

#5664 Store at -20C

# CNPase (D83E10) XP<sup>®</sup> Rabbit mAb



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

<b>Applications:</b> W, W-S, IP, IF-F	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 47	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P09543	<b>Entrez-Gene Id:</b> 1267
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## Product Usage Information

### Application

Western Blotting  
Simple Western™  
Immunoprecipitation  
Immunofluorescence (Frozen)

### Dilution

1:1000  
1:10 - 1:50  
1:50  
1:50 - 1:100

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #51765.

## Specificity/Sensitivity

CNPase (D83E10) XP<sup>®</sup> Rabbit mAb recognizes 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.

## 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 **W-S:** Simple Western™ **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen)

## Cross-Reactivity Key

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

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