Product Data Sheet: Neurofilament Medium (NF-M)

Cat. No:	AB-11153
Size:	100 ul
Clone:	POLY
Concentration:	1mg/ml
Host:	Rb
Isotype:	IgG
Immunogen:	Recombinant fusion protein containing the extreme C-terminal segment of rat NF-M, amino acids 549-845
Reactivity:	Hu, Rt, Ms, Ct, cw, Pig,Rb
Applications:	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.
Molecular Weight:	145-160kDa
Purification:	Serum
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.
Form:	Liquid
Buffer:	Supplied as an aliquot of serum plus 5mM NaN3
Storage:	Storage for short term at 4°C recommended,for longer term at -20°C, minimize freeze/thaw cycles.

Western blot analysis of neuronal tissue lysates using rabbit pAb to NF-M, NF-M, dilution 1:2,000 in green: [1] protein

Immunofluorescent analysis of rat cerebellum section stained with rabbit pAb to NF-M, NF-M, dilution 1:2,000 in

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.

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.