Datasheet

Anti-Neurofilament 160/200 Antibody, Mouse Monoclonal

Clone RMdO20, purified from hybridoma cell culture

N2912

Product Description

Monoclonal Anti-Neurofilament 160/200 (mouse IgG1 isotype) is derived from the hybridoma RMdO20 produced by the fusion of mouse myeloma cells (Sp/2) and splenocytes from BALB/c mice immunized with purified mid-size rat neurofilament (NF-M) subunit.[1] The isotype is determined using ImmunoType™ Kit (Cat. No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO-2).

Monoclonal Anti-Neurofilament 160/200 recognizes human,[3,4] rat[1,2] and mouse[4] neurofilament 160/200. The antibody recognizes mainly the non-phosphorylated form of NF-M and NF-H (NF-M/H, approx. 160 and 200 kDa). The product is useful in ELISA,[1] immunoblotting,[1] immunohistochemistry[1,3,4] and immunocytochemistry.[2]

Intermediate filaments (IFs), having a diameter of 8-10 nm, are a distinct class of heterogenous protein subunits apparent by both immunological and biochemical criteria. IFs differ significantly from the other cell cytoskeletal elements, namely microtubules and microfilaments, and are components of most eukaryotic cells. The neurofilaments are one of the five major groups of IFs and are found predominantly in cells or tissues of neuronal origin.[5,6] They are composed of three major proteins of apparent molecular weights 68 kDa, 160 kDa and 200 kDa. Neurofilament proteins are synthesized in the neuronal perikarya, assembled to form filaments and then slowly transported within the axons towards the synaptic terminals. These molecules undergo post-translational modifications, which result in their heterogeneity, including different levels of phosphorylation. The phosphorylation of neurofilament polypeptides has been suggested to modulate their function by influencing their interaction with cytoplasmic organelles.[5,6]

Reagent

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: approx. 2 mg/mL.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

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. Storage in "frost-free" freezers 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

A working concentration of 1-2 mg/mL is determined by immunoblotting, using extracts of rat brain S1 fraction.

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

References

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2. Yu, W., et al., Depletion of a microtubuleassociated motor protein induces the loss of dendritic identity., J. Neurosci., 20, 5782-5791 (2000).
3. Galvin, J.E., et al., Neurodegeneration with brain iron accumulation, type 1 is characterized by a-, b-, and g-synuclein neuropathology., Am. J. Pathol., 157, 361-368 (2000).
4. Fung, K.M., et al., A novel modification of the avidin-biotin complex method for immunohistochemical studies of transgenic mice with murine monoclonal antibodies., J. Histochem. Cytochem., 40, 1319-1328 (1992).
5. Trojanowski, J.Q., et al., Selective expression of epitopes in multiphosphorylation repeats of the high and middle molecular weight neurofilament proteins in Alzheimer neurofibrillary tangles., Ann. Med., 21, 113-116 (1989).
6. Trojanowski, J.Q., and Lee, V.M., Phosphorylation of neuronal cytoskeletal proteins in Alzheimer's disease and Lewy body dementias., Ann. NY Acad. Sci., 747, 92-109 (1994).

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