cerebrum, while nearly no staining on rat cerebrum after alkaline phosphatase (AP) treatment. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

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



Western blot - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

All lanes : Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410) at 1/1000 dilution

Lane 1 : Rat hippocampus tissue lysate
Lane 2 : Rat hippocampus tissue lysate (phosphatase treated membrane)

Lysates/proteins at 10 µg per lane.

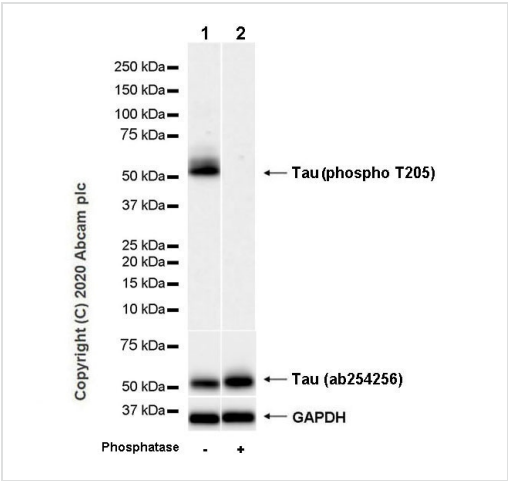
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/100000 dilution

Predicted band size: 78 kDa
Observed band size: 50-70 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 48 seconds.

The molecular weight observed is consistent with what has been described in the literature (PMID: 21722209).



Western blot - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

All lanes : Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410) at 1/1000 dilution

Lane 1 : Mouse brain tissue lysate
Lane 2 : Mouse brain tissue lysate (phosphatase treated membrane)

Lysates/proteins at 10 µg per lane.

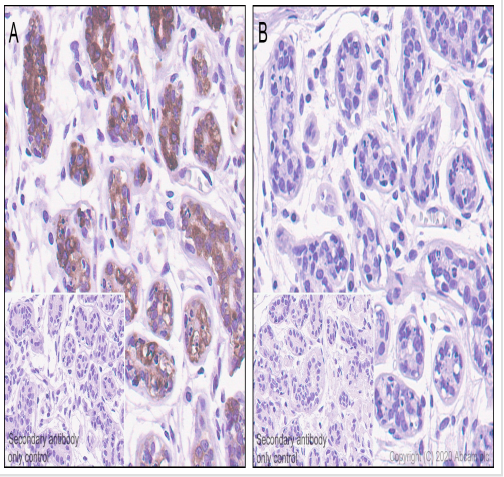
Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/100000 dilution

Predicted band size: 78 kDa
Observed band size: 50-70 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 70 seconds.

The molecular weight observed is consistent with what has been described in the literature (PMID: 21722209).

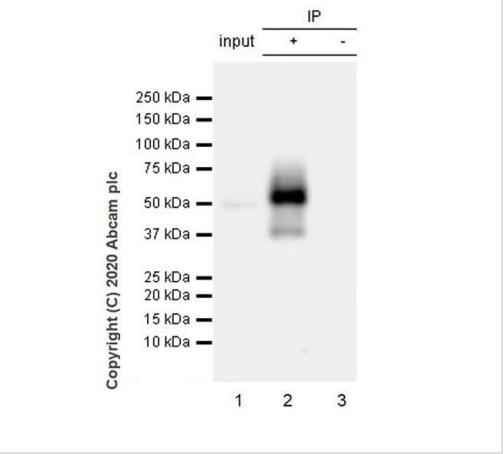


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Immunohistochemical analysis of paraffin-embedded Human breast tissue labeling Tau (phospho T205) with ab254410 at 1/20000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on human breast without alkaline phosphatase treatment (image A, PMID: 15914550). No signal was detected when tissues were treated with alkaline phosphatase (image B). The section was incubated with ab254410 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins.



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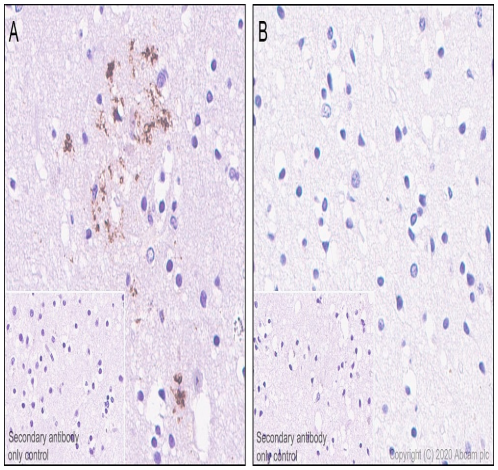
Lane 1: Mouse brain tissue lysate 10 ug

Lane 2: ab254410 IP in Mouse brain tissue lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab254410 in Mouse brain tissue lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.

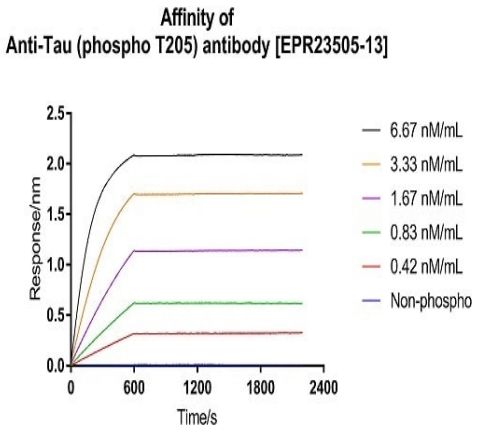


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Immunohistochemical analysis of paraffin-embedded Human Alzheimer's disease cerebrum tissue labeling Tau (phospho T205) with ab254410 at 1/20000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on human Alzheimer's disease cerebrum without alkaline phosphatase treatment (image A, PMID: 20631843). No signal was detected when tissues were treated with alkaline phosphatase (image B). The section was incubated with ab254410 for 10 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

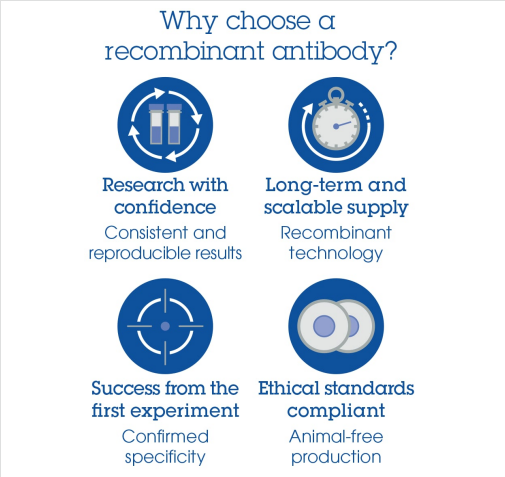
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins.



Affinity Purification - Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

Biotinylated Tau (phospho T205) peptide [0.1 µg/ml] was loaded to SA biosensor on Fortebio RED96e Machine, then associate with recombinant Anti-Tau (phospho T205) antibody [EPR23505-13] in serial concentration points [6.67, 3.33, 1.67, 0.83, 0.42 nM/mL] by 2-fold dilution, next to dissociate in blank testing buffer [0.1% BSA in PBST (0.05%Tween-20)]. Calculated signals had already subtracted blank control, curve fitting using 1:1 binding model. Non-phospho Tau peptide' association and dissociation were also showed in graph. KD(M) value of Anti-Tau (phospho T205) antibody [EPR23505-13] is <1.0E-12



Anti-Tau (phospho T205) antibody [EPR23505-13] (ab254410)

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