

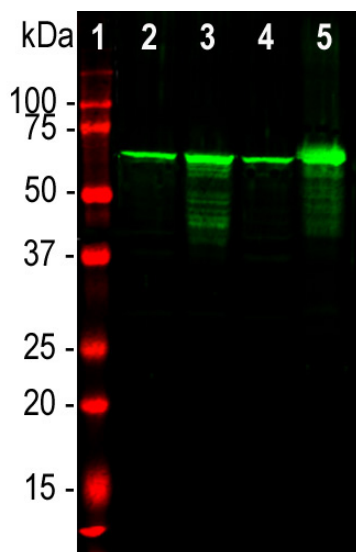
Ordering Information
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HGNC Name: NEFL
UniProt: P07196
RRID: AB_2572364
Immunogen: Recombinant full length human NF-L protein
Format: Supplied as an aliquot of serum plus 5mM NaH₂PO₄
Storage: Store at 4°C for short term, for longer term, store at -20°C
Recommended dilutions:
WB: 1: 10,000-1:15,000. IF/ICC: 1:5,000.

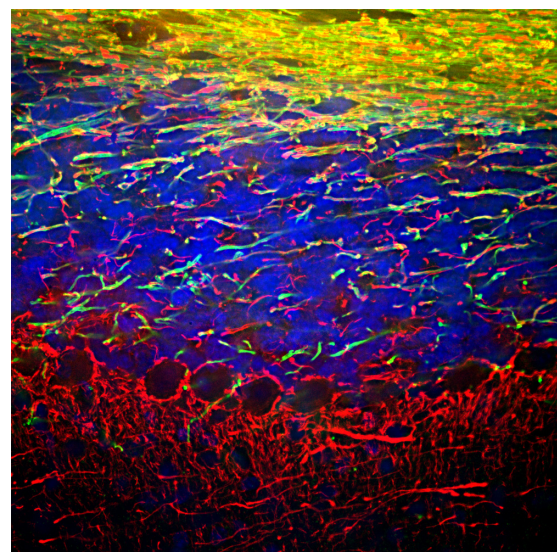
References:

- Hoffman et al. Neurofilament gene expression: a major determinant of axonal caliber. *PNAS* 84:3472-6 (1987).
- Perrot R, et al. Review of the Multiple Aspects of Neurofilament Functions, and their Possible Contribution to Neurodegeneration. *Mol. Neurobiol.* 38:27-65 (2008).
- Lépinoux-Chambaud C. Eyer J. Review on intermediate filaments of the nervous system and their pathological alterations. *Histochem. Cell Biol.* 140:13-22 (2013).
- Liu Q. et al. Neurofilamentopathy in Neurodegenerative Diseases. *Open Neurol. J.* 5:58-62 (2011).
- Bacioglu M, et al. Neurofilament light chain in blood and CSF as marker of disease progression in mouse models and in neurodegenerative diseases. *Neuron* 91:56-66 (2016).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB IF/ICC	Rabbit		68-70kDa	Hu, Rt, Ms, Co, Pi



Western blot analysis of different tissue lysates using rabbit pAb to NF-L, RPCA-NF-L, dilution 1:20,000. in green. [1] protein standard (red), [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord. The strong band at 68kDa corresponds to the NF-L protein.



Immunofluorescent analysis of mouse cerebellum section stained with rabbit pAb to NF-L, RPCA-NF-L, dilution 1:5,000 in red, and costained with chicken pAb to MBP, CPCA-MBP, dilution 1:5,000, in green. Following transcardial perfusion of mouse with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45μm, and free-floating sections were stained with above antibodies. RPCA-NF-L antibody labels dendrites and axons of neuronal cells, and MBP antibody stains myelin sheathes around axons.

Background:

Neurofilaments are the 10nm or intermediate filament proteins found specifically in neurons, and are composed predominantly of three major proteins called NF-L, NF-M and NF-H, though other filament proteins may be included also. The major function of neurofilaments is likely to control the diameter of large axons (1). NF-L is the neurofilament light or low molecular weight polypeptide and runs on SDS-PAGE gels at 68-70kDa with some variability across species. Antibodies to NF-L like MCA-DA2 are useful for identifying neuronal cells and their processes in cell culture and sectioned material. NF-L antibody can also be useful for the visualization of neurofilament rich accumulations seen in many neurological diseases, such as Lou Gehrig's disease (ALS), giant axon neuropathy, Charcot-Marie Tooth disease and others (2-4). Much interest has recently been focused on the detection of NF-L released from neurons into blood and CSF as a surrogate marker of primarily axonal loss in a variety of types of CNS injury and degeneration (5).

RPCA-NF-L antibody was made against a preparation of recombinant full length human NF-L and binds NF-L from a variety of mammalian species including human, rat and mouse. We also generated a highly specific chicken polyclonal antibody, **CPCA-NF-L**, a rabbit polyclonal antibody to the C-terminal peptide of rat NF-L protein, **RPCA-NF-L-ct** and mouse monoclonal antibodies, **MCA-DA2**, **MCA-7D1**, **MCA-1B11**, and **MCA-6H112**.

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Abbreviation Key:

mAb—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry
IHC—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken
Dr—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.