# SANTA CRUZ BIOTECHNOLOGY, INC.

# NF-H (H-5): sc-133237



### 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

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- 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.
- 7. Nakamura, Y., et al. 1999. Casein kinase II is responsible for phosphorylation of NF-L at Ser 473. FEBS Lett. 455: 83-86.
- 8. Strong, M.J. 1999. Neurofilament metabolism in sporadic amyotrophic lateral sclerosis. J. Neurol. Sci. 169: 170-177.

#### **CHROMOSOMAL LOCATION**

Genetic locus: NEFH (human) mapping to 22q12.2.

# SOURCE

NF-H (H-5) 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  $\mu g$  lgG\_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

# **RESEARCH USE**

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

## **APPLICATIONS**

NF-H (H-5) is recommended for detection of NF-H of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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 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 shRNA Plasmid (h): sc-42068-SH and NF-H shRNA (h) Lentiviral Particles: sc-42068-V.

Molecular Weight of NF-H: 200 kDa.

Positive Controls: NF-H (h): 293T Lysate: sc-111457, T98G cell lysate: sc-2294 or SK-N-MC cell lysate: sc-2237.

## **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

#### DATA





NF-H (H-5): sc-133237. Western blot analysis of NF-H expression in non-transfected: sc-117752 (**A**) and human NF-H transfected: sc-111457 (**B**) 293T whole cell lysates.

NF-H (H-5): sc-133237. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

# SELECT PRODUCT CITATIONS

 Gravina, G.L., et al. 2022. ATX-101, a peptide targeting PCNA, has antitumor efficacy alone or in combination with radiotherapy in murine models of human glioblastoma. Cancers 14: 289.

#### STORAGE

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

## **PROTOCOLS**

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