

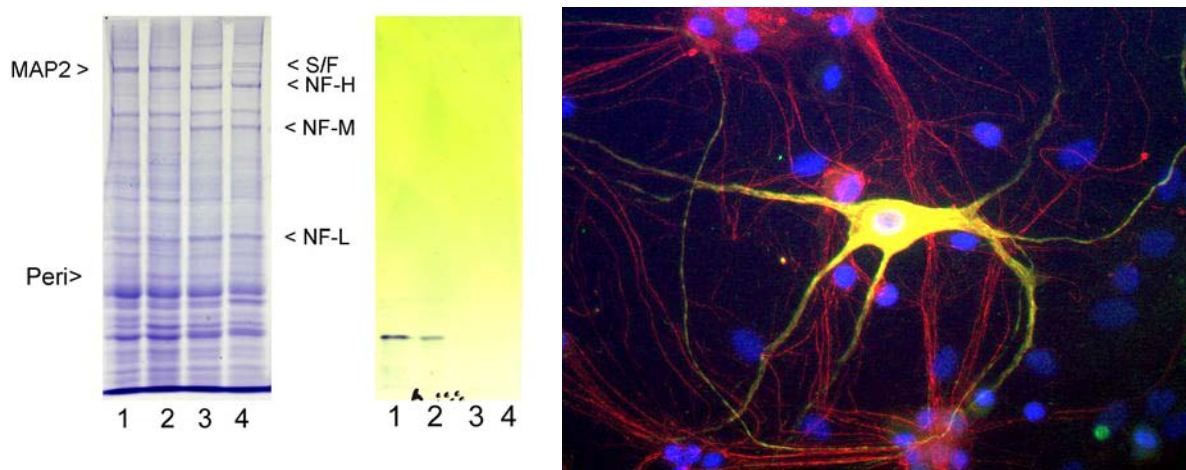
Catalogue# CPCA-Peri: Chicken Polyclonal Antibody to the Intermediate Filament Protein Peripherin

The Immunogen: Peripherin is a ~57kDa intermediate filament subunit found initially in sensory neurons of the peripheral nervous systems, which gives the protein its name (1). Subsequently, peripherin was found in some sensory and other neurons of the central nervous system and also in rat pheochromocytoma PC12 cells (2,3). Peripherin is also expressed in certain neuroendocrine tumors and in the insulin producing cells of the pancreas. Peripherin belongs to the Class III family of intermediate filament subunits which also includes vimentin, glial fibrillary acidic protein (GFAP) and desmin.

Antibodies to peripherin can be used in identifying, classifying, and studying neurons throughout the nervous system. Peripherin is also a good diagnostic marker for ballooned axons seen in Lou Gehrig's disease (Amyotrophic lateral sclerosis) and some neuronally derived tumors. Autoantibodies to peripherin are frequently seen in the sera of patients with diabetes. Peripherin is not related to peripherin/RDS, a protein of the photoreceptor outer membrane mutations of which are causative of certain forms of slow retinal degeneration.

The characterization of an antibody produced in the same way as CPCA-Peri, but in rabbit, has been published (4). The [HGNC](#) name for this protein is [PRPH](#).

This antibody was generated in chicken by standard procedures and immunoglobulin was extracted from egg yolk. The resulting polyclonal antibody belongs to the IgY subclass. This is the chicken homologue of mammalian IgG and can be used in the same general way, with the caveat that this type of antibody does not bind either Protein A or Protein G. The IgY total concentration is 26 mg/mL. Suitable second antibody reagents can be obtained from many vendors including Molecular Probes and Sigma-Aldrich.



Figures: **Left** are Coomassie Brilliant Blue stained whole protein extracts of adult rat cortex (lane 1), brain stem (lane 2), cerebellum (lane 3), and spinal cord (lane 4) separated on 8% SDS-PAGE. The major neurofilament subunits are indicated by "NF-L", "NF-M" and "NF-H", spectrin/fodrin by "S/F" and Microtubule associated protein 2 by "MAP2". **Middle** panel is a western blot of similar preparations separated on 6% SDS-PAGE and processed for immunoblotting with CPCA-Peri at a dilution of 1:10,000. A clear band running at 57kDa apparent size is seen in the spinal cord and brain stem lanes, but not in the other regions, in which peripherin is a very minor component. The position of this band on the Coomassie stained preparation is a little higher on the 8% gel and is indicated by "Peri" in the left panel. **Right** shows rat mixed neuron/glial cultures stained with CPCA-Peri, (green channel) and the EnCor rabbit polyclonal antibody to the neurofilament subunit α -internexin RPCA- α -Int (red channel). These cultures contain mostly neurons which are rich in α -internexin, and a subgroup which have a large amount of peripherin also, such as the prominent cell in the middle of the micrograph. Since this cell expresses large amounts of both peripherin and α -internexin, the green and red signals superimpose to produce a golden yellow cell. The blue signal is a DNA stain and reveals the nuclei of neurons and non-neuronal cells.

Antibody Characteristics: Antibody was raised in chicken against recombinant full length peripherin purified from *E. coli*. The production and characterization of a similar rabbit antibody was described in reference 1 below. This antibody is an IgY preparation, with total protein content about 30 mg/mL. The preparation contains 10mM sodium azide as a preservative. Store at 4°C or -20°C. Avoid repeat freezing and thawing.

Suggestions for use: Try at dilutions of 1:1,000 and higher for immunofluorescence. For western blots try at 1:10,000. A suitable control tissue is rat spinal cord or peripheral nerve homogenate (see above). The peripherin protein runs at 57 kDa.

References:

1. Portier MM, de Néchaud B, Gros F. Peripherin, a new member of the intermediate filament protein family. [Dev Neurosci. 6:335-44 \(1984\).](#)
2. Troy CM, Brown K, Greene LA, Shelanski ML. Ontogeny of the neuronal intermediate filament protein, peripherin, in the mouse embryo. [Neuroscience. 36:217-37 \(1990\).](#)
3. Aletta JM, Angeletti R, Liem RK, Purcell C, Shelanski ML, Greene LA. Relationship between the nerve growth factor-regulated clone 73 gene product and the 58-kilodalton neuronal intermediate filament protein (peripherin). [J Neurochem. 51:1317-20 \(1988\).](#)
4. Errante LD, Wiche G and Shaw G. Distribution of plectin, an intermediate filament-associated protein, in the adult rat central nervous system [J. Neurosci. Res. 37:515-528 \(1994\).](#)

Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.

[©EnCor Biotechnology Inc.](#) May 23, 2014