

# Anti-Neurofilament H (NF-H) Antibody



**PhosphoSolutions®**  
Antibodies that work™

**Catalog #:** 1450-NFH  
**Isotype:** IgG<sub>1</sub>

**Size:** 100 µl  
**Clone:** NAP4

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**Cite this Antibody:** PhosphoSolutions Cat# 1450-NFH, RRID:AB\_2492159

Host	Applications	Species Tested	Species Assumed*	Molecular Weight
Mouse	WB 1:5000 ICC 1:500-1:1000 IHC 1:500-1:1000	B, Ch, H, M, P, R	Most Mammals	~200 kDa

**Product Description:** Mouse monoclonal antibody.

**Biological Significance:** Neurofilaments are the 10 nm or intermediate filament proteins found specifically in neurons, and are composed predominantly of three major proteins called NF-L, NF-M and NF-H (Harris et al., 1991). NF-H is the neurofilament high or heavy molecular weight polypeptide and runs on SDS-PAGE gels at 200-220 kDa, with some variability across species boundaries. Antibodies to NF-H are useful for identifying neuronal cells and their processes in tissue sections and in tissue culture. NF-H antibodies can also be useful to visualize neurofilament accumulations seen in many neurological diseases, such as Amyotrophic Lateral Sclerosis (Lou Gehrig's disease) (Mendonca et al., 2005) and Alzheimer's disease (Hu et al., 2002).

**Antigen:** Purified bovine neurofilament H.

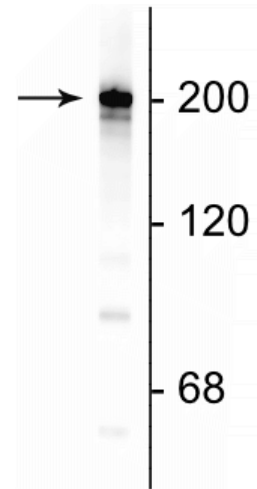
**Antibody Specificity:** Specific for endogenous levels of the ~200 kDa Neurofilament H protein. It recognizes phosphorylated NF-H KSP (lysine-serine-proline) type sequences. In some species there is some cross-reactivity with the related phosphorylated KSP sequences found in the related neurofilament subunit NF-M. It recognizes neurofilaments in frozen sections in tissue culture and in formalin fixed sections.

**Purification Method:** Protein G purified tissue culture supernatant.

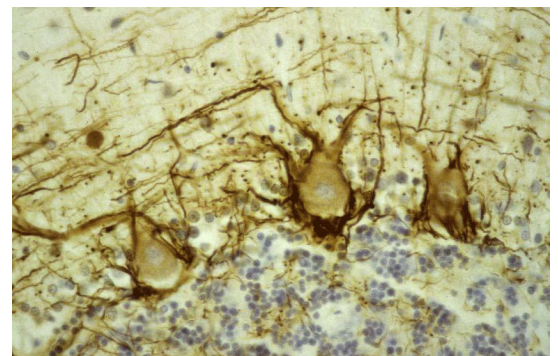
**Quality Control Tests:** Western blots performed on each lot.

**Packaging:** 100 µl in PBS + 10 mM NaN<sub>3</sub>.

**Storage and Stability:** Shipped on blue ice. Recommended that the antibody be aliquoted into smaller working volumes (10-30 µl/vial depending on usage) upon arrival and stored long term at -20°C or -80°C, while keeping a working aliquot stored at 4°C for short term. Avoid freeze/thaw cycles. Stable for at least 1 year.



Western blot of rat cortical lysate showing specific immunolabeling of the ~200 kDa NF-H protein.



Immunostaining of human cerebellar cortex showing labeling of NF-H (brown) in basket cell axons surrounding the large Purkinje neurons.

## General References:

Harris, J., Ayyub, C. and Shaw G. (1991) A molecular dissection of the carboxyterminal tails of the major neurofilament subunits NF-M and NF-H. *J Neurosci Res* 30:47-62.

Mendonca DM, Chimelli L, Martinez AM. (2005) Quantitative evidence for neurofilament heavy subunit aggregation in motor neurons of spinal cords of patients with amyotrophic lateral sclerosis. *Braz J Med Biol Res.* 38(6):925-933.

Hu YY, He SS, Wang XC, Duan QH, Khatoon S, Iqbal K, Grundke-Iqbal I, Wang JZ (2002) Elevated levels of phosphorylated neurofilament proteins in cerebrospinal fluid of Alzheimer disease patients. *Neurosci Lett* 320(3):156-60.