

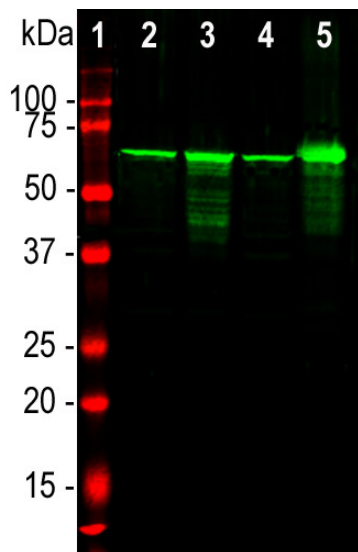
**Ordering Information**  
 Web [www.encorbio.com](http://www.encorbio.com)  
 Email [admin@encorbio.com](mailto:admin@encorbio.com)  
 Phone 352-372-7022  
 Fax 352-372-7066

**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 NaH<sub>2</sub>PO<sub>4</sub>  
**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.

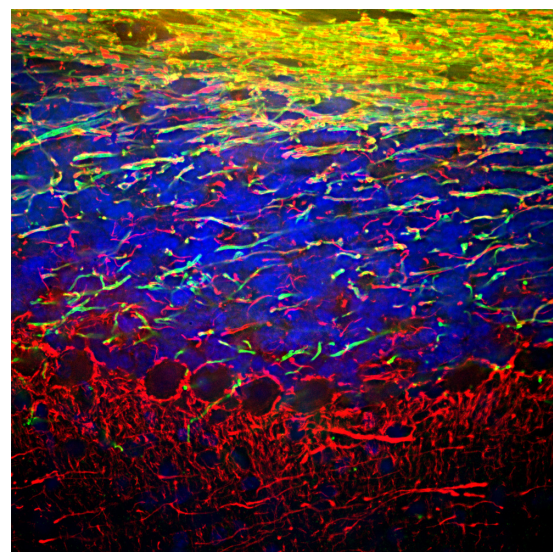
### References:

- 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.

FOR RESEARCH USE ONLY. NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE.

### 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.