Alexa Fluor® 647 anti-Tau Phospho (Thr231) Antibody

Catalog# / Size	683853 / 25 µg 683854 / 100 µg
Clone	A23009A
Regulatory Status	RUO
Other Names	Microtubule-associated protein tau, PHF-tau, paired helical filament-tau, neurofibrillary tangle protein, microtubule-associated protein tau, isoform 4, G protein beta1/gamma2 subunit-interacting factor 1, MAPT
Isotype	Mouse IgG2b, κ
Description	Paired helical filaments (PHFs) are the major building blocks of neurofibrillary lesions in Alzheimer's disease brains and are composed of hyperphosphorylated Tau protein. Predominantly expressed in axons, alternatively spliced forms of Tau comprise a family of microtubule-associated proteins that normally promote and stabilize the assembly of microtubules. PHF-Tau differs from normal Tau by its abnormal hyperphosphorylation, which results in decreased binding of Tau to microtubules. The decreased affinity of PHF-Tau for microtubules, coupled with reduced levels of normal Tau, destabilizes microtubules leading to an impairment of axonal transport, neuronal death and the aggregation of PHFs. Therefore, hyperphosphorylation of Tau is believed to be a key event in the pathogenesis of Alzheimer's disease.

Product Details

Verified Reactivity	Human, Rat
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Synthetic human Tau peptide phosphorylated at Thr231
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze**.
Application	IHC-P - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1.0 - 10.0 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	For use of this antibody in immunohistochemistry on FFPE tissues (IHC-P), we recommend Citrate buffer (Cat. No. 420902) for antigen retrieval.
RRID	AB_3675195 (BioLegend Cat. No. 683853)

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Antigen Details

Structure	Tau proteins constitute a family of six isoforms with the range from 352-441 amino acids with molecular weights from 55 kD to 78 kD.
Distribution	Microtubules associated in axons of neurons of the central nervous system
Function	Maintain stability of microtubules in neurons. It is regulated by phosphorylation.
Interaction	Tubulin microtubules
Cell Type	Neurons
Biology Area	Cell Biology, Cell Motility/Cytoskeleton/Structure, Cell Structure, Neurodegeneration, Neuroscience Cell Markers, Protein Misfolding and Aggregation
Molecular Family	Intermediate Filaments, Tau
Antigen References	1. Lasagna-Reeves CA, *et al*. 2012. *FASEB J*. 26:1946-1959. 2. Mitchell TW, *et al*. 2000. *J Histochem Cytochem*. 48:1627-1637. 3. Hong M, *et al*. 1997. *J Biol Chem*. 272:25326-25332. 4. Bramblett GT, *et al*. 1993. *Neuron*. 10:1089-1099.
Gene ID	4137

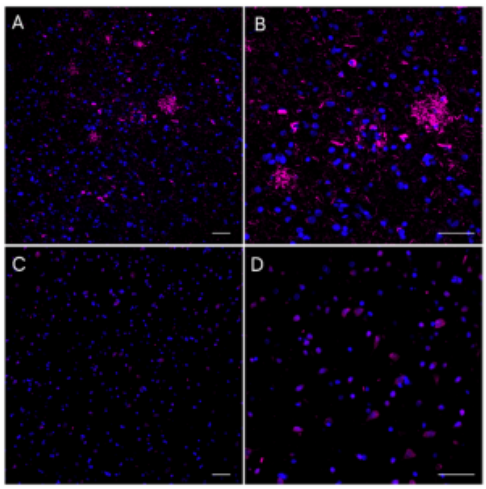
Related Protocols

- Immunohistochemistry Protocol for Paraffin-Embedded Sections

Other Formats

Purified anti-Tau Phospho (Thr231), Alexa Fluor® 647 anti-Tau Phospho (Thr231)

Product Data



Immunohistochemistry (IHC) staining of Tau Phospho (Thr231) was performed on formalin-fixed, paraffin-embedded human cortex tissue from Alzheimer's Disease patients (panels A and B) and normal controls (panels C and D). Antigen retrieval was achieved using Citrate buffer (Cat. No. 420902). The tissue was then incubated with Alexa Fluor® 647 anti-Tau Phospho (Thr231) (clone A23009A). Nuclei were counterstained with DAPI (Cat. No. 422801). Images were captured using a 20X objective (panels A and C) or a 40X objective (panels B and D). Scale bar: 50 µm

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