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ProductInformation

Monoclonal Anti-Peripherin
Clone 8G2
Purified Mouse Immunoglobulin

Product Number **P 5117**

Product Description

Monoclonal Anti-Peripherin (mouse IgG1 isotype) is derived from the 8G2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with the full-length recombinant rat peripherin. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Peripherin recognizes peripherin from human, cow, pig, rabbit, cat, rat, and mouse (approximately 60 kDa). The product may be used in ELISA,[1] immunoblotting,[1] and immunohistochemistry.[2]

The intermediate filament (IF) network spreads from the cell periphery to the nucleus and forms linkages between nuclear matrix, actin microfilaments, and the extracellular matrix.[2,3] The proteins which form IF are divided into five different Classes (I-V) consisting of nearly fifty different proteins, which are each expressed in a tissue specific manner. These proteins are the keratins (Classes I and II), vimentin, desmin, peripherin, and glial fibrillary acidic protein (GFAP) (Class III), the neurofilament triplet proteins, nestin, and α-internexin (Class IV) and the nuclear lamins (Class V).[2,3]

Neurofilaments are defined as the IF proteins of neurons, and those isolated from mature axons contain predominantly the neurofilament triplet proteins, called NF-L, NF-M, and NF-H for their relative positions on SDS-PAGE gels. However neurofilaments may also contain several other IF proteins such as peripherin, nestin, vimentin, and α-internexin. These other proteins are expressed in a developmental and cell type specific fashion, and thus antibodies to these proteins are useful markers of neuronal cell type and developmental state. In many neurological diseases such as Alzheimer's disease, ALS (Lou Gehrig's disease), and giant axon neuropathies, accumulation of neurofilaments is observed.[2,3]

Peripherin was originally identified as a neuronal IF protein thought to be expressed only in the peripheral nervous system (PNS),[4] hence the name. Independently other workers detected peripherin as a 57 kDa protein that is upregulated during pheochromocytoma PC12 cell differentiation.[5] Later studies have detected peripherin also in certain central nervous system (CNS) neurons.[6,7]

Peripherin can be detected in subclasses of usually smaller neurons in sensory and sympathetic ganglia, cervical ventral roots, cranial nerve ganglia, and throughout the enteric nervous system. Certain cortical, hippocampal, and cerebellar neurons also express peripherin, and the ballooned axons of neurons affected by ALS stain with peripherin antibody. Antibodies to peripherin may be used to study and classify neuronal cell types in both the CNS and PNS.

Reagent

Monoclonal Anti-Peripherin is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Antibody concentration: Approx. 1 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

A working concentration of 0.5-1 µg/ml is determined by immunoblotting, using a total cell extract from rat PC12 cells.

Note: In order to obtain the best results using different techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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6. Brody, B.A., et al., J. Neurosci., **9,** 2391-2401 (1989).
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