NEUROMICS

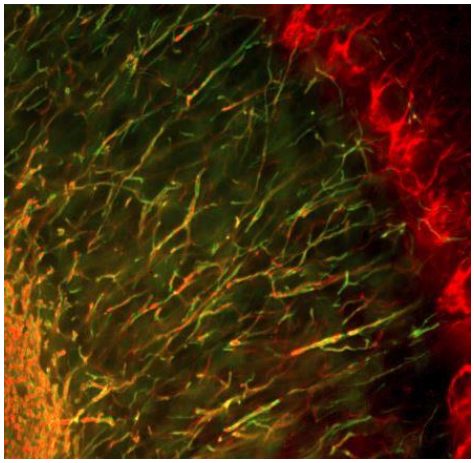
Neurofilament NF-H Data Sheet

Catalog Number:	GT22109	**Host:**	Goat
Product Type:	Goat Polyclonal	**Species Reactivity:**	Human, Rat, Mouse, Cow, Pig
Immunogen Sequence:	Native NF-H purified from bovine spinal cord	**Format:**	Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3
Applications:	Immunofluorescence: 1:1,000-5,000 Immunohistochemistry: 1:1,000-5,000 Western Blot: 1:10,000-25,000		
Storage:	Dilutions listed as a recommendation. Optimal dilution should be determined by investigator. Antibody can also be aliquotted and stored frozen at -20° C in a manual defrost freezer for six months without detectable loss of activity. The antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Avoid repeated freeze-thaw cycles.		

Application Notes

Description/Data

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 200-220 kDa, with some variability across species boundaries. 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 many neurological disorders, such as Amyotrophic Lateral Sclerosis (also known as Lou Gehrig's disease), 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.



This antibody was raised against biochemically isolated NF-H purified from bovine spinal cord. This preparation is dominated by axonal forms of NF-H which are heavily phosphorylated on the multiply repeated NF-H KSP type sequences, and this antibody reacts very strongly with these phosphorylated repeats. Reactivity with non-phosphorylated KSP sequences is orders of magnitude weaker, similar to other characterized antibodies to NF-H. In most species there is some cross-reactivity with the phosphorylated KSP sequences found in the related neurofilament subunit NF-M which are similar but not identical to those of NF-H. The antibody recognizes phosphorylated NF-H strongly in all mammals tested to date and also in chicken.

Image: Immunofluorescence analysis of mouse cerebellum section stained with goat pAb to NF-H, GT22109, dilution 1:3,000 in red, and costained with mouse mAb to myelin basic protein (MBP), dilution 1:5,000 in green. Following transcardial perfusion with 4% paraformaldehyde, mouse brain was post fixed for 24 hours, cut to 45µM, and free-floating sections were stained with above antibodies. The NF-H antibody labels axons of basket and Purkinje cells and others. The MBP antibody stains oligodendrocyte cell bodies and the myelin sheathes around axons in the granular layer at center and the white matter at bottom left.

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