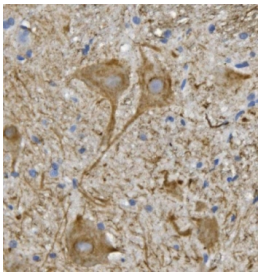
Neurofilament Light Antibody / Neuronal Intermediate Filament Antibody (RQ6261)

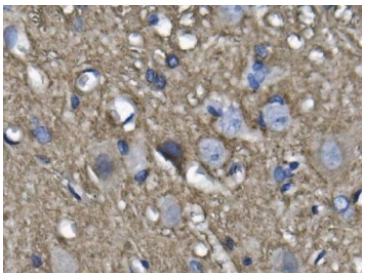
Catalog No.	Formulation	Size
RQ6261	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

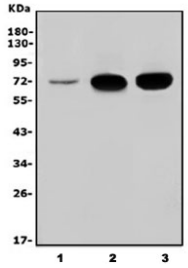
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P07196
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-3ug/million cells Immunohistochemistry (FFPE): 1-2ug/ml Direct ELISA: 0.1-0.5ug/ml Immunofluorescence: 5ug/ml
Limitations	This Neurofilament Light Antibody / Neuronal Intermediate Filament Antibody is available for research use only.



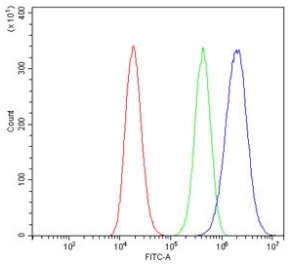
Neurofilament Light Antibody Mouse Spinal Cord IHC. Immunohistochemical staining of FFPE mouse spinal cord tissue with Neurofilament Light antibody. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to staining. Neurofilament Light immunoreactivity is observed within neuronal cell bodies and extensive axonal processes, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture. Cell nuclei are counterstained with hematoxylin (blue).



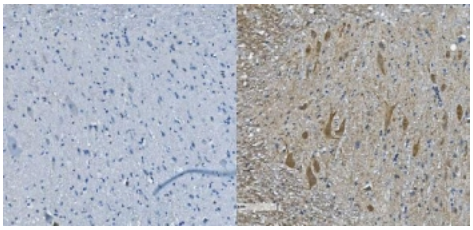
Neurofilament Light Antibody Rat Spinal Cord IHC. Immunohistochemical staining of FFPE rat spinal cord tissue with Neurofilament Light antibody. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to staining. Neurofilament Light immunoreactivity is observed within neuronal cell bodies and axonal processes, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture. Cell nuclei are counterstained with hematoxylin (blue).



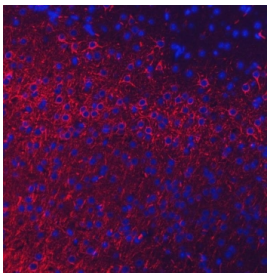
Neurofilament Light Antibody Multi-Species Brain WB. Western blot testing of 1) human SH-SY5Y, 2) rat brain, and 3) mouse brain lysates with Neurofilament Light antibody. A prominent immunoreactive band is detected at approximately 68 kDa in all three samples, consistent with the predicted molecular weight range of Neurofilament Light (62-68 kDa). The results demonstrate specific detection of this neuronal intermediate filament protein, which is abundantly expressed in neurons and plays an essential role in maintaining axonal structure and neuronal integrity.



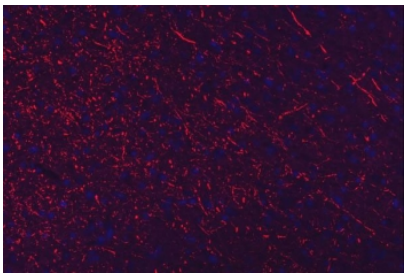
Flow cytometry testing of human 293T cells with Neurofilament Light antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Neurofilament Light antibody.



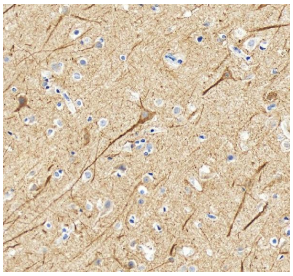
Neurofilament Light Antibody Mouse Spinal Cord IHC with Negative Control. Immunohistochemical staining of FFPE mouse spinal cord tissue with Neurofilament Light antibody (right). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to staining. Neurofilament Light immunoreactivity is observed within neuronal cell bodies and extensive axonal processes, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture. The negative control (left), in which the primary antibody was omitted, showed no specific staining. Cell nuclei are counterstained with hematoxylin (blue).



