

NF-M (E-9): sc-398532

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 mouse 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.
3. Sihag, R.K., et al. 1989. *In vivo* phosphorylation of distinct domains of the 70 kilodalton neurofilament subunit involves different protein kinases. *J. Biol. Chem.* 264: 457-464.

CHROMOSOMAL LOCATION

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

SOURCE

NF-M (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 40-67 near the N-terminus of NF-M of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NF-M (E-9) is available conjugated to agarose (sc-398532 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398532 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398532 PE), fluorescein (sc-398532 FITC), Alexa Fluor[®] 488 (sc-398532 AF488), Alexa Fluor[®] 546 (sc-398532 AF546), Alexa Fluor[®] 594 (sc-398532 AF594) or Alexa Fluor[®] 647 (sc-398532 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398532 AF680) or Alexa Fluor[®] 790 (sc-398532 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398532 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

NF-M (E-9) is recommended for detection of NF-M of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

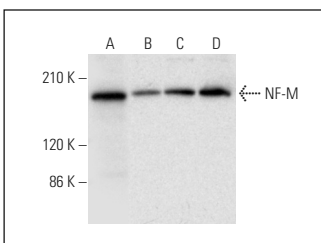
Molecular Weight of NF-M: 160 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SHP-77 whole cell lysate: sc-364258 or EOC 20 whole cell lysate: sc-364187.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



NF-M (E-9): sc-398532. Western blot analysis of NF-M expression in EOC 20 (A), HeLa (B), MCF7 (C) and SHP-77 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Khan, I.U., et al. 2018. Improved healing after the co-transplantation of HO-1 and BDNF overexpressed mesenchymal stem cells in the subacute spinal cord injury of dogs. *Cell Transplant.* 27: 1140-1153.
2. Khan, I.U., et al. 2019. Therapeutic effects of intravenous injection of fresh and frozen thawed HO-1-overexpressed Ad-MSCs in dogs with acute spinal cord injury. *Stem Cells Int.* 2019: 8537541.

RESEARCH USE

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

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