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Datasheet for 100-401-D21

CNPase Antibody

Overview

Description:	Anti-CNP (2,3-cyclic nucleotide-3-phosphodiesterase) (RABBIT) Antibody - 100-401-D21
Item No.:	100-401-D21
Size:	50 µL
Applications:	IHC, WB
Reactivity:	Human, Mouse, Rat, Rabbit, Sheep
Host Species:	Rabbit

Product Details

Background:	CNP antibody recognizes CNP or 2,3-cyclic nucleotide-3-phosphodiesterase which is a membrane bound, microtubule associated protein that is among the most abundant myelin proteins of the CNS. It is thought that CNP may serve as a regulator of tubulin polymerization and of microtubule distribution. It was recently found that CNP may also function as a possible linker protein anchoring microtubules to the plasma membrane via a 13 residue C-terminal CNP fragment. Anti-CNP antibody is ideal for investigators involved in Cell Signaling, Neuroscience, Signal Transduction research.
Synonyms:	CNPase
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CNP
Reactivity:	Human, Mouse, Rat, Rabbit, Sheep
Immunogen Type:	Native Protein
Immunogen:	Anti-CNP Antibody was produced in rabbit by repeated immunizations with endogenous rabbit 2,3 cyclic nucleotide-3-phospho-diesterase

Purity/Specificity:	Anti-CNP antibody is directed against rabbit CNP. was prepared as neat antiserum by delipdation and defibrination from monospecific antiserum. Anti-CNP antibody recognizes CNP from rabbit, mouse, human, rat and sheep sources. Cross reactivity with CNP from other species has not been determined.
Relevant Links:	• UniProtKB - G1T512

Application Details

Tested Applications:	IHC, WB
Application Note:	Anti-CNP has been tested in western blot and IHC and is suitable for usage in ELISA. Specific conditions for reactivity should be optimized by the end user. Expect a 46kDa band by western blot corresponding to CNP protein in the appropriate cell lysate of tissue.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000
IHC:	1:1000
WB:	1:1000

Formulation

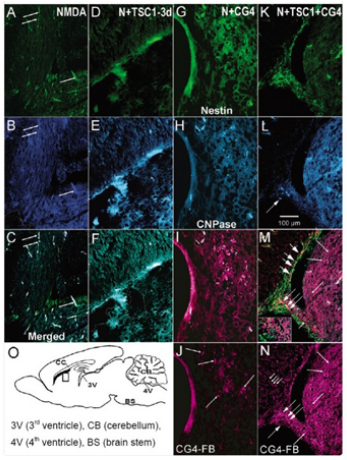
Physical State:	Liquid

Shipping & Handling

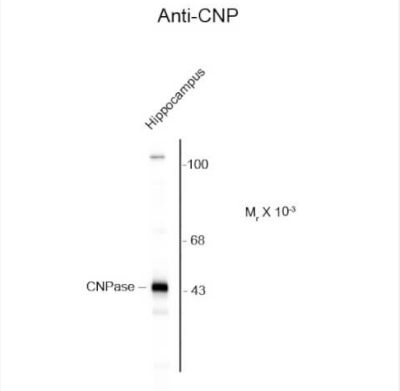
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

Immunofluorescence Microscopy
Representative views of the CC and striatum 35 days after treatment.
(A) In the presence of NMDA alone there was considerable nestin-expression loss in the brain parenchyma, just a few



nestin-expressing cells were present in the SVZ. Nonetheless, pericytes were nestin-GFP labeled. The blood vessels were auto-fluorescent and the tissue presented a spongy aspect in the striatum, the white outline shows tissue loss. (B) CNPase expression was absent from the white matter regions. (C) The merged image illustrates better the presence of few nestin-expressing cells in the apical portion of the SVZ and the auto-fluorescence of capillaries. The absence of CNPase is clearly appreciated. (D) The injection of NMDA followed by TSC1 3 days after the excitotoxic insult resulted in auto-fluorescence quenching, loss of nestin-expressing cells and some tissue loss in this region. (E) Two kinds of cells expressed CNPase small cells organized as rows in the CC and large flat and fibrous-like cells. (F) The merged image confirms the presence of small nestin-positive cells and some tissue loss has been outlined. (G) When central glial 4 cells-oligodendrocyte progenitors (CG4-OLPs) were injected with NMDA nestin expression was absent in the striatum, and just a few blood vessels were auto-fluorescent. (H) The tissue appears spongy and there is not CNPase expression. (I) The merged picture shows the presence of a few grafted cells and autofluorescent blood vesels. (J) A few FB-labeled grafted cells seen in pseudo-color magenta (arrows) distributed in just one region of the tissue. (K) View of the effects of NMDA with the combinatorial treatment of TSC1 + CG4-OLP grafts where we can appreciate nestin-GFP-expressing cells in the SVZ and the wall of the ventricle. (L) Some small cells expressed CNPase (arrows). (M) The merged picture shows grafted cells intermingled with nestin-labeled host cells (short arrows) or adjacent to the nestin-expressing host cells. This image allows for the visualization of FB+ cells (seen in magenta) arranged in straight and long rows starting from the SVZ towards the striatum brain parenchyma (long arrows with short heads) point to some of these cell rows. At the level of the SVZ FB-grafted cells and nestin-GFP host cells appear to overlap showing spots of yellow fluorescence (medium size arrows). Inset shows in detail FB-labeled cells and host nestin-expressing cells. (N) The striatum was populated by CG4-OLPs FB-labeled (magenta, short headed long arrows). small arrow points to a grafted cell in the SVZ. (O) Diagramatic representation of a sagittal view of mouse brain indicating a single site of injection and the regions from which pictures were taken. CC: Corpus callosum; CG4: central glial 4 cells; CNPase: cyclic nucleotide 3’-phosphohydrolase; FB: Fast Blue; GFP: green fluorescent protein; NMDA: N-methyl-D-aspartate; OLPs: oligodendrocyte progenitors; SVZ: subventricular zone;



Western blot of rat brain lysate showing specific immunolabeling of the ~46k CNP protein.

TSC1: the combination of transferrin and insulin growth factor 1. Fig 3. PMID: 31571668

Western Blot
Western Blot of Rabbit Anti-CNP (2,3-cyclic nucleotide-3-phosphodiesterase) (Rabbit) Antibody. Lane 1: rat brain lysate. Lane 2: none. Load: 10 µg per lane. Primary antibody: CNP antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: ~ 46k, ~ 46k for CNP protein. Other band(s): none.

References

- Megumi HI. et al. Trophic factors are essential for the survival of grafted oligodendrocyte progenitors and for neuroprotection after perinatal excitotoxicity. *Neural Regeneration Research* (2020)

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