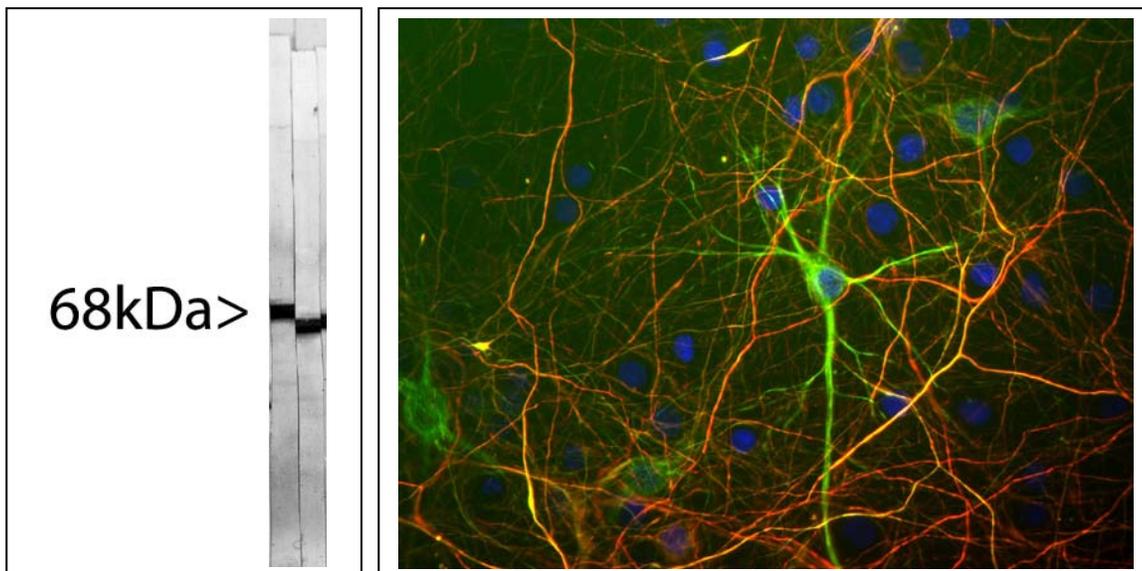


**Catalogue# MCA-7D1: Neurofilament NF-L Monoclonal Antibody**

**The Immunogen:** [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. NF-L is the neurofilament light or low molecular weight polypeptide and runs on SDS-PAGE gels at about 68kDa. Antibodies to NF-L are useful for identifying neuronal cells and their processes in tissue sections and in tissue culture. NF-L antibody can also be useful in the diagnostics of neurofilament accumulations seen in many neurological diseases, such as Lou Gehrig's disease and Alzheimer's disease. Mutations in the protein coding region of the human NF-L gene cause some forms of Charcot-Marie-Tooth disease (1).



**Left:** Strip blots of rat spinal cord homogenate probed with two subclones of MCA-7D1. Both subclones, one of which became the definitive antibody, stain strongly and specifically a band at 68kDa with essentially no background. **Right:** Embryonic rat cortical cells grown in tissue culture and stained with MCA-7D1 (green) and the phosphorylated axonal form of neurofilament NF-H, using EnCor's [CPCA-NF-H](#) antibody (red). The perikaryal and dendritic neurofilaments in the Large cell in middle are stained with MCA-7D1 but not with the phosphorylated NF-H antibody. In contrast both antibodies stain axonal neurofilaments which therefore appear orange.

**Antibody characteristics:** MCA-7D1 was raised against a preparation of pig neurofilament NF-H and NF-L. Screening was by ELISA on the immunogen followed by immunofluorescence microscopy. Clones which revealed strong staining were further characterized biochemically. MCA-7D1 is a IgG2b class antibody. It reacts with NF-L from human, cow, pig, mouse, rat and all other mammals. It is strong and clean on western blots and works well on frozen sections, cells in tissue culture and on mildly formalin fixed histological sections. We can provide the antibody in the form of ascites fluid or affinity purified preparation at 1 mg/mL in PBS with 10 mM sodium azide (Link to <http://www.encorbio.com/MSDS/azide.htm> for Material Safety Data Sheet).

**Suggestions for use:** For immunofluorescence, use MCA-7D1 diluted 1:100 to 1:500. For western blots try MCA-7D1 diluted 1:5,000-1:10,000. Store at 4°C short term or -20°C long term. Avoid repeated freezing and thawing.

**Limitations:** This product is for research use only and is not approved for use in humans or in clinical diagnosis.

**References:**

1. Mersiyanova IV, Perepelov AV, Polyakov AV, Sitnikov VF, Dadali EL, Oparin RB, Petrin AN and Evgrafov OV. A new variant of Charcot-Marie-Tooth disease type 2 is probably the result of a mutation in the neurofilament-light gene. [Am. J. Hum. Genet. 67:37-46, 2000.](#)

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