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Product Information

Anti-Neurofilament 160 antibody, Mouse monoclonal
clone NN18, purified from hybridoma cell culture

Product Number **SAB4200740**

Product Description

Anti-Neurofilament 160 antibody, Mouse monoclonal, (mouse IgG1 isotype) is derived from the NN18 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mouse immunized with neurofilaments purified from pig spinal cord. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Neurofilament 160 antibody specifically recognizes the neurofilament of molecular weight 160 kDa from human[1], mouse[2], rat, porcine[3], canine[4], chicken[5], guinea pig[6], feline[6], bovine[6], tortoise[6] and lizard[6] origin. It does not react with other intermediate filament proteins. The antibody is recommended to use in various immunochemical assays, including Immunoblot (~160 kDa), Immunohistochemistry[1] and Immunofluorescence[2]. Monoclonal Anti-Neurofilament 160 antibody reacts with both phosphorylated and non-phosphorylated forms of Neurofilament 160.[7-8]

Neurofilaments (NFs) belong to the intermediate filament (IF) family and are expressed mainly in cells or tissues of neuronal origin. NFs are the components of most eukaryotic cells and significantly differ from other cytoskeletal elements of the cell, namely microtubules and microfilaments. NFs are the major elements of cytoskeleton supporting the axon cytoplasm of the cells. Three major NFs subunits were discovered : light (NF-L, ~68 kDa), medium (NF-M, ~160 kDa) and heavy (NF-H, ~200 kDa), which are themselves composed of two tetrameric protofilament complexes of monomeric proteins.[9] Neurofilament 160, also known as Neurofilament medium polypeptide, NF-M, Neurofilament 3 or Neurofilament triplet M protein, appears as a 160 kDa band at Immunoblot due to high phosphorylation at the C-terminal region of the molecule.

NFs can accumulate in large numbers within cell bodies and proximal axons of affected neurons in a variety of pathologies, including Charcot-Marie-Tooth disease (CMT), neurofilament inclusion disease (NFID), giant axonal neuropathy (GAN), diabetic neuropathy, spinal muscular atrophy (SMA) and spastic paraplegia. In addition, NFs accumulation were detected in Alzheimer's (AD) and Parkinson's disease (PD) patients.[11-14] Elevated concentrations of Neurofilament 160 have been shown in CSF and serum samples from patients with brain injury.[15]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

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

Product Profile

Immunoblotting: a working concentration of 0.3–0.6 μg/ml is recommended using rat brain extract.

Immunofluorescence: a working concentration of 10–20 μg/ml is recommended using human bone marrow neuroblast SHSY5Y cell line.

Immunohistochemistry: a working concentration of 10-20 μg/ml is recommended using heat-retrieved formalin-fixed, paraffin-embedded human brain sections.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

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