

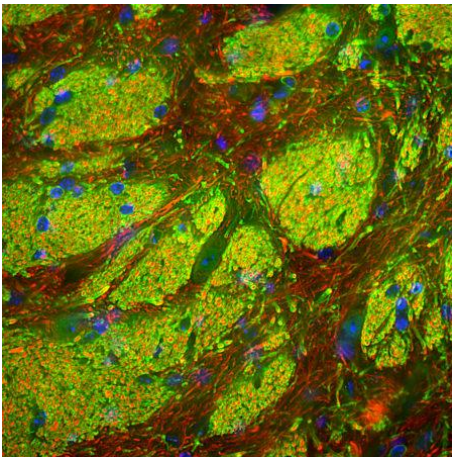


Catalog Number:	GT22105	Host:	Goat
Product Type:	Goat Polyclonal	Species Reactivity:	Human, Rat, Mouse, Cow, Pig
Immunogen Sequence:	Full length human recombinant protein expressed in and purified from <i>E. coli</i>	Format:	Affinity purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3
Applications:	Immunofluorescence: 1:3,000 Immunohistochemistry: 1:3,000 Western Blot: 1:5,000		
Storage:	Dilutions listed as a recommendation. Optimal dilution should be determined by investigator. Antibody can also be aliquotted and stored frozen at -20° C in a manual defrost freezer for six months without detectable loss of activity. The antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Avoid repeated freeze-thaw cycles.		

Application Notes

Description/Data

The 2',3'-cyclic nucleotide 3'-phosphodiesterase (CNP), is an enzyme which catalyzes the hydrolysis of 2',3'-cyclic nucleotides to 2'-nucleotides. These cyclic nucleotides are structurally different from the better known and studied 3'5'-cyclic nucleotides of which the best known example is cyclic AMP. CNP has two isoforms, CNPase 1 (~46kDa) and CNPase 2 (~48kDa), which are encoded separately by different promoters of the same gene. These enzymes are present in very high levels in brain and peripheral nerve, makes up 4% of total CNS myelin protein. They are found almost exclusively in oligodendrocytes and Schwann cells, appearing early in oligodendrocyte development, earlier than most other myelin specific proteins. Antibodies to CNP have been very useful as a marker for these particular cell types. CNP is thought to play a critical role in the events leading up to myelination, for the oligodendrocytes overexpressing CNP appear to mature earlier in development, resulting in earlier maximum gene expression for myelin basic proteins. It has been reported that CNP is also associated with microtubules in brain tissue and may promote microtubule assembly. CNP can link tubulin to cellular membranes, and may regulate cytoplasmic microtubule distribution.



The antibody was made against the full length recombinant form of human CNP expressed in and purified from *E. Coli*, and the antibody can be used to identify myelinating cells in cell culture and in sections and to trace axonal projections in sectioned material.

Image: Immunofluorescent analysis of a section of mouse striatum stained with goat pAb to CNP, GT22105, dilution 1:3,000 in green, and costained with rabbit pAb to NF-L, dilution 1:5,000, in red. The blue is Hoechst staining of nuclear DNA. Following transcardial perfusion of mouse with 4% paraformaldehyde, the brain was post fixed for 24 hours, cut to 45µm, and free-floating sections were stained with above antibodies. The CNP antibody stains myelin sheath and the plasma membranes of oligodendrocytes, the myelin producing cells of the CNS. The NF-L antibody labels axons of neuronal cells enclosed by the myelin.

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