abcam

ab7795

Anti-Neurofilament heavy polypeptide antibody [NF-01]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Pig NEFH. Database link P12037
Clone number	NF-01
Purification technique	Affinity purification Protein A
Specificity	This antibody recognizes a phosphorylated epitope on heavy neurofilament protein (210 kDa) of various species.
Light chain type	unknown
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	>95 % pure (by PAGE)

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mammals
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/5 - 1/10
Notes	-

Predicted

Species	Mammals
Dilution info	-
Notes	-

Target data

See full target information NEFH

Function	Neurofilaments usually contain three intermediate filament proteins: NEFL, NEFM, and NEFH which are involved in the maintenance of neuronal caliber. NEFH has an important function in mature axons that is not subserved by the two smaller NF proteins. May additionally cooperate with the neuronal intermediate filament proteins PRPH and INA to form neuronal filamentous networks (By similarity).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Neurofilament heavy polypeptide often referred to as NF-H or neurofilament heavy chain plays an important role in the structural integrity of neurons. This protein is a critical component of the cytoskeleton in neurons consisting of an approximate molecular mass of 200 kDa. It is predominantly expressed in the neuronal axons where it contributes to the assembly and stability of neurofilament structures. NF-H is essential for maintaining axonal diameter and for proper conduction of electrical impulses along nerve fibers.
Biological function summary	This polypeptide participates in the formation of neurofilament a complex structure that includes other neurofilament proteins like the neurofilament light (NF-L) and neurofilament medium (NF-M). These proteins form a stable scaffold within the axon aiding in neuronal growth and repair. The phosphorylation of NF-H modulates its interactions within the neurofilament network influencing axonal transport processes and dynamics which are vital for neuron function and survival.
Pathways	Neurofilament heavy polypeptide is integral to the axonal transport pathway important in conveying molecules between the neuronal cell body and the synaptic terminals. Through its interactions with microtubules and motor proteins NF-H facilitates the movement of organelles and neurotransmitters. It has significant associations with proteins involved in the ubiquitin-proteasome system reflecting its role in maintaining neuronal homeostasis and proteostasis essential in neuronal development and function.
Associated diseases and disorders	Neurofilament heavy polypeptide serves as an important biomarker for neurodegenerative disorders such as Amyotrophic Lateral Sclerosis (ALS) and Alzheimer's disease. NF-H especially in phosphorylated form accumulates in conditions of axonal injury or degeneration. It often interacts with tau protein in Alzheimer's pathology forming neurofibrillary tangles. Elevated levels of NF-H in cerebrospinal fluid or blood can indicate neuronal damage offering insights into disease progression and potential targets for therapeutic intervention.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

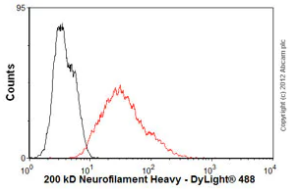
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

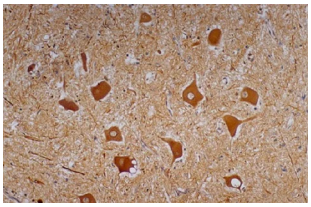
2 product images



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

Neurofilament heavy polypeptide Flow Cytometry staining using mouse Anti-Neurofilament heavy polypeptide antibody

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 22°C. The secondary antibody used was a goat anti-mouse DyLight® 488 (IgG; H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. 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.



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

Neurofilament heavy polypeptide Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Neurofilament heavy polypeptide antibody

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

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