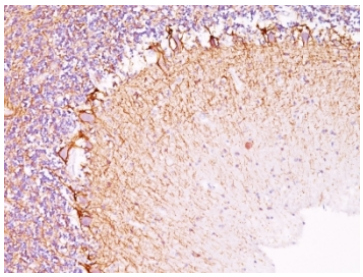
Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker [clone NR-4] (V2760)

Catalog No.	Formulation	Size
V2760-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2760-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2760SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2760IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

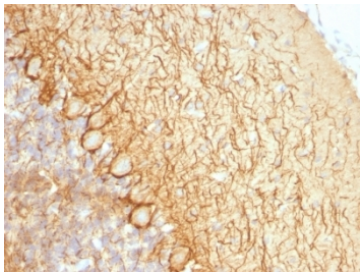
Citations (8)

Bulk quote request

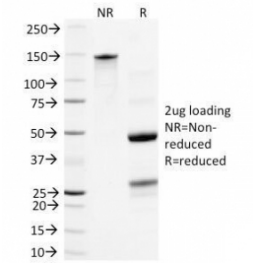
Availability	1-3 business days
Species Reactivity	Human, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	NR-4
Purity	Protein G affinity chromatography
UniProt	P07196
Localization	Cytoplasmic, membranous
Applications	Immunofluorescence: 1-2ug/ml Flow cytometry: 1-2ug/10^6 cells Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT
Limitations	This Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker is available for research use only.



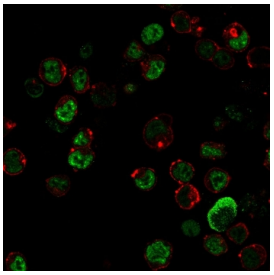
Neurofilament Light Chain Antibody in Human Cerebellum IHC. Immunohistochemistry staining of FFPE human cerebellum tissue with Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker clone NR-4. HIER was performed in pH 6 citrate buffer for 10-20 min followed by cooling at RT for 20 min. The staining highlights neurofilament light chain expression in neuronal structures of the human cerebellum.



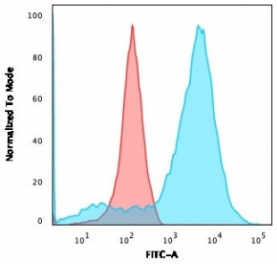
Neurofilament Light Chain Antibody in Rat Brain IHC. Immunohistochemistry staining of FFPE rat brain tissue with Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker clone NR-4. HIER was performed in pH 6 citrate buffer for 10-20 min followed by cooling at RT for 20 min. The observed NF-L staining demonstrates localization of this neuronal cytoskeleton marker in rat brain tissue.



Purified Neurofilament Light Chain Antibody SDS-PAGE. Gel run analysis of purified, BSA-free Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker clone NR-4. Analysis of the purified mouse monoclonal antibody provides confirmation of antibody integrity and purity.



Neurofilament Light Chain Antibody in HEK293 Cells IF. Immunofluorescence staining of fixed and permeabilized human HEK293 cells with Neurofilament Light Chain Antibody clone NR-4. Cells were stained with a fluorescent secondary antibody and nuclear counterstain. Fluorescent staining was observed in HEK293 cells by IF.



Neurofilament Light Chain Antibody in HEK293 Cells FACS. Flow cytometry analysis of fixed and permeabilized human HEK293 cells with Neurofilament Light Chain Antibody clone NR-4 followed by a fluorescent secondary antibody. Antibody-associated fluorescence was observed in HEK293 cells by FACS.

Description

Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker detects neurofilament light chain (NF-L), an intermediate filament protein encoded by the NEFL gene. NF-L is a major component of the neuronal cytoskeleton and contributes to the structural organization and mechanical stability of axons. Neurofilaments are particularly abundant in neurons with long axons, where they help maintain axonal architecture and influence axon caliber, making neurofilament light chain an established marker for neuronal and axonal structures.

Neurofilaments are assembled from light, medium and heavy subunits, commonly referred to as NF-L, NF-M and NF-H. The approximately 68 kDa NF-L protein provides an important foundation for neurofilament assembly and interacts with

other neurofilament subunits to form the filamentous networks extending throughout neuronal processes. Proper organization and transport of these intermediate filaments are important for maintaining axonal structure and supporting normal neuronal function.

As a neuronal cytoskeleton marker, neurofilament light chain is widely studied in neuroscience, neurodevelopment and neuropathology. Alterations in NEFL expression, assembly or axonal transport can accompany neuronal injury and degeneration. NF-L released following axonal damage can also be measured as a biomarker of neuroaxonal injury and is investigated in neurological disorders including multiple sclerosis, amyotrophic lateral sclerosis, Alzheimer's disease and other neurodegenerative conditions.

Neurofilament expression is also useful for characterizing cells and tissues of neuronal or neuroendocrine origin. NF-L can be detected in peripheral nerves and sympathetic ganglion cells as well as a variety of neural and neuroendocrine tumors. Neurofilament staining is therefore relevant to research involving neuroblastoma, ganglioneuroma, ganglioneuroblastoma, paraganglioma and other tumors exhibiting neuronal differentiation.

Clone NR-4 is a mouse monoclonal antibody that recognizes the approximately 68 kDa light subunit of neurofilaments and has been cited in peer-reviewed research. The antibody has been evaluated by immunohistochemistry, immunofluorescence and flow cytometry, supporting complementary approaches to studying NF-L expression and localization. NSJ Bioreagents supplies antibodies for neuroscience and neural marker research. A Neurofilament Light Chain Antibody can be used to investigate neuronal cytoskeleton organization, axonal biology, neurodegeneration and neuronal differentiation.

For related reagents used to investigate neurons, axonal structure and nervous system biology, explore our Neuroscience Antibodies page.

Application Notes

Optimal dilution of the Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker 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

Crude neurofilament preparation from porcine spinal cord was used as the immunogen for the Neurofilament Light Chain Antibody.

Storage

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

Alternate Names

Neurofilament Light Chain antibody, NF-L antibody, NEFL antibody, Neurofilament Light Polypeptide antibody, Neuronal Cytoskeleton Marker antibody

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