

Neurofilament-L Blocking Peptide



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Description: This peptide is used to block Neurofilament-L (C28E10) Rabbit mAb #2837 reactivity in peptide dot blot protocols.

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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks Neurofilament-L (C28E10) Rabbit mAb #2837 by peptide dot blot.

Directions For Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. Recommended antibody dilutions can be found on the relevant product data sheet.

Background References:

- (1) Al-Chalabi, A. and Miller, C.C. (2003) *Bioessays* 25, 346–355.
- (2) Cohlberg, J.A. et al. (1995) *J. Biol. Chem.* 270, 9334–9339.
- (3) Hisanaga, S. et al. (1994) *Mol. Biol. Cell* 5, 161–172.
- (4) Sihag, R.K. et al. (1999) *J. Neurochem.* 72, 491–499.

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. 1% DMSO Store at -20°C.