SANTA CRUZ BIOTECHNOLOGY, INC.

NF-L (C-15): sc-12980

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Neurofilament-L (for neurofilament light polypeptide, or NF-L), 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 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NF-L of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12980 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NF-L (C-15) 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), 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-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, mouse brain extract: sc-2253 or SH-SY5Y cell lysate: sc-3812.

RESEARCH USE

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

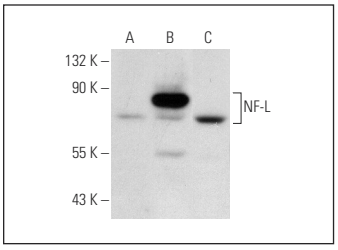
PROTOCOLS

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

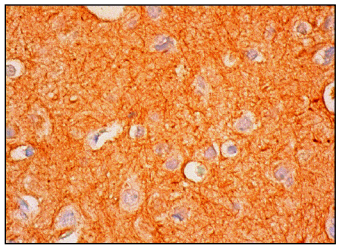
STORAGE

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

DATA



NF-L (C-15): sc-12980. Western blot analysis of NF-L expression in non-transfected 293T: sc-117752 (**A**), human NF-L transfected 293T: sc-159429 (**B**) and SH-SY5Y (**C**) whole cell lysates.



NF-L (C-15): sc-12980. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining.

SELECT PRODUCT CITATIONS

1. Carrasco, J., et al. 2003. Role of metallothionein-III following central nervous system damage. Neurobiol. Dis. 13: 22-36.
2. Cavaliere, F., et al. 2004. Synaptic P2X7 and oxygen/glucose deprivation in organotypic hippocampal cultures. J. Cereb. Blood Flow Metab. 24: 392-398.
3. Valentijn, L.J., et al. 2005. Inhibition of a new differentiation pathway in neuroblastoma by copy number defects of N-myc, Cdc42, and nm23 genes. Cancer Res. 65: 3136-3145.
4. Cavaliere, F., et al. 2005. The metabotropic P2Y4 receptor participates in the commitment to differentiation and cell death of human neuroblastoma SH-SY5Y cells. Neurobiol. Dis. 18: 100-109.
5. Cavaliere, F., et al. 2007. P2 receptor antagonist trinitrophenyl-adenosine-triphosphate protects hippocampus from oxygen and glucose deprivation cell death. J. Pharmacol. Exp. Ther. 323: 70-77.
6. Amadio, S., et al. 2007. P2Y1 receptor switches to neurons from glia in juvenile versus neonatal rat cerebellar cortex. BMC Dev. Biol. 28: 7: 77.
7. Jain, M.R., et al. 2009. Altered proteolytic events in experimental autoimmune encephalomyelitis discovered by iTRAQ shotgun proteomics analysis of spinal cord. Proteome Sci. 7: 25.
8. Henriksen, J.R., et al. 2011. Conditional expression of retrovirally delivered anti-MYCN shRNA as an *in vitro* model system to study neuronal differentiation in MYCN-amplified neuroblastoma. BMC Dev. Biol. 11: 1.