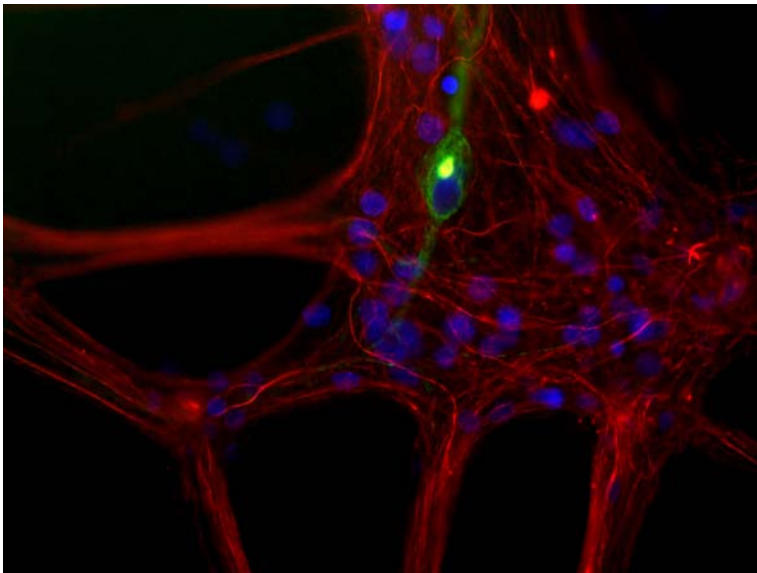


**Catalogue# MCA-7C5: Peripherin Monoclonal Antibody 7C5**

**The Immunogen:** Peripherin is a ~57 kDa 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 very similar to MCA-7C5 has been published (4). The [HGNC](#) name for this protein is [PRPH](#).



**Image:** Mixed neuron/glia cultures from newborn rat brain stained with MCA-7C5 antibody to peripherin (green) and rabbit polyclonal antibody to NF-L [RPCA-NF-L](#) (red channel). A class of large neurons, like the one in the middle of this image, contain peripherin, while the majority of neurons and their processes contain NF-L and not peripherin. Interestingly, the peripherin positive cells often contain a cytoplasmic inclusion next to the nucleus which stains for both peripherin and NF-L, and so appears golden in this kind of image. The blue channel reveals the localization of DNA.

**Antibody characteristics:** MCA-7C5 was raised against recombinant rat peripherin purified from E. coli. The clone was initially screened on ELISA of the immunogen, and subsequently tested on sections of rat brain. MCA-7C5 was one of several clones which stained processes expected to be peripherin positive. The antibody is clean and specific for the expected 57kDa band on Western blots. Subsequent studies indicated that MCA-7C5 is relatively insensitive to aldehyde fixation and is superior for this purpose than 8G2, a widely used anti-peripherin monoclonal antibody. MCA-7C5 stains peripherin in a variety of mammalian species, but gives

equivocal results on chicken tissues. MCA-7C5 has a mouse IgG1 with a  $\kappa$  light chain. Antibody preparation contains 10 mM sodium azide preservative (Link to <http://www.encorbio.com/MSDS/azide.htm> for Material Safety Data Sheet).

**Suggestions for use:** MCA-7C5 is supplied as concentrated tissue culture supernatant generated with an Integra CL350 flask. For immunocytochemistry we recommend dilutions of 1:200, and for western blot 1:1,000. Store at 4°C. For safest long-term storage, maintain aliquots at -80°C or -20°C. Avoid repeated freeze-thaw cycles.

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

**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 \(1994\).](#)

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