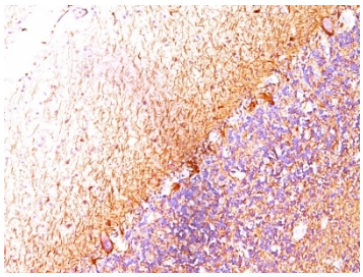
Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light [clone RT-97 + NR-4] (V3088)

Catalog No.	Formulation	Size
V3088-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3088-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3088SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3088IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

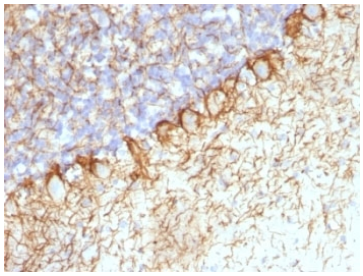
Citations (4)

Bulk quote request

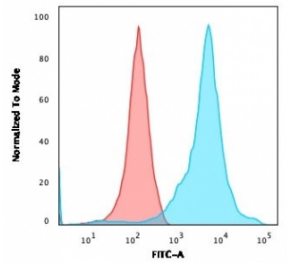
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	RT-97 + NR-4
Purity	Protein G affinity chromatography
UniProt	P12036
Localization	Cytoplasmic, membranous
Applications	Flow cytometry: 0.5-1ug/10^6 cells Immunohistochemistry (FFPE): 0.25-0.5ug/ml for 30 min at RT
Limitations	This Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light is available for research use only.



Neurofilament Cocktail Antibody RT97 + NR4 in Human Cerebellum IHC. Immunohistochemistry staining of FFPE human cerebellum tissue with Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light. HIER was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. The observed staining highlights neurofilament-positive neuronal structures within the human cerebellum.



Neurofilament Cocktail Antibody RT97 + NR4 in Rat Cerebellum IHC. Immunohistochemistry staining of FFPE rat cerebellum tissue with Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light. Tissue sections underwent HIER by boiling in 10 mM citrate buffer, pH 6, for 10-20 min followed by cooling at RT for 20 min. The staining demonstrates neurofilament localization in neuronal structures of rat cerebellum.



Neurofilament Cocktail Antibody RT97 + NR4 in HEK293 Cells FACS. Flow cytometry analysis of permeabilized human HEK293 cells with Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light. Red represents the isotype control and blue represents staining with the RT97 + NR4 antibody cocktail. Antibody-associated fluorescence was observed in HEK293 cells by FACS.

Description

Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light combines monoclonal antibodies recognizing heavy and light neurofilament proteins, major components of the neuronal intermediate filament cytoskeleton. Neurofilaments are abundant within neurons and particularly prominent in axons, where they contribute to structural stability and maintenance of neuronal processes. Combined recognition of NF-H and NF-L provides broad detection of neurofilament-positive structures for studies of neuronal organization and differentiation.

Neurofilaments consist primarily of light, medium and heavy subunits, commonly designated NF-L, NF-M and NF-H. NF-L has an apparent molecular weight of approximately 68 kDa and plays an important role in neurofilament assembly. NF-H has an apparent molecular weight of approximately 200 kDa and contains an extended C-terminal domain that undergoes extensive phosphorylation. Together with other neurofilament proteins, these subunits form intermediate filament networks that support axonal architecture and help regulate axonal caliber.

The RT97 + NR4 cocktail combines two established neurofilament clones with complementary recognition. Clone NR4 recognizes the approximately 68 kDa neurofilament light subunit, while RT97 recognizes phosphorylation-dependent neurofilament epitopes associated primarily with the heavy subunit. Published characterization of RT97 has demonstrated its preference for phosphorylated KSP-containing sequences within neurofilament tail domains. The combination therefore provides simultaneous recognition of neurofilament light chain and phosphorylated epitopes associated with heavier neurofilament proteins.

Heavy and light neurofilaments are widely investigated as markers of neuronal structures in neuroscience, neurodevelopment and neuropathology. Neurofilament staining can highlight neuronal processes and axonal pathways and is useful for examining nervous system architecture and neuronal differentiation. Neurofilaments are also expressed by a variety of neural and neuroendocrine tumors, making their detection relevant to research involving neuroblastoma, ganglioneuroma, paraganglioma and other tumors exhibiting neuronal differentiation.

This purified mouse monoclonal antibody cocktail combines clone RT97, generated against a Triton X-100 insoluble fraction of rat brain, with clone NR4, generated against porcine spinal cord neurofilaments. It has been evaluated by immunohistochemistry and flow cytometry and has stated reactivity with human, mouse and rat samples. NSJ Bioreagents supplies antibodies for neuroscience and neural marker research. A Neurofilament Cocktail Antibody can be used to investigate heavy and light neurofilaments, neuronal structures, axonal organization and neural differentiation.

For additional research on combined heavy and light neurofilament detection, neuronal structure and axonal biology, see our Neurofilament Antibody / Heavy and Light Neurofilament Marker page.

Application Notes

Optimal dilution of the Neurofilament Cocktail Antibody RT97 + NR4 / Heavy and Light should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Triton-X 100 insoluble proteins of rat brain (RT-97) and Neurofilaments from porcine spinal cord (NR-4) were used as the immunogen for the Neurofilament antibody cocktail.

Storage

Store the Neurofilament antibody cocktail at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Neurofilament Cocktail antibody, RT97 + NR4 antibody, Heavy and Light Neurofilament antibody, NF-H and NF-L antibody, Pan-Neurofilament antibody

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