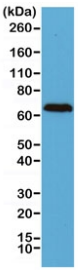
Recombinant Neurofilament Antibody Light Chain / NF-L / NEFL [clone RM280] (R20297)

Catalog No.	Formulation	Size
R20297-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

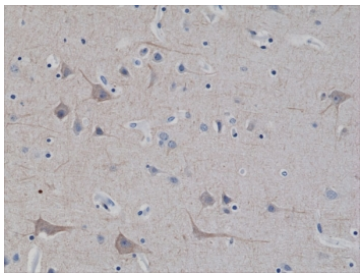
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM280
Purity	Protein A purified from animal origin-free supernatant
UniProt	P07196
Gene ID	4747
Applications	Immunohistochemistry (FFPE) : 1:1000-1:2500 (1) Western Blot : 1:1000-1:2500
Limitations	This recombinant Neurofilament antibody is available for research use only.



Western blot of human brain lysate using recombinant Neurofilament antibody at 1:2500.
Predicted molecular weight: 62-68 kDa.



IHC testing of FFPE human brain tissue with recombinant Neurofilament antibody at 1:2500.

Description

The Recombinant Neurofilament antibody is a recombinant reagent engineered to detect the light chain of neurofilaments, also known as NF-L or NEFL. Neurofilaments are type IV intermediate filament proteins that form the major cytoskeletal framework of neurons, providing structural support and regulating axonal caliber. The light chain is the most abundant of the three major subunits (light, medium, and heavy) and serves as the core scaffold upon which the other subunits assemble. By specifically recognizing NF-L, the Recombinant Neurofilament antibody provides researchers with a sensitive and reproducible tool for studying neuronal structure and pathology.

NF-L is encoded by the NEFL gene on chromosome 8p21. Structurally, it contains an alpha-helical rod domain that promotes filament assembly and flexible head and tail domains that mediate interactions with other proteins. NF-L pairs with neurofilament medium and heavy chains to form heteropolymers that maintain axonal diameter, which directly influences nerve conduction velocity. Mutations in NEFL are associated with Charcot-Marie-Tooth disease and other neurodegenerative conditions, highlighting its importance for neuronal stability and function. The Recombinant Neurofilament antibody enables the reliable detection of NF-L in both healthy and diseased states.

In immunohistochemistry, the Recombinant Neurofilament antibody stains neuronal cell bodies and axons, producing a filamentous pattern characteristic of intermediate filaments. In immunofluorescence, it highlights the dense axonal networks in cultured neurons, allowing visualization of neuronal morphology and cytoskeletal integrity. In western blotting, the antibody detects NF-L protein in brain and spinal cord extracts, supporting quantitative assessment of neuronal protein levels. Recombinant production ensures lot-to-lot consistency, reducing variability compared with conventional antibodies and making this reagent suitable for longitudinal studies.

The Recombinant Neurofilament antibody is particularly valuable in neuroscience research, where NF-L is widely used as a biomarker of axonal injury and degeneration. Elevated NF-L levels in cerebrospinal fluid and blood are associated with a variety of neurological disorders, including multiple sclerosis, amyotrophic lateral sclerosis, Alzheimer's disease, and traumatic brain injury. Detection of NF-L with this antibody provides a reliable method for studying neuronal damage and evaluating potential therapies. Synonym phrases such as recombinant NF-L antibody, recombinant NEFL antibody, and recombinant neurofilament light chain antibody broaden accessibility for researchers across fields.

By offering validated and reproducible detection, the Recombinant Neurofilament antibody supports detailed studies of neuronal cytoskeleton, axonal biology, and neurodegenerative disease. NSJ Bioreagents ensures strict quality control, providing researchers confidence in its use across immunohistochemistry, immunofluorescence, and western blotting. With specificity for NF-L, the Recombinant Neurofilament antibody is an indispensable tool for advancing both basic neuroscience and translational research into neurological disorders.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Neurofilament antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

Immunogen

A peptide corresponding to the C-terminus of human Neurofilament-L (NF-L) was used as the immunogen for this recombinant Neurofilament antibody.

Storage

Store the recombinant Neurofilament antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).