

# PRODUCT INFORMATION

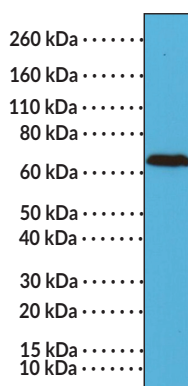


## Neurofilament L (C-Term) Rabbit Monoclonal Antibody (Clone RM280) Item No. 32230

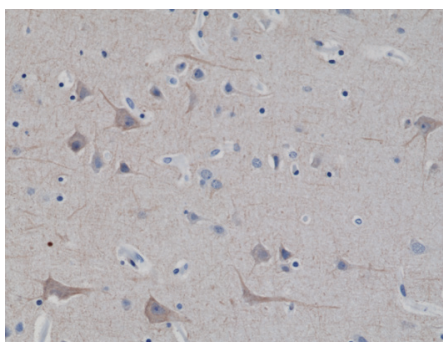
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Neurofilament Light Polypeptide, NF-L
<b>Immunogen:</b>	Peptide from the C-terminal region of human neurofilament L
<b>Cross Reactivity:</b>	(+) Neurofilament L
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM580
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC and WB is 1:1,000-1:2,500. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



WB of human brain tissue lysates using Neurofilament L (C-Term) Rabbit Monoclonal Antibody (Clone RM280) at a dilution of 1:2,500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue using Neurofilament L (C-Term) Rabbit Monoclonal Antibody (Clone RM280) at a 1:2,500 dilution.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Neurofilament L (NF-L) is one of four subunits that form NFs, which are type III intermediate filament proteins that enable axonal growth, maintain structure, and facilitate nerve conduction.<sup>1,2</sup> NF-L is comprised of an N-terminal domain that regulates neurofilament assembly, a central  $\alpha$ -helical rod region that mediates dimerization, and a glutamic acid-rich C-terminal tail that is subject to phosphorylation.<sup>1-3</sup> It is abundantly expressed in myelinated axons in the central and peripheral nervous systems and localizes to the cytoplasm, where it associates with an NF-middle (NF-M) or -heavy (NF-H) subunit to form parallel coiled-coil heterodimers.<sup>3</sup> These heterodimers then associate in an anti-parallel manner to form tetramers, which assemble into NFs. Cerebrospinal fluid (CSF) NF-L levels have been used as a marker of axonal injury in a variety of neurodegenerative diseases, including amyotrophic lateral sclerosis (ALS), multiple sclerosis (MS), Parkinson's disease, and Alzheimer's disease.<sup>1</sup> Mutations in *NEFL*, the gene encoding NF-L, have been found in patients with Charcot-Marie-Tooth disease type 2E (CMT2E), a neurological disease characterized by muscle weakness and atrophy.<sup>4</sup> Cayman's Neurofilament L (C-Term) Rabbit Monoclonal Antibody (Clone RM280) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References

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1. Gaetani, L., Blennow, K., Calabresi, P., *et al.* Neurofilament light chain as a biomarker in neurological disorders. *J. Neurol. Neurosurg. Psychiatry* **90(8)**, 870-881 (2019).
2. Perrot, R., Berges, R., Bocquet, A., *et al.* Review of the multiple aspects of neurofilament functions, and their possible contribution to neurodegeneration. *Mol. Neurobiol.* **38(1)**, 27-65 (2008).
3. Yuan, A., Rao, M.V., Veeranna, *et al.* Neurofilaments and neurofilament proteins in health and disease. *Cold Spring Harb. Perspect. Biol.* **9(4)**, a018309 (2017).
4. Jordanova, A., De Jonghe, P., Boerkoel, C.F., *et al.* Mutations in the neurofilament light chain gene (*NEFL*) cause early onset severe Charcot-Marie-Tooth disease. *Brain* **126(Pt 3)**, 590-597 (2003).

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