

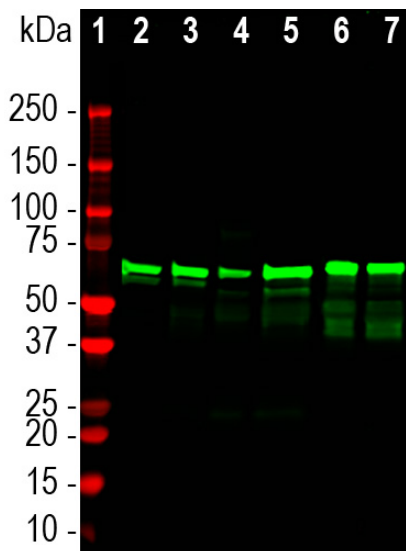
**Ordering Information**  
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**HGNC Name:** NEFL  
**UniProt:** P07196  
**RRID:** AB\_2923483  
**Immunogen:** Proprietary recombinant construct containing amino acids of human NF-L expressed in and purified from *E. coli*.  
**Format:** Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaCl.  
**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: 1:1,000. IHC 1:1,000

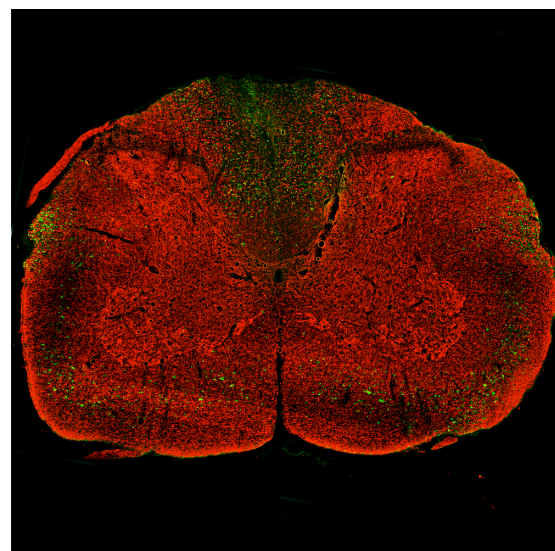
#### References:

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Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, ICC/IF, ELISA	Mouse	IgG1 heavy, κ light	68-70kDa by SDS-PAGE	Hu, Rt, Ms, Bo, Po



Western blot analysis of different tissue lysates using mouse mAb to NF-L-Degenotag™ antibody MCA-1D44, dilution 1:1,000 in green: Lane [1] protein standard with standards of indicated molecular weight and homogenates of [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord, [6] cow spinal cord, and [7] pig spinal cord. Strong band at about 68kDa corresponds to full length NF-L protein. Lower molecular weight bands detected in the samples are presumably proteolytic forms of NF-L.



A Keyence merged image of an entire coronal section of a rat given a contusion injury three days previously and stained for **RPCA-NF-L-ct** in red and MCA-1D44 in green. MCA-1D44 positive profiles are particularly obvious in the dorsal columns, corticospinal tracts and rubrospinal tracts, less abundant in the lateral and ventral funiculi and least abundant but not totally absent in the spinal cord gray matter. Full details of these findings are described in a pending peer-reviewed research report and in our recent [BioRxiv](#) article.

#### Background:

We have recently developed a series of novel antibody reagents which we call Degenotag™ 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. We have evidence 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 Degenotag™ antibody positive by treatment with proteases. In addition healthy CNS tissues do not stain with Degenotag™ reagents except for a tiny minority of apparently spontaneously degenerating neuronal cells and processes. In stark contrast Degenotag™ reagents strongly bind numerous profiles in tissues from animals given experimental spinal cord injuries. 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** fail to stain these degenerated profiles. Our reagents can therefore be used to positively identify both healthy and degenerated processes. Process and cells undergoing degeneration show both types of Degenotag™ reagent. MCA-1D44 was raised against a proprietary recombinant immunogen based on the Coil 2 region of human NF-L, the region to which the antibodies described by Norgren et al. bind (7). The antibody works well on Western blots of a variety of species but like the Norgren et al. antibodies binds only degenerating or degenerated processes in sectioned material (8). Other Uman type antibodies we market are **MCA-1B11** and **MCA-6H63**. 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. It is also an excellent capture reagent in ELISA. EnCor also markets other Degenotag™ reagents such as **MCA-6H63**, a mouse monoclonal with a different neopeptide than MCA-1D44 and the chicken 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*.