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CNPase (D83E10) XP[®] Rabbit mAb (Alexa Fluor[®] 488 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: #P09543	Entrez-Gene Id: 1267
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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	CNPase (D83E10) XP [®] Rabbit mAb (Alexa Fluor [®] 488 Conjugate) detects endogenous levels of total CNPase protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val81 of human CNPase protein.	
Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor [®] 488 fluorescent dye and tested in-house for direct immunofluorescent analysis in rat tissue. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated CNPase (D83E10) XP [®] Rabbit mAb #5664.	
Background	CNPase (2', 3'-cyclic nucleotide 3'-phosphodiesterase) catalyzes the <i>in vitro</i> hydrolysis of 2', 3'-cyclic nucleotides to produce 2'-nucleotides. The <i>in vivo</i> molecular function and native substrate of this nucleotide phosphodiesterase remains under investigation (1). High CNPase expression is seen in oligodendrocytes and Schwann cells as CNPase accounts for roughly 4% of the total myelin protein in the central nervous system (2). CNPase binds to tubulin heterodimers and plays a role in tubulin polymerization, and oligodendrocyte process outgrowth (3). Typical myelination is seen in CNPase knock-out mice, but they suffer severe neurodegeneration from axonal loss and oligodendrocytes display abnormal paranodal loop structure prior to axonal degeneration. Paranodal loops typically contact the axolemma in axon-glia signaling; neurodegeneration in CNPase knock-out mice is a secondary consequence of impaired cell-cell communication (4).	
Background References	<ol style="list-style-type: none"> Esposito, C. et al. (2008) <i>Biochemistry</i> 47, 308-19. Kozlov, G. et al. (2003) <i>J Biol Chem</i> 278, 46021-8. Lee, J. et al. (2005) <i>J Cell Biol</i> 170, 661-73. Lappe-Siefke, C. et al. (2003) <i>Nat Genet</i> 33, 366-74. 	
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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