Revision 1

Store at -20C

#84390

Neurofilament-M Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-F, IF-IC	H M R	Endogenous	160	Rabbit	#P07197	4741

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Frozen)	1:50 - 1:200
Immunofluorescence (Immunocytochemistry)	1:200 - 1:800

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.*

Specificity/Sensitivity

Neurofilament-M Antibody recognizes endogenous levels of total Neurofilament-M protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy-terminus of human Neurofilament-M protein. Antibodies are purified by peptide affinity chromatography.

Background

The cytoskeleton consists of three types of cytosolic fibers: actin microfilaments, intermediate filaments, and microtubules. Neurofilaments are the major intermediate filaments found in neurons and consist of light (NFL), medium (NFM), and heavy (NFH) subunits (1). Similar in structure to other intermediate filament proteins, neurofilaments have a globular amino-terminal head, a central α-helical rod domain, and a carboxy-terminal tail. A heterotetrameric unit (NFL-NFM and NFL-NFH) forms a protofilament, with eight protofilaments comprising the typical 10 nm intermediate filament (2). While neurofilaments are critical for radial axon growth and determine axon caliber, microtubules are involved in axon elongation. PKA phosphorylates the head domain of NFL and NFM to inhibit neurofilament assembly (3,4). Research studies have shown neurofilament accumulations in many human neurological disorders, including Parkinson's disease (in Lewy bodies along with α-synuclein), Alzheimer's disease, Charcot-Marie-Tooth disease, and Amyotrophic Lateral Sclerosis (ALS) (1).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

Trademarks and Patents

Limited Uses

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.