

Neurofilament-M (RMO 14.9) Mouse mAb

✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #4741
Swiss-Prot Acc. #P07197

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IF-IC Endogenous	H, M, R	160 kDa	Mouse IgG1**

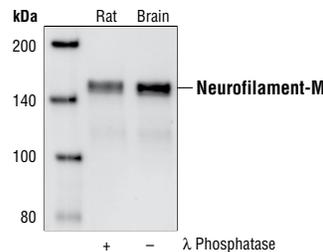
Background: The cytoskeleton consists of three types of cytosolic fibers: microfilaments (actin filaments), intermediate filaments and microtubules. Neurofilaments are the major intermediate filaments (type IV) in neurons consisting of neurofilament-light (NFL), -medium (NFM) and -heavy (NFH) subunits (1). Similar to other intermediate filament proteins, neurofilaments have a globular amino-terminal head followed by a central α -helical rod domain and a carboxy-terminal tail. Heterotetrameric units (NFL-NFM and NFL-NFH) form protofilaments and eight protofilaments constitute the typical 10 nm intermediate filament (2). Neurofilaments are critical for the radial growth of an axon determining its caliber while microtubules are involved in elongation of axons. PKA phosphorylates the head domain of NFL and NFM and inhibits neurofilament assembly (3-4). Accumulations of neurofilaments are found in many human neurological diseases including Parkinson's disease (in Lewy bodies along with α -synuclein), Alzheimer's disease, Charcot-Marie-Tooth disease and Amyotrophic Lateral Sclerosis (ALS) (1).

Specificity/Sensitivity: Neurofilament-M (RMO 14.9) Mouse mAb detects endogenous levels of total Neurofilament-M protein.

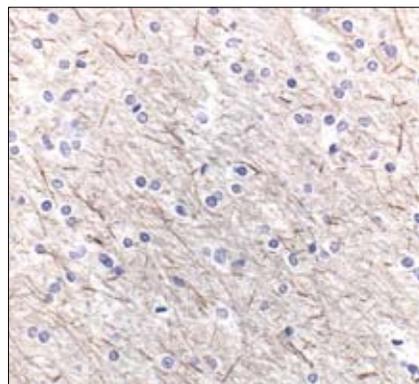
Source/Purification: Monoclonal antibody is produced by immunizing animals with rat neurofilament, medium chain.

Background References:

- (1) Al-Chalabi, A. and Miller, C.C. (2003) *Bioessays* 25, 346-55.
- (2) Cohlberg, J.A. et al. (1995) *J. Biol. Chem.* 270, 9334-9.
- (3) Hisanaga, S. et al. (1994) *Mol. Biol. Cell* 5, 161-72.
- (4) Sihag, R.K. et al. (1999) *J. Neurochem.* 72, 491-9.



Western blot analysis of extracts from rat brain, untreated or treated with λ phosphatase, using Neurofilament-M (RMO 14.9) Mouse mAb.



Immunohistochemical analysis of paraffin-embedded human brain, using Neurofilament-M (RMO 14.9) Mouse mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

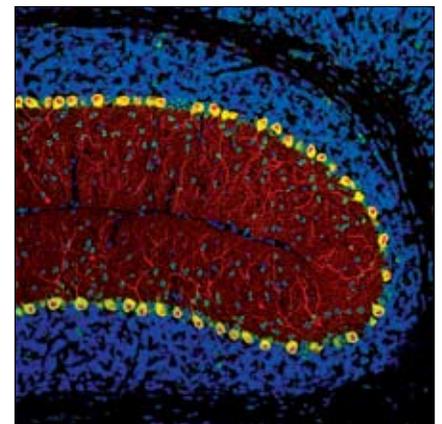
Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Parafin)	1:25
Unmasking buffer:	Citrate
Antibody diluent:	PBST-5% NGS
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

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Confocal immunofluorescent image of mouse cerebellum labeled with Neurofilament-M (RMO 14.9) Mouse mAb (green) and Calbindin Antibody #2136 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.