

# Anti-CNPase, clone 11-5B

Monoclonal Antibody

Cat. # MAB326R

Lot # LV1638248

pack size: 100 µg

Store at 2-8°C

FOR RESEARCH USE ONLY  
NOT FOR USE IN HUMANS



## Certificate of Analysis

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Applications	Species Cross-Reactivity	Antibody Isotype	Epitope/Region	Host Species	Molecular Weight	Accession #
WB, IC, IH	B, Ca, H, M, R, Rb, Sh	IgG1	N/A	M	48 & 46 kDa	NM_033133.4

### Background

CNPase (2', 3'-cyclic nucleotide 3'-phosphodiesterase [or -phosphohydrolase], EC 3.1.4.37) is present in very high levels in brain and peripheral nerve. This enzyme is found almost exclusively in oligodendrocytes and Schwann cells, the cells that form myelin in the central and peripheral nervous system, respectively. Therefore, CNPase has been very useful as a marker for these particular cell types. Developmentally, this enzyme appears early in oligodendrocytes, earlier than most other myelin proteins. It continues to be expressed at high levels in oligodendrocytes and Schwann cells of adult animals. In various diseases, neurological mutants, and in experimental conditions in which myelin is reduced, CNPase levels may be severely reduced. The enzyme itself exists in two forms in most species (three in mouse) with molecular masses of 48 and 46 kDa on SDS-PAGE, referred to as CNP2 and CNP1, respectively. Studies continue to elucidate the physiological role of the enzyme.

### Presentation

Liquid. Buffer = 0.02M Phosphate buffer, pH 7.6, 0.25M NaCl with 0.1% sodium azide.

### Concentration

1 mg/mL

### Specificity

Anti-CNP reacts with both CNP1 and CNP2 in many species.

### Immunogen

Purified human 2', 3'-cyclic nucleotide 3'-phosphodiesterase

### Molecular Weight

48 & 46 kDa

### Method of Purification

Protein A Purified

### Storage and Handling

Stable for 6 months at 2-8°C in undiluted aliquots from date of receipt.

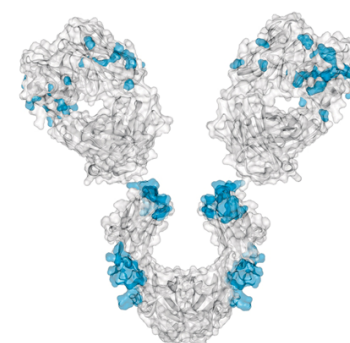
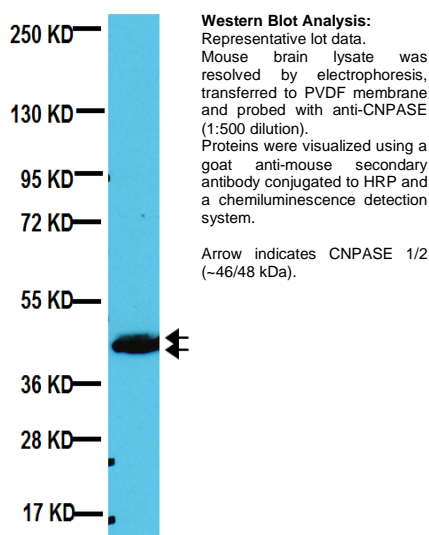
### Control

Oligodendrocyte culture, Brain lysate

### Quality Control Testing

Evaluated by Western Blot on Mouse brain lysates.

Western Blotting Analysis: 1:500 dilution of this antibody detected CNPASE 1/2 on 10 µg of Mouse brain lysates.



### References

1. Zhao, Lixia, *et al.* (2006). *J Neurosci.* 26:11278-86.
2. Miki, Toshio, *et al.* (2005). *Stem Cells.* 23:1549-1559.
3. Sprinkle, T. J., *et al.* (1991). *Soc. Neurosci. Abstr.* 17.1:376.
4. Sprinkle, T. J. (1989). *CRC Crit. Rev. Neurobiol.* 4(3):235.
5. Harlow, E. and Lane, D. (1988). *Antibodies: A Laboratory Manual, Cold Spring Harbor Laboratory, N.Y.* p. 359

### Additional Research Applications

Immunohistochemistry: A previous lot of this antibody was used in IH (10 µg/mL antibody, prepared fresh daily).

