SANTA CRUZ BIOTECHNOLOGY, INC.

NF-M (3H11): sc-58561

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Neurofilament-M (NF-M), for neurofilament medium polypeptide, a member of the intermediate filament family, is a major component of neuronal cytoskeletons. Neurofilaments are dynamic structures; they contain phosphorylation sites for a large number of protein kinases, including protein kinase A, protein kinase C, cyclin-dependent kinase 5, extracellular signal regulated kinase, glycogen synthase kinase-3, and stress-activated protein kinase γ. In addition to their role in the control of axon caliber, neurofilaments may affect other cytoskeletal elements, such as microtubules and Actin filaments. Changes in neurofilament phosphorylation or metabolism are frequently observed in neurodegenerative diseases, including amyotrophic lateral sclerosis (ALS), Parkinson's disease, and Alzheimer's disease.

REFERENCES

1. Levy, E., et al. 1987. Structure and evolutionary origin of the gene encoding NF-M, the middle-molecular-mass neurofilament protein. Eur. J. Biochem. 166: 71-77.
2. Angelides, K.J., et al. 1989. Assembly and exchange of intermediate filament proteins of neurons: neurofilaments are dynamic structures. J. Cell Biol. 108: 1495-1506.

CHROMOSOMAL LOCATION

Genetic locus: NEFM (human) mapping to 8p21.2; Nefm (mouse) mapping to 14 D1.

SOURCE

NF-M (3H11) is a mouse monoclonal antibody raised against the C-terminus of recombinant NF-M of rat origin.

PRODUCT

Each vial contains 50 µl ascites containing IgG_1 with PBS and < 0.1% sodium azide.

APPLICATIONS

NF-M (3H11) is recommended for detection of NF-M of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:500-1:2500), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Suitable for use as control antibody for NF-M siRNA (h): sc-36050, NF-M siRNA (m): sc-36051, NF-M shRNA Plasmid (h): sc-36050-SH, NF-M shRNA Plasmid (m): sc-36051-SH, NF-M shRNA (h) Lentiviral Particles: sc-36050-V and NF-M shRNA (m) Lentiviral Particles: sc-36051-V.

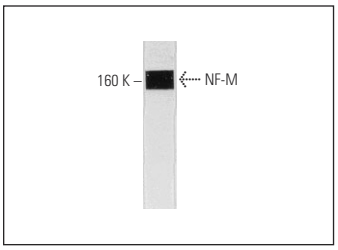
Molecular Weight of NF-M: 160 kDa.

Positive Controls: mouse brain extract: sc-2253, HeLa whole cell lysate: sc-2200 or EOC 20 whole cell lysate: sc-364187.

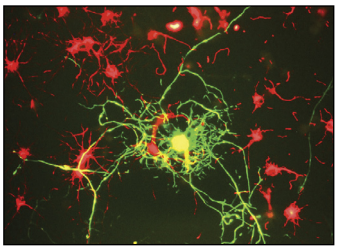
STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



NF-M (3H11): sc-58561. Western blot analysis of NF-M expression in rat spinal cord tissue extract.



NF-M (3H11): sc-58561. Immunofluorescence staining of methanol-fixed adult neural cells cells showing neurofilament localization.

SELECT PRODUCT CITATIONS

1. Amer, D.A., et al. 2012. Effect of 17β-estradiol and flavonoids on the regulation of expression of newly identified oestrogen responsive genes in a rat raphe nuclei-derived cell line. J. Cell. Physiol. 227: 3434-3445.
2. Hsu, M. and Stevenson, F.F. 2015. Wallerian degeneration and recovery of motor nerves after multiple focused cold therapies. Muscle Nerve 51: 268-275.
3. Sanna, M.D., et al. 2016. Increase of neurofilament-H protein in sensory neurons in antiretroviral neuropathy: evidence for a neuroprotective response mediated by the RNA-binding protein HuD. Pharmacol. Res. 111: 23-33.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.