

#2986 Store at -20°C

CNPase Antibody


Cell Signaling
TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	47	Rabbit	#P09543	1267

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	CNPase Antibody detects endogenous levels of total CNPase protein.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human CNPase. Antibodies are purified by protein A and peptide affinity chromatography.	
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-glial signaling; neurodegeneration in CNPase knock-out mice is a secondary consequence of impaired cell-cell communication (4).	
Background References	1. Esposito, C. et al. (2008) <i>Biochemistry</i> 47, 308-19. 2. Kozlov, G. et al. (2003) <i>J Biol Chem</i> 278, 46021-8. 3. Lee, J. et al. (2005) <i>J Cell Biol</i> 170, 661-73. 4. 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).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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