

NF-H (A-12): sc-133165

BACKGROUND

Neurofilament-H (NF-H), for neurofilament heavy 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

- Mattei, M.G., et al. 1988. The gene encoding the large human neurofilament subunit (NF-H) maps to the q121-q131 region on human chromosome 22. *Hum. Genet.* 80: 293-295.
- 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.
- Sihag, R.K., et al. 1989. *In vivo* phosphorylation of distinct domains of the 70 kDa neurofilament subunit involves different protein kinases. *J. Biol. Chem.* 264: 457-464.
- Hisanaga, S., et al. 1990. Effects of phosphorylation of the neurofilament L protein on filamentous structures. *Cell Regul.* 1: 237-248.
- Gonda, Y., et al. 1990. Involvement of protein kinase C in the regulation of assembly-disassembly of neurofilaments *in vitro*. *Biochem. Biophys. Res. Commun.* 167: 1316-1325.
- Nakamura, Y., et al. 1997. Abnormal distribution of neurofilament L in neurons with Alzheimer's disease. *Neurosci. Lett.* 225: 201-204.
- Nakamura, Y., et al. 1999. Casein kinase II is responsible for phosphorylation of NF-L at Ser 473. *FEBS Lett.* 455: 83-86.

CHROMOSOMAL LOCATION

Genetic locus: NEFH (human) mapping to 22q12.2; Nefh (mouse) mapping to 11 A1.

SOURCE

NF-H (A-12) is a mouse monoclonal antibody raised against amino acids 1-100 mapping at the N-terminus of NF-H 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.

STORAGE

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

APPLICATIONS

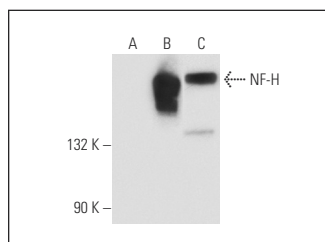
NF-H (A-12) is recommended for detection of NF-H of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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-H siRNA (h): sc-42068, NF-H siRNA (m): sc-42069, NF-H shRNA Plasmid (h): sc-42068-SH, NF-H shRNA Plasmid (m): sc-42069-SH, NF-H shRNA (h) Lentiviral Particles: sc-42068-V and NF-H shRNA (m) Lentiviral Particles: sc-42069-V.

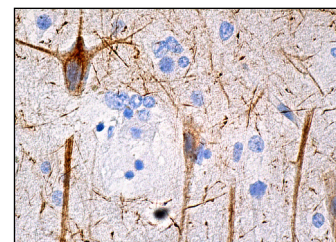
Molecular Weight of NF-H: 200 kDa.

Positive Controls: NF-H (h): 293T Lysate: sc-111457, SK-N-MC cell lysate: sc-2237 or rat brain extract: sc-2392.

DATA



NF-H (A-12): sc-133165. Western blot analysis of NF-H expression in non-transfected 293T: sc-117752 (A), human NF-H transfected 293T: sc-111457 (B) whole cell lysates and rat brain (C) tissue extract.



NF-H (A-12): sc-133165. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

- Amer, D.A., et al. 2012. Effect of 17 β -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.
- Zhang, W., et al. 2022. Autophagic Schwann cells promote perineural invasion mediated by the NGF/ATG7 paracrine pathway in pancreatic cancer. *J. Exp. Clin. Cancer Res.* 41: 48.

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.