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Product datasheet

Anti-Neurofilament heavy polypeptide antibody [NF-01] ab7795

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Overview

Product name	Anti-Neurofilament heavy polypeptide antibody [NF-01]
Description	Mouse monoclonal [NF-01] to Neurofilament heavy polypeptide
Host species	Mouse
Specificity	This antibody recognizes a phosphorylated epitope on heavy neurofilament protein (210 kDa) of various species.
Tested applications	**Suitable for:** IHC-P, Flow Cyt
Species reactivity	**Reacts with:** Human **Predicted to work with:** a wide range of other species, Mammals
Immunogen	Full length native protein (purified) corresponding to Pig Neurofilament heavy polypeptide. A pellet of pig brain cold-stable proteins after depolymerization of microtubules.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: PBS
Purity	Protein A purified
Purification notes	>95 % pure (by PAGE)
Clonality	Monoclonal

Clone number	NF-01
Isotype	IgG1
Light chain type	unknown

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab7795 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★ **(1)**	1/5 - 1/10.
Flow Cyt		Use 1µg for 10^6 cells. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target

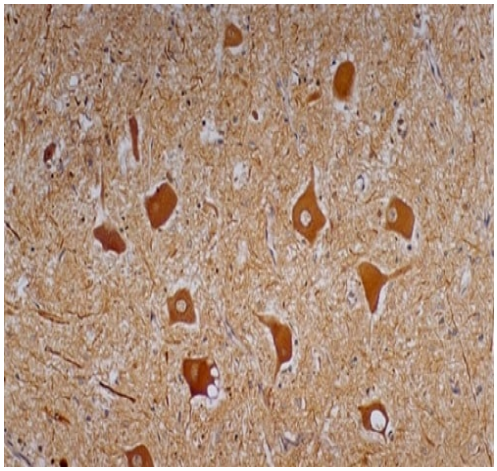
Function Neurofilaments usually contain three intermediate filament proteins: L, M, and H which are involved in the maintenance of neuronal caliber. NF-H has an important function in mature axons that is not subserved by the two smaller NF proteins.

Involvement in disease Defects in NEFH are a cause of susceptibility to amyotrophic lateral sclerosis (ALS) [MIM:105400]. ALS is a neurodegenerative disorder affecting upper and lower motor neurons, and resulting in fatal paralysis. Sensory abnormalities are absent. Death usually occurs within 2 to 5 years. The etiology is likely to be multifactorial, involving both genetic and environmental factors.

Sequence similarities Belongs to the intermediate filament family.

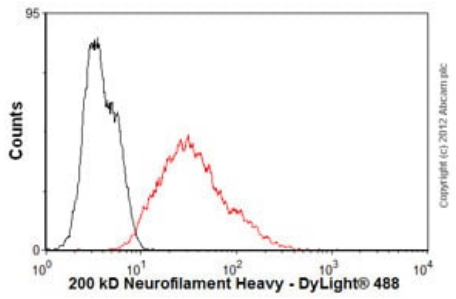
Post-translational modifications There are a number of repeats of the tripeptide K-S-P, NFH is phosphorylated on a number of the serines in this motif. It is thought that phosphorylation of NFH results in the formation of interfilament cross bridges that are important in the maintenance of axonal caliber.
Phosphorylation seems to play a major role in the functioning of the larger neurofilament polypeptides (NF-M and NF-H), the levels of phosphorylation being altered developmentally and coincident with a change in the neurofilament function.
Phosphorylated in the Head and Rod regions by the PKC kinase PKN1, leading to inhibit polymerization.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neurofilament heavy polypeptide antibody [NF-01] (ab7795)

Immunohistochemical analysis of paraffin-embedded human cerebellum tissue sections labelling Neurofilament heavy polypeptide protein with ab7795 at 5 µL.



Flow Cytometry - Anti-Neurofilament heavy polypeptide antibody [NF-01] (ab7795)

Overlay histogram showing SH-SY5Y cells stained with ab7795 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab7795, 1µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was a goat **anti-mouse DyLight® 488** (IgG; H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (**ab91353**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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