

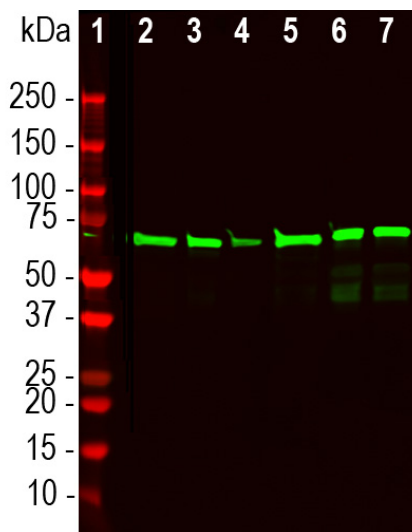
Ordering Information
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HGNC Name: NEFL
UniProt: P07196
RRID: AB_2923499
Immunogen: Proprietary recombinant constrict containing amino acids of human NF-L expressed in and purified from *E. coli*.
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaH₂PO₄.
Storage: Shipped on ice. Store at 4°C for short term, for longer term at -20°C. Avoid freeze / thaw cycles.
Recommended dilutions:
WB: 1:1,000-1:2,000. ICC/IF: 1:10,000 IHC: 1:5,000

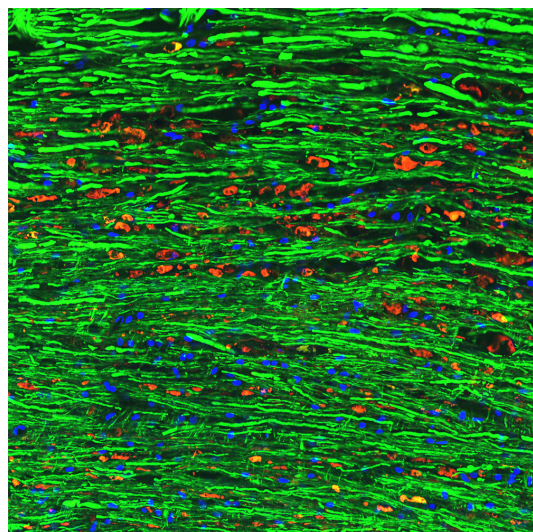
References:

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



Western blot analysis of different tissue lysates using rabbit pAb to degenerated forms of NF-L, RPCA-NF-L-Degen, dilution 1:2,000 in green: [1] protein standard, [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord, [6] cow spinal cord and [7] pig spinal cord. The strong band at about 68kDa corresponds to full length denatured NF-L protein.



Immunofluorescence of a section of spinal cord from a rat given a C4 contusion injury 3 days previously. The section was stained with mouse monoclonal to NF-M MCA-3H11 in green and counterstained with RPCA-NF-L-Degen at 1:1,000 in red. The RPCA-NF-L-Degen antibody does not stain the undamaged axons which are strongly positive for the NF-M antibody. However linear arrays of swollen profiles which originated from damaged axons are strongly positive for the rabbit NF-L-Degen antibody but not the NF-M antibody, although there is clearly some staining. The MCA-3H11 epitope, which is in the C-terminal "tail" of NF-M, has either been partially removed or destroyed.

Background:

Neurofilaments are major components of neurons and their axons (1-5). We have recently developed a series of novel reagents which we call DegenTag™ products. These are antibodies which recognize epitopes in a small segment of the neurofilament NF-L subunit which are normally not accessible to antibodies but which became available on degeneration (6). We propose that these epitopes are made accessible as a result of degeneration induced proteolysis, and in agreement with this hypothesis we could make previously negative control tissues become strongly DegenTag™ antibody positive by treatment with proteases. In addition fresh CNS tissues did not stain with DegenTag™ reagents except for a tiny minority of apparently spontaneously degenerating processes. In stark contrast tissues left to sit at room temperature for 4 hours were strongly reactive with DegenTag™ reagents. We also discovered that our antibodies to the C-terminal of NF-L, such as our rabbit polyclonal [RPCA-NF-L-ct](#) and mouse monoclonal [MCA-DA2](#). Our reagents can therefore be used to positively identify both healthy and degenerated processes.

RPCA-NF-L-Degen was raised against a proprietary recombinant immunogen containing amino acids 311-375 of the human NF-L sequence (6,8). The antibody works well on western blots of a variety of species but binds only degenerated processes in sectioned material. It also works well on paraffin embedded histological sections of human brain and is an excellent capture reagent in ELISA. This and other DegenTag™ reagents can be used to identify degenerating and degenerated processes and also to monitor NF-L degradation in a variety of contexts. Full details of these findings are described in our [BioRxiv](#) and in greater detail in a peer-reviewed publication in [Brain Communications](#). It also works well on paraffin embedded histological sections of rodent CNS tissues, including transgenic mouse models. EnCor also markets other DegenTag™ reagents such as [MCA-1D44](#), [MCA-6H63](#) and [MCA-1B11](#), three mouse monoclonal antibodies each with different epitopes on NF-L. We also market a chicken polyclonal with similar specificity e than MCA-6H63 and the rabbit polyclonal [CPCA-NF-L-Degen](#).

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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*.