NEFM Antibody / NF-M / Neurofilament medium (FY13056)

Catalog No.	Formulation	Size
FY13056	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P07197
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NEFM antibody is available for research use only.

Description

NEFM antibody detects Neurofilament medium polypeptide, also known as NF-M, a critical intermediate filament protein that maintains neuronal structure and axonal integrity. The UniProt recommended name is Neurofilament medium polypeptide (NEFM). This protein is one of the three major neurofilament subunitsÂ—light (NEFL), medium (NEFM), and heavy (NEFH)Â—that assemble into heteropolymers forming the neuronal cytoskeleton.

Functionally, NEFM antibody identifies a 916-amino-acid cytoskeletal protein containing an alpha-helical coiled-coil rod domain and an extensive C-terminal tail rich in phosphorylation sites. NEFM contributes to the structural scaffolding of axons, determining their caliber and conduction velocity. Its phosphorylation regulates filament spacing and interaction with other cytoskeletal components, thereby influencing axonal transport and mechanical stability.

The NEFM gene is located on chromosome 8p21.2 and is highly expressed in neurons of the central and peripheral nervous systems. NEFM is particularly abundant in large myelinated axons, where it associates with microtubules and

neurofilament light and heavy chains to form cross-linked filamentous arrays. During development, NEFM expression increases as neurons mature, supporting long-range axonal projection and signal transmission.

In pathology, NEFM serves as a biomarker of axonal injury and neurodegeneration. Elevated NEFM levels are detected in cerebrospinal fluid and plasma of patients with amyotrophic lateral sclerosis (ALS), Alzheimer's disease, and traumatic brain injury, reflecting axonal breakdown. In experimental models, altered NEFM phosphorylation contributes to impaired axonal transport and neurofilament aggregation, features commonly seen in neurodegenerative diseases.

NEFM antibody is widely used in neuroscience, neuropathology, and cytoskeletal biology research. It is suitable for immunohistochemistry, immunofluorescence, and western blotting to detect NF-M localization and integrity in neuronal tissues. This antibody supports studies of axonal structure, neurofilament organization, and neural injury responses. In translational studies, NEFM detection provides a molecular readout of neuroaxonal damage and regeneration.

Structurally, NEFM assembles into 10-nm filaments with a coiled-coil backbone and phosphorylated C-terminal sidearms that control filament spacing and cytoskeletal elasticity. NSJ Bioreagents provides NEFM antibody reagents validated for use in neuronal cytoskeleton, neurodegeneration, and axonal biology research.

Application Notes

Optimal dilution of the NEFM antibody should be determined by the researcher.

Immunogen

E.coli-derived human NF-M/NEFM recombinant protein (Position: Q125-D916) was used as the immunogen for the NEFM antibody.

Storage

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