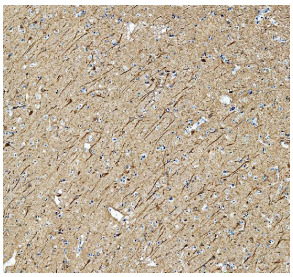
Neurofilament Light Antibody Mouse Brain IF. Immunofluorescent staining of FFPE mouse brain tissue with Neurofilament Light antibody (red). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to staining. Nuclei are counterstained with DAPI (blue). Neurofilament Light immunoreactivity is observed throughout neuronal cell bodies and extensive neurites, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture.



Neurofilament Light Antibody Rat Brain IF. Immunofluorescent staining of FFPE rat brain tissue with Neurofilament Light antibody (red). Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to staining. Nuclei are counterstained with DAPI (blue). Neurofilament Light immunoreactivity is observed prominently within neuronal processes throughout the brain parenchyma, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture.



Neurofilament Light Antibody Human Brain IHC. Immunohistochemical staining of FFPE human brain tissue with Neurofilament Light antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Neurofilament Light immunoreactivity is observed within neuronal cell bodies and extensive axonal processes, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture. Cell nuclei are counterstained with hematoxylin (blue).



Neurofilament Light Antibody Human Hippocampus IHC. Immunohistochemical staining of FFPE human hippocampus tissue with Neurofilament Light antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. Neurofilament Light immunoreactivity is observed within neuronal cell bodies and extensive axonal processes throughout the hippocampus, consistent with the expected localization of this neuronal intermediate filament protein that provides structural support for axons and helps maintain neuronal architecture. Cell nuclei are counterstained with hematoxylin (blue).

Description

Neurofilament Light Antibody recognizes Neurofilament Light (NEFL), the smallest and most abundant subunit of the neurofilament triplet proteins that form the principal intermediate filament network of neurons. Neurofilament Light assembles with Neurofilament Medium (NEFM) and Neurofilament Heavy (NEFH) to establish the cytoskeletal framework that maintains neuronal architecture, supports axonal caliber, and facilitates efficient nerve impulse conduction. As the core structural component required for neurofilament assembly, NEFL is essential for maintaining axonal stability and long-term neuronal integrity. Consequently, Neurofilament Light Antibody is widely used to investigate neuronal intermediate filaments, axonal biology, nervous system development, and neurodegenerative disease.

Neurofilament Light is expressed predominantly in mature neurons throughout the central and peripheral nervous systems, where it is highly enriched within axons. The protein provides mechanical support while serving as a scaffold for intracellular transport and organization of the neuronal cytoskeleton. Proper neurofilament assembly is required for axonal growth, maintenance, and regeneration, making NEFL indispensable for normal neuronal function. Because Neurofilament Light is a defining component of the neuronal intermediate filament network, it has become an important marker for studies of neuronal differentiation, axonal maturation, and neural connectivity.

Altered NEFL expression, abnormal neurofilament organization, and release of Neurofilament Light into cerebrospinal fluid and blood have been associated with numerous neurological disorders, including amyotrophic lateral sclerosis, Alzheimer's disease, Parkinson's disease, multiple sclerosis, Huntington's disease, Charcot-Marie-Tooth disease, traumatic brain injury, spinal cord injury, and peripheral neuropathies. Circulating Neurofilament Light has emerged as one of the most widely used biomarkers of axonal injury and neurodegeneration because elevated levels correlate with neuronal damage across a broad spectrum of neurological diseases. Neurofilament Light Antibody is therefore extensively employed to evaluate axonal degeneration, neuronal injury, cytoskeletal remodeling, and disease progression in both experimental and clinical research.

NSJ Bioreagents offers highly validated Neurofilament Light Antibody products for reliable detection of endogenous NEFL in nervous system tissues and cultured cells. These antibodies support investigations into neuronal intermediate filament organization, axonal maintenance, neuronal injury, neurodegeneration, and nervous system development while enabling accurate characterization of Neurofilament Light expression and localization. Researchers studying neuronal cytoskeletal biology, axonal integrity, and neurological disease can rely on Neurofilament Light Antibody for dependable and reproducible results.

For additional research on NF-L expression, axonal structure and neuronal intermediate filaments, see our Neurofilament Light Chain Antibody / Neuronal Cytoskeleton Marker page.

Application Notes

Optimal dilution of the Neurofilament Light Antibody / Neuronal Intermediate Filament Antibody should be determined by the researcher.

Immunogen

A human recombinant partial protein (amino acids F4-A463) was used as the immunogen for the Neurofilament Light antibody.

Storage

After reconstitution, the Neurofilament Light antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

NEFL antibody, Neurofilament Light Polypeptide antibody, NF-L antibody, Neurofilament L antibody, 68 kDa Neurofilament antibody, Light Neurofilament Protein antibody

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