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Store at -20C
#2986

CNPase Antibody

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

Applications: W	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 47	Source/Isotype: Rabbit	UniProt ID: #P09543	Entrez-Gene Id: 1267
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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 *in vitro* hydrolysis of 2', 3'-cyclic nucleotides to produce 2'-nucleotides. The *in vivo* 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

- Esposito, C. et al. (2008) *Biochemistry* 47, 308-19.
- Kozlov, G. et al. (2003) *J Biol Chem* 278, 46021-8.
- Lee, J. et al. (2005) *J Cell Biol* 170, 661-73.
- Lappe-Siefke, C. et al. (2003) *Nat Genet* 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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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