

# NF-H (RNF402): sc-32729

## 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  $\gamma$ . 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

NF-H (RNF402) is a mouse monoclonal antibody raised against a neurofilament NF-H protein isolated from a cytoskeletal preparation from brain tissue homogenate of calf origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NF-H (RNF402) is recommended for detection of NF-H of mouse, rat, human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500). NF-H (RNF402) is also recommended for detection of NF-H in additional species, including bovine.

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.

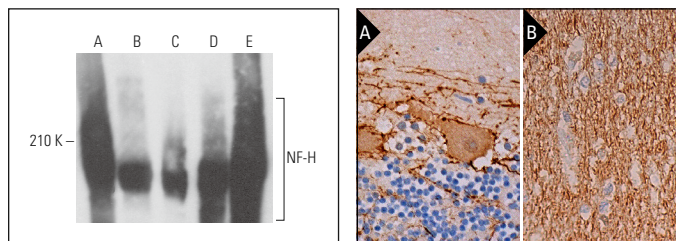
Molecular Weight of NF-H: 200 kDa.

Positive Controls: human cerebral cortex extract: sc-516707, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

## STORAGE

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

## DATA



NF-H (RNF402): sc-32729. Western blot analysis of NF-H expression in rat brain (A), mouse brain (B), human cerebral cortex (C), mouse spinal cord (D) and rat spinal cord (E) tissue extracts. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.

NF-H (RNF402): sc-32729. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing membrane and cytoplasmic staining of Purkinje cells and neuropil staining in granular layer and molecular layer (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining (B).

## SELECT PRODUCT CITATIONS

- Zhang, L., et al. 2011. Concentration-dependent effect of nerve growth factor on cell fate determination of neural progenitors. *Stem Cells Dev.* 20: 1723-1731.
- Luo, Y.L., et al. 2013. Cellular mechanism underlying formaldehyde-stimulated Cl<sup>-</sup> secretion in rat airway epithelium. *PLoS ONE* 8: e54494.
- Pal, A. and Das, S. 2015. Morphine causes persistent induction of nitrated neurofilaments in cortex and subcortex even during abstinence. *Neuroscience* 291: 177-188.
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- García-Mesa, Y., et al. 2017. Merkel cells and Meissner's corpuscles in human digital skin display PIEZO2 immunoreactivity. *J. Anat.* 231: 978-989.
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- García-Mesa, Y., et al. 2021. Involvement of cutaneous sensory corpuscles in non-painful and painful diabetic neuropathy. *J. Clin. Med.* 10: 4609.
- Liu, T., et al. 2022. SPIONs mediated magnetic actuation promotes nerve regeneration by inducing and maintaining repair-supportive phenotypes in Schwann cells. *J. Nanobiotechnology* 20: 159.

## RESEARCH USE

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