Revision 4

Store at +4C

#8743

Neurofilament-L (C28E10) Rabbit mAb (Alexa Fluor® 594 Conjugate)

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-F	H M R	Endogenous	Rabbit IgG	#P07196	4747

Product Usage Information

Application	Dilution
Immunofluorescence (Frozen)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

Neurofilament-L (C28E10) Rabbit mAb (Alexa Fluor® 594 Conjugate) 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 protein.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 594 fluorescent dye and tested in-house for direct immunofluorescent analysis in rat brain. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Neurofilament-L (C28E10) Rabbit mAb #2837.

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).

Applications Key

IF-F: Immunofluorescence (Frozen)

Cross-Reactivity Key

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

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