Immunocytochemistry: A previous lot of this antibody was used in IC (10 µg/mL antibody, prepared fresh daily).

Optimal working dilutions must be determined by end user.

**APPLICATION LEGEND:** WB Western Blotting IP Immunoprecipitation IC Immunocytochemistry IF Immunofluorescence  
IH Immunohistochemistry (Tissue)

**SPECIES LEGEND:** B Bovine Ca Canine (Dog) H Human M Mouse R Rat Rb Rabbit Sh Sheep

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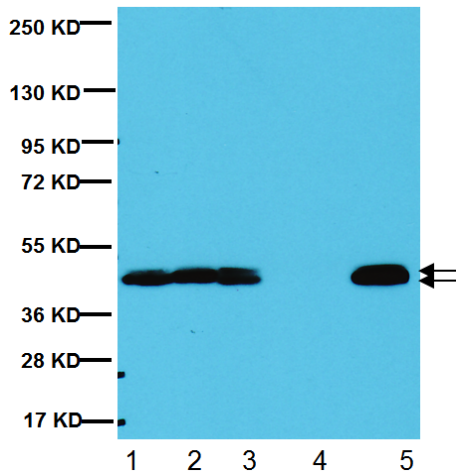
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**Additional Research Applications**



**Western Blot Analysis:**

Representative image from a previous lot. Mouse brain lysate (Lane1), Rat brain lysate (Lane2), Human brain lysate (Lane 3), PC12 lysate (Lane 4) and Mouse brain membrane lysate (Lane 5) were resolved by electrophoresis, transferred to PVDF membrane and probed with anti-CNPASE (1:500 dilution of a previous lot). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and a chemiluminescence detection system.

Arrow indicates CNPASE 1/2 (~46/48 kDa).

**PROTOCOL**

**Western Blot**

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on cell lysate and transfer the proteins to a PVDF membrane. Wash the PVDF membrane twice with water.
2. Block the blotted PVDF membrane in freshly prepared 5% BSA or milk with 0.05% Tween<sup>®</sup>-20 for 1 hour at room temperature with constant agitation.
3. Incubate the PVDF with the recommended dilution of Anti-CNPase, clone 11-5B diluted in freshly prepared 5% BSA or milk for 1 hour at room temperature or overnight with agitation at 2-8°C.
4. Wash the PVDF 3 times with TBST.
5. Incubate the PVDF in the secondary reagent of choice (a Donkey Anti-Mouse IgG, HRP conjugate, Catalog # AP192P 1:1000 dilution was used) in 5% milk for 1 hour with agitation at room temperature.
6. Wash the PVDF 3-5 times with TBST.
7. Use Spray and Glow Catalog # 17-373 to visualize results. Use as directed.

**RELATED PRODUCTS (specific)**

cat #	description
AB9342	■ Anti-CNPase
MAB326	■ Anti-CNPase, clone 11-5B
AB16994	■ Anti-Phosphodiesterase V
CC157	■ Bovine Phosphodiesterase V
AP124P	■ Goat anti-Mouse IgG, Peroxidase Conjugated, H+L

**RELATED PRODUCTS (non-specific)**

cat #	description
IPVH00010	■ Immobilon-P 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPFL00010	■ Immobilon-FL 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPVH07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.45 mm (sheet) 50/pk
ISEQ00010	■ Immobilon-P SQ 26.5 cm x 3.75 m 1 roll PVDF 0.2 µm
ISEQ07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.2 mm (sheet) 50/pk
IPFL07810	■ Immobilon-FL 7 x 8.4 cm PVDF 0.45 mm (sheet) 10/pk
WBKLS0100	■ Immobilon Western Chemilum HRP Substrate 100 mL
17-373	■ Spray & Glow™ ECL WB Detection System 1 ea
2060	■ Re-Blot Western Blot Recycling Kit
2500	■ Re-Blot Plus Western Blot Recycling Kit
B2080-175GM	■ Blot Quick Blocker Membrane Blocking Agent 175G

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

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