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Neurofilament Antibody Sampler Kit

1 Kit (4 x 20 microliters)

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

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Neurofilament-M (RMO 14.9) Mouse mAb	2838	20 µl	160 kDa	Mouse IgG1
Neurofilament-L (DA2) Mouse mAb	2835	20 µl	70 kDa	Mouse IgG1
Neurofilament-L (C28E10) Rabbit mAb	2837	20 µl	70 kDa	Rabbit IgG
Neurofilament-H (RMdO 20) Mouse mAb	2836	20 µl	180-220 kDa	Mouse IgG1
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat
Anti-mouse IgG, HRP-linked Antibody	7076	100 µl		Horse

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Neurofilament Antibody Sampler Kit provides an economical means of evaluating neurofilaments. The kit contains enough primary and secondary antibodies to perform two western blot experiments per primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

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

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- Cohlberg, J.A. et al. (1995) *J Biol Chem* 270, 9334-9.
- Hisanaga, S. et al. (1994) *Mol Biol Cell* 5, 161-72.
- Sihag, R.K. et al. (1999) *J Neurochem* 72, 491-9.

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