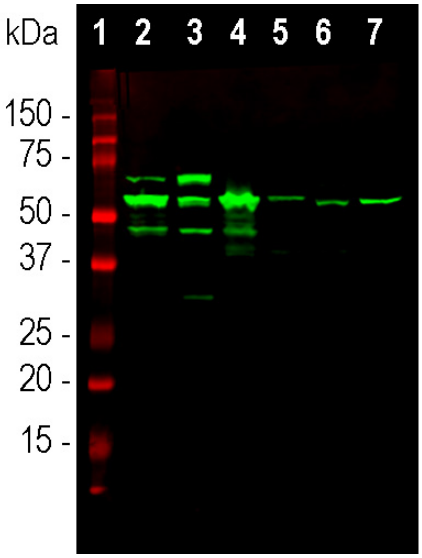
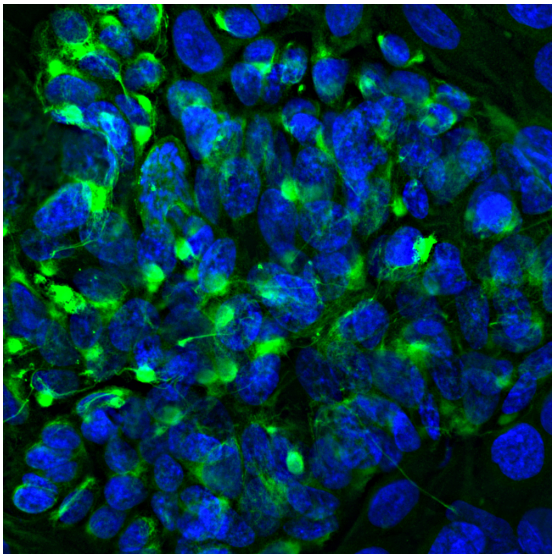
Peripherin
Rabbit Polyclonal Antibody

RPCA-Peri

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Rabbit		57kDa	Hu, Rt, Ms, Pi, Co



Western blot analysis of tissue and cell lysates using rabbit pAb to peripherin, RPCA-Peri, dilution 1:10,000 in green: [1] protein standard, [2] rat spinal cord, [3] mouse spinal cord, [4] pig spinal cord, [5] cow spinal cord, [6] SH-SY5Y cells and [7] PC12 cells. The major band at ~57kDa corresponds to the major peripherin protein isoform, while other bands presumably represent protein products of alternate transcripts of the peripherin gene.



Immunofluorescent analysis of the widely used rat pheochromocytoma PC 12 cell line stained with rabbit polyclonal antibody to peripherin, RPCA-Peri, dilution 1:2,000, in green. The blue is Hoechst staining of nuclear DNA. Peripherin, one of the Class III family of intermediate filament subunit proteins, is a major component of the PC12 cell forming a perinuclear cap, with some filaments visible in the cytoplasm.

Background:

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 as a major cytoskeletal protein in rat pheochromacytoma PC12 cells (2,3). Peripherin is expressed in certain neuroendocrine cells and in the insulin producing cells of the pancreas, and autoantibodies to peripherin may be seen in diabetes mellitus (4). It is also prominently expressed in certain tumors and in the ballooned axons typical of amyotrophic lateral sclerosis (5,6). Different classes of neuron and nerve fiber may be identified based on their expression of peripherin, NF-L and other markers (e.g. 7). There are multiple transcripts from the single peripherin gene, some of which encode proteins which produce proteins unable to form intermediate filaments and which induce the formation of pathological inclusions (8,9). The production and characterization of an antibody similar to RPCA-Peri has been described (10). Note that the intermediate filament subunit peripherin (HGNC PRPH) is completely unrelated to peripherin/RDS (HGNC PRPH2), a retinal protein belonging to the tetraspanin family.

The RPCA-Peri antibody was made against full length human peripherin expressed in and purified from *E. coli* and has been widely used. We also manufacture a mouse monoclonal antibody to peripherin which has also been used in studies of peripherin expression for many years and in many peer reviewed publications, MCA-8G2. We also made an alternate mouse monoclonal which binds rodent but not human peripherin, MCA-7C5, and also a chicken polyclonal antibody, CPCA-Peri.

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Ordering Information
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HGNC Name: *PRPH*
UniProt: *P41219*
RRID: *AB_2572375*
Immunogen: *Full length recombinant human peripherin expressed in and purified from E. coli*
Format: *Supplied as an aliquot of serum plus 5mM NaN_3*
Storage: *Storage for short term at 4°C recommended, for longer term at -20°C, minimize freeze/thaw cycles*
Recommended dilutions:
WB: 1:1,000-1:2,000. IF/ICC and IHC: 1:2,000.

References:

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4. Puertas MC, et al. Peripherin Is a Relevant Neuroendocrine Autoantigen Recognized by Islet-Infiltrating B Lymphocytes. J. Immunol. 178:6533-9 (2007).
5. Migheli A, et al. Peripherin immunoreactive structures in amyotrophic lateral sclerosis. Lab. Invest. 68:185-91 (1993).
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7. Goldstein ME, House SB, Gainer H. NF-L and peripherin immunoreactivities define distinct classes of rat sensory ganglion cells. J. Neurosci. Res. 30:92-104 (1991).
8. Landon F, et al. Multiple mRNAs encode peripherin, a neuronal intermediate filament protein. EMBO J. 8:1719-26 (1989).
9. Robertson J, et al. A neurotoxic peripherin splice variant in a mouse model of ALS. J. Cell Biol. 60:939-49 (2003).
10. 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).

Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken Dr—D. rerio Dm—D. melanogaster Sm—S. mutans Ce—C. elegans Sc—S. cerevisiae Sa—S. aureus Ec—E. coli.