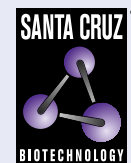# NF-L (8A1): sc-20012

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

Neurofilament-L (NF-L), for neurofilament light 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.

CHROMOSOMAL LOCATION

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

SOURCE

NF-L (8A1) is a mouse monoclonal antibody raised against neurofilament purified from human brain.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NF-L (8A1) is available conjugated to agarose (sc-20012 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20012 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20012 PE), fluorescein (sc-20012 FITC), Alexa Fluor® 488 (sc-20012 AF488), Alexa Fluor® 546 (sc-20012 AF546), Alexa Fluor® 594 (sc-20012 AF594) or Alexa Fluor® 647 (sc-20012 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20012 AF680) or Alexa Fluor® 790 (sc-20012 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

NF-L (8A1) is recommended for detection of NF-L of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for NF-L siRNA (h): sc-36048, NF-L siRNA (m): sc-36049, NF-L shRNA Plasmid (h): sc-36048-SH, NF-L shRNA Plasmid (m): sc-36049-SH, NF-L shRNA (h) Lentiviral Particles: sc-36048-V and NF-L shRNA (m) Lentiviral Particles: sc-36049-V.
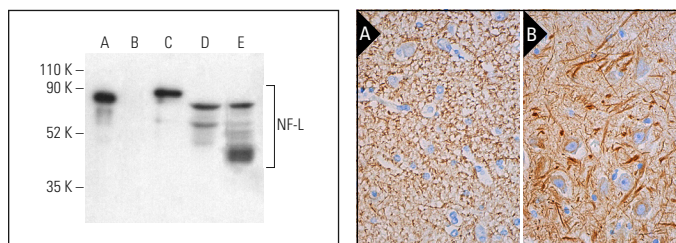
Molecular Weight of NF-L: 68 kDa.

Positive Controls: NF-L (h2): 293T Lysate: sc-159429, rat spinal cord tissue extract: sc-395024 or SK-N-SH cell lysate: sc-2410.

STORAGE

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

DATA

NF-L (8A1): sc-20012. Western blot analysis full length human recombinant NF-L (**A**) and NF-L expression in non-transfected 293T: sc-117752 (**B**), human NF-L transfected 293T: sc-159429 (**C**) and SK-N-SH (**D**) whole cell lysates and rat spinal cord tissue extract (**E**). Detection reagent used: m-IgG$_1$ BP-HRP: sc-525408.

NF-L (8A1) HRP: sc-20012 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining (**A**) and human hippocampus tissue showing cytoplasmic staining of neuronal cells and neuropil staining (**B**). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

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4. Peng, G., et al. 2015. miR-25 promotes glioblastoma cell proliferation and invasion by directly targeting NEFL. Mol. Cell. Biochem. 409: 103-111.

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6. Hasegawa, H., et al. 2018. Membrane cholesterol modulates STEAP2 conformation during dynamic intracellular trafficking processes leading to broad subcellular distribution. Exp. Cell Res. 370: 208-226.

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RESEARCH USE

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