Catalogue# MCA-8G2: Peripherin Monoclonal Antibody 8G2

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 pheochromacytoma 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 this antibody has been published (4) and has been on the market through many companies for several years, so many other publications make use of this reagent (5-9). The HGNC name for this protein is PRPH.

Figure: Left: Lane 1 shows Coomassie blue stain of a cytoskeletal extract of rat spinal cord. H, M and L indicate the positions of the three major neurofilament subunits, while G corresponds to glial fibrillary acidic protein (GFAP). Immunoblotting of MCA-8G2 on this material is shown in lane 2. Lane 3 shows staining with our rabbit polyclonal antibody to peripherin RPCA-Peri. Peripherin runs at ~57 kDa and so is a little larger than GFAP and vimentin which run at ~50 kDa (lane 4 shows blotting with a vimentin antibody). Right: A neuron in a rat cortical neuron culture which stains strongly for peripherin with MCA-8G2 (red). A minority of cells in such cultures are strongly peripherin positive. In some cases they also stain for other neurofilament subunits, but this particular cell shows very little staining for NF-L using our rabbit polyclonal antibody RPCA-NF-L (green). Blue is the DNA stain DAPI.
**Antibody characteristics:** MCA-8G2 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. 8G2 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. While subsequent studies indicated that 8G2 is relatively sensitive to aldehyde fixation and so is not recommended for heavily fixed formalin fixed sections of brain. 8G2 stains peripherin in a variety of mammalian species, but gives equivocal results on chicken tissues. 8G2 is a mouse IgG1 with a κ light chain. Store at 4°C. For safest long-term storage, maintain aliquots at -80°C or at -20°C. Avoid repeated freeze-thaw cycles.

**Suggestions for use:** The antibody is provided as concentrated tissue culture supernatant from CL350 flasks. We recommend trying the antibody at 1:500 for immunofluorescence and 1:5,000 of western blotting purposes.

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

**References:**


**Examples:** For image of an immunoblot [http://www.encorbio.com/Album/pages/Peri-Blot.htm](http://www.encorbio.com/Album/pages/Peri-Blot.htm)


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