

**Neurofilament-L (C28E10) Rabbit mAb**

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IHC-P, IF-F	H M R	Endogenous	70	Rabbit IgG	#P07196	4747

**Product Usage Information****Application**

Western Blotting  
Simple Western™  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Frozen)

**Dilution**

1:1000  
1:50 - 1:250  
1:50 - 1:200  
1:50 - 1:200

**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.

For a carrier-free (BSA and azide free) version of this product see product #10768.

**Specificity/Sensitivity**

Neurofilament-L (C28E10) Rabbit mAb detects endogenous levels of total Neurofilament-L protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide surrounding Glu450 of human Neurofilament-L.

**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  $\alpha$ -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  $\alpha$ -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 **W-S:** Simple Western™ **IHC-P:** Immunohistochemistry (Paraffin) **IF-F:** Immunofluorescence (Frozen)

**Cross-Reactivity Key**

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

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