

<b>Product name:</b>	Neurofilament Medium (NF-M)
<b>Cat number:</b>	AB-11153
<b>Size:</b>	100 ul
<b>Clone:</b>	POLY
<b>Concentration:</b>	1mg/ml
<b>Host:</b>	Rb
<b>Isotype:</b>	IgG
<b>Immunogen:</b>	Recombinant fusion protein containing the extreme C-terminal segment of rat NF-M, amino acids 549-845
<b>Reactivity:</b>	Hu, Rt, Ms, Ct, cw, Pig,Rb
<b>Applications:</b>	Western Blot: 1:1,000-5,000 Immunofluorescence: 1:1,000-1:2500. Immunocytochemistry: 1:1,000-1:2500. Immunohistochemistry: 1:1,000-1:2500. ABC: 1:5,000.
<b>Molecular Weight:</b>	145-160kDa
<b>Purification:</b>	Serum
<b>Form:</b>	Liquid
<b>Buffer:</b>	Supplied as an aliquot of serum plus 5mM NaN3
<b>Storage:</b>	Storage for short term at 4°C recommended,for longer term at -20°C, minimize freeze/thaw cycles.

**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. NF-M is the neurofilament middle or medium molecular weight polypeptide and runs on SDS-PAGE gels at 145-160kDa, with some species variability, though the real molecular weight is ~105kDa. The major function of neurofilaments is likely to control the diameter of large axons (1). Antibodies to NF-M such as NF-M are useful for identifying neuronal cells and their processes in tissue sections and in cell culture. NF-M antibodies can also be useful to visualize neurofilament rich accumulations seen in many neurological diseases, such as Amyotrophic Lateral Sclerosis (a.k.a. Lou Gehrig's disease) and Alzheimer's disease (2-4). Much recent evidence has suggested that the detection of NF-L and NF-H in blood and CSF might be a useful prognostic or diagnostic biomarkers of neuronal damage and degeneration associated with a variety of CNS pathologies (5,6). The potential utility of NF-M in this fashion has not to date been examined. The NF-M antibody was made against a recombinant fusion protein of E. coli TrpE fused to the C-terminus of rat NF-M, amino acids 677-845 (7). This region is very highly conserved in protein sequence across species boundaries and contains some interesting peptide repeats of currently unknown function (8). The NF-M antibody is very similar in properties to a rabbit polyclonal the production and characterization of which were described in reference 7.



Western blot analysis of neuronal tissue lysates using rabbit pAb to NF-M, NF-M, dilution 1:2,000 in green: [1] protein standard (red), [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord, [6] pig brain and [7] pig spinal cord. Strong bands at 145kDa correspond to rodent NF-M molecules, while the NF-M of pig and other larger mammals including humans run at about 160kDa.



Immunofluorescent analysis of rat cerebellum section stained with rabbit pAb to NF-M, NF-M, dilution 1:2,000 in red, and costained with mouse mAb to GAP43, 3H14, dilution 1:2,000 in green. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µM, and free-floating sections were stained with the above antibodies. The NF-M antibody strongly labels neuronal processes throughout the cerebellum, while the GAP43 antibody stains predominantly synaptic regions in the molecular layer.