



AmeriDx Diagnostics, Inc.  
9235 Activity Road Suite 101  
San Diego, CA 92126 USA  
Tel: +1 (858) 282-8567

Email: [info@AmeriDx.com](mailto:info@AmeriDx.com)

Web: <https://www.AmeriDx.com>

## Product Information

### Human NF-L

His-6 tag at C-terminal

**Product Number:** 21233337

Size: 0.1 mg/1 mg/5 mg

**Synonyms:** Neurofilament light polypeptide, 68 kDa neurofilament protein, neurofilament triplet L protein

**Accession Number:** [P07196](#)

**Source:** *E coli* BL21 strain

**Biology Activity:** specific to human NF-L antibody.

**Molecular Weight:** 61.6 kDa by reducing SDS-PAGE.

**Formulation:** Lyophilized from sterile solution containing 1x PBS with 0.05% Tween 20, pH 7.4.

**Purity:** >97% as analyzed by reducing SDS-PAGE.

**Endotoxin Level:** < 0.1 EU/μg, determined by gel clot method.

### Product Description

Neurofilament consists of three major components: neurofilament light polypeptide (NF-L), mediate polypeptide (NF-M), and heavy polypeptide (NL-H). NF-L has 542 amino acid including a 91 aa N-terminal head, a 304 aa alpha-helical rod, and a 147 aa C-terminal tail[1]. NF-L is first reported as a 69 kDa protein from by Hoffman and Lasek in 1975 analyzing the axonal transport paradigm[2], it plays an important role in the maintenance of neuronal caliber and possibly the pathogenesis of motor neuron diseases[3, 4].

### Components

Purified proteins in lyophilized format.

### Protein Sequence

```
10 20 30 40 50 60
MSSFSYEPYYSTSYKRRYVETPRVHISSVRSYGSTARSAYSSYAPVSSLSVRRSYSS
70 80 90 100 110 120
SGSLMPSENLNLDLQVAASNDLKSIRTQEKALQDLNDRFASFIERVHELEQQNKVLEA
130 140 150 160 170 180
ELLVLRQKHSEPSRFRALYEQEIrdLRLaAEdATNEKQALQGEREGLEETLRNLQARYEE
190 200 210 220 230 240
EVLsREDAEGRLMEARkGADEAALARAELKRIDSLMDEISFLKKVHEEEIAELQAQIQY
250 260 270 280 290 300
AQISVEMdVTKPDLsAALKDIRAQYEkLAANMQNAEEWFKSRFTVLtESAakNTDAVRA
310 320 330 340 350 360
AKdEVSESRLLKAKTLtEAcRGMNEALekQLQELedKQnADISAMQDTINKLEnELRT
370 380 390 400 410 420
TKSEMARYLkEYQDLLNVKMALDIEIAAYRKLlEGEETRLSFTSVGSITSGVSSSQVFG
430 440 450 460 470 480
RSAYGGLQTSsYLMSrSFPSYYTSHVQEEQIEVEETIEAAkAEAAkDEPPSEGAEEEE
490 500 510 520 530 540
KdKEEAEEEEAAEEEEAAkEESEEAkEEEEGGEGEEGETkEAEEEEkKVEGAGEEQAk
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KKD
```

### Preparation Instructions

This protein is soluble in water.

### Storage/Stability

Recombinant N protein remains stable up to 3 years at -20°C from date of receipt. It will remain stable at 37°C for one week without losing any activity. Please avoid freeze-thaw cycles.

### Precautions and Disclaimer

For Research Use Only. Not for drug, household, or other uses.

## **References**

1. Adebola, A.A., et al., *Neurofilament light polypeptide gene N98S mutation in mice leads to neurofilament network abnormalities and a Charcot-Marie-Tooth Type 2E phenotype*. Hum Mol Genet, 2015. **24**(8): p. 2163-74.
2. Hoffman, P.N. and R.J. Lasek, *The slow component of axonal transport. Identification of major structural polypeptides of the axon and their generality among mammalian neurons*. Journal of Cell Biology, 1975. **66**(2): p. 351-366.
3. Xu, Z., et al., *Increased expression of neurofilament subunit NF-L produces morphological alterations that resemble the pathology of human motor neuron disease*. Cell, 1993. **73**(1): p. 23-33.
4. Monteiro, M.J., et al., *Expression of NF-L in both neuronal and nonneuronal cells of transgenic mice: increased neurofilament density in axons without affecting caliber*. J Cell Biol, 1990. **111**(4): p. 1543-57.