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Phospho-Tau (Ser404) (D2Z4G) Rabbit mAb (Alexa Fluor® 647 Conjugate)

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: IF-F	Reactivity: H M R	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P10636-8	Entrez-Gene Id: 4137
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Product Usage Information	Application Immunofluorescence (Frozen)	Dilution 1:50
Storage	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.	
Specificity/Sensitivity	Phospho-Tau (Ser404) (D2Z4G) Rabbit mAb (Alexa Fluor® 647 Conjugate) recognizes endogenous levels of tau protein when phosphorylated at Ser404. This antibody detects single phosphorylation at Ser404, dual phosphorylation at Ser400/Ser404 or Thr403/Ser404, and triple phosphorylation at Ser400/Thr403/Ser404. This antibody does not detect peptides with single phosphorylation at Ser400 or Thr403, and dual phosphorylation at Ser400/Thr403.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser400/Thr403/Ser404 of human Tau protein.	
Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct immune fluorescent analysis in mouse tissue. This antibody is not expected to exhibit the same species cross-reactivity as the unconjugated Phospho-Tau (Ser404) (D2Z4G) Rabbit mAb #20194. Species cross-reactivity for IF is mouse only.	
Background	Tau is a heterogeneous microtubule-associated protein that promotes and stabilizes microtubule assembly, especially in axons. Six isoforms with different amino-terminal inserts and different numbers of tandem repeats near the carboxy terminus have been identified, and tau is hyperphosphorylated at approximately 25 sites by Erk, glycogen synthase kinase-3 (GSK-3), and CDK5 (1,2). Phosphorylation decreases the ability of tau to bind to microtubules. Neurofibrillary tangles are a major hallmark of Alzheimer's disease (AD); these tangles are bundles of paired helical filaments (PHFs) composed of hyperphosphorylated tau. In particular, phosphorylation at Ser396 by GSK-3 or CDK5 destabilizes microtubules. Furthermore, research studies have shown that inclusions of tau are found in a number of other neurodegenerative diseases, collectively known as tauopathies (1,3).	
Background References	<ol style="list-style-type: none"> Johnson, G.V. and Stoothoff, W.H. (2004) <i>J Cell Sci</i> 117, 5721-9. Hanger, D.P. et al. (1998) <i>J Neurochem</i> 71, 2465-76. Bramblett, G.T. et al. (1993) <i>Neuron</i> 10, 1089-99. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Applications Key	IF-F: Immunofluorescence (Frozen)
Cross-Reactivity Key	H: Human M: Mouse R: Rat
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