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| <b>Catalog Number:</b>     | CH22128  | <b>Host:</b>               | Chicken   |
| <b>Product Type:</b>       | Chicken Polyclonal   | <b>Species Reactivity:</b> | Human, Rat, Mouse, Cow, Pig, Horse                      |
| <b>Immunogen Sequence:</b> | Full length human recombinant protein  | <b>Format:</b>             | Supplied as an aliquot of IgY preparation plus 5mM NaN3 |
| <b>Applications:</b>       | Immunofluorescence: 1:2,000<br>Immunohistochemistry: 1:2000<br>Western Blot: 1:5,000-10,000  |                            |   |
| <b>Storage:</b>            | 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. |                            |   |

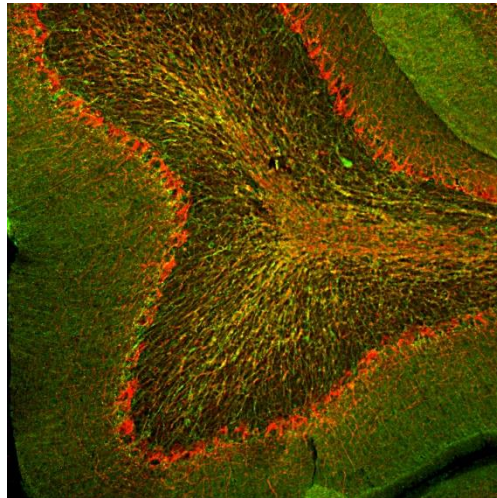
### Application Notes

#### 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. In various diseases, neurological mutants, and in experimental conditions in which myelin is reduced, CNP levels may also be severely reduced. Decreased brain levels of CNP have also been reported in Down syndrome and Alzheimer's disease.

This 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 rat cerebellum section stained with chicken pAb to CNP, dilution 1:2,000 in green and costained with rabbit pAb to NF-H, dilution 1:10,000, in red. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µm, and free-floating sections were stained with above antibodies. The CNP antibody stains myelin and oligodendrocytes, cells that create the myelin sheath around axons. The NF-H antibody labels the heavily phosphorylated axonal forms of NF-H which are localized in large projection axons.*



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