

## Product Data Sheet: Neurofilament Heavy (NF-H)

Cat. No: MAB-94403
Conjugate: Unconjugated

Size: 100 ug

Clone: 9B12

Concentration: 1mg/ml

Host: Ms

Isotype: IgG2b

Immunogen: Native NF-H purified from bovine spinal cord, binding to phosphorylated KSP

sequences

**Reactivity:** Hu Rt Ms,Cw, Pg

**Applications:** Western Blot: 1:10,000 Immunocytochemistry: 1:1,000 Immunofluorescence:

1:1,000 Immunohistochemistry: 1:1,000

Molecular Weight: 200-220 kDa

**Purification:** Purified

Neurofilaments are the 10nm or intermediate filament proteins found specifically in neurons, and are composed predominantly of three major proteins called NF-L,

NF-M and NF-H, though other proteins may also be present. NF-H is the

neurofilament high or heavy molecular weight polypeptide and runs on SDS-PAGE

gels at 160-220 kDa, with some variability across species boundaries though in reality is much smaller, about 110kDa (1,2). The unusual SDS-PAGE mobility is due to a very high content of negatively charged amino acids and the non-phosphorylated form runs on SDS-PAGE at about 160kDa. The predominant type of NF-H is the axonal form which is heavily serine phosphorylated on 40 or more

of NF-H is the axonal form which is heavily serine phosphorylated on 40 or more tandemly repeated lysine-serine-proline (KSP) containing peptides. The phosphorylation of these peptides results in further retardation on SDS-PAGE gels, so the heavily phosphorylated axonal form runs at 200-220kDa with some species variability. Antibodies to NF-H are useful for identifying axonal processes in tissue sections and in culture. NF-H antibodies can also be useful in visualizing

neurofilament accumulations seen in neurological disorders, such as amyotrophic lateral sclerosis, Alzheimer's disease and following traumatic injury. The

phosphorylated axonal form of NF-H, usually referred to as pNF-H, can be detected in blood and CSF following a variety of damage and disease states resulting in axonal compromise, and antibodies such as this can be used to used to quantify such ongoing axonal loss. 9B12 is a mouse monoclonal antibody raised against native axonal phosphorylated NF-H purified from bovine spinal cord. 9B12 recognizes the phosphorylated NF-H KSP sequences similar to other antibodies to NF-H. There is some cross-reactivity with the phosphorylated KSP sequences found in the related neurofilament subunit NF-M. The antibody recognizes NF-H strongly in all mammals tested to date and also in chicken. It recognizes neurofilaments in frozen sections in tissue culture and in formalin

fixed sections.

Form: Liquid

**Background:** 

**Buffer:** Affinity purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3

Storage: Store at 4°C. For long term storage, leave frozen at -20°C. Avoid freeze / thaw

cycles



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