Product datasheet

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

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: ELISA, IHC-Fr, ICC, IHC-P, WB, IHC - Wholemount, ICC/IF, Flow Cyt
Species reactivity Reacts with: Mouse, Rat, Cow, Human, Pig
Immunogen A pellet of pig brain cold-stable proteins after depolymerization of microtubules.

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

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

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.

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Application | Abreviews | Notes
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ELISA |  | Use at an assay dependent concentration.
IHC-Fr | ☻☻☻☻☻ | Use at an assay dependent concentration.
ICC | ☻☻☻☻☻ | Use at an assay dependent concentration.
IHC-P |  | Use at an assay dependent concentration.
WB |  | 1/1000.
IHC - Wholemount | ☻☻☻☻☻ | Use at an assay dependent concentration.
ICC/IF | ☻☻☻☻☻ | Use at an assay dependent concentration.
Flow Cyt |  | Use 1µg for 10⁶ cells.
ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
Immunohistochemical analysis of paraffin-embedded human cerebellum tissue sections labelling Neurofilament heavy polypeptide protein with ab7795 at 5 µL.

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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