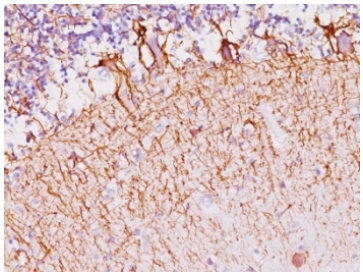
Pan-Neurofilament Antibody SPM145 / Heavy and Light Marker [clone SPM145] (V3101)

Catalog No.	Formulation	Size
V3101-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3101-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3101SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3101IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM145
Purity	Protein G affinity chromatography
UniProt	P12036
Localization	Cytoplasmic, membranous
Applications	Immunohistochemistry (FFPE): 0.25-0.5ug/ml for 30 min at RT
Limitations	This Pan-Neurofilament Antibody SPM145 / Heavy and Light Marker is available for research use only.



Pan-Neurofilament Antibody SPM145 in Human Cerebellum IHC. Immunohistochemistry staining of FFPE human cerebellum tissue with Pan-Neurofilament Antibody SPM145 / Heavy and Light Marker at 0.25-0.5 ug/ml. HIER was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min. The observed staining highlights neurofilament-positive neuronal structures in human cerebellum tissue.

Description

Pan-Neurofilament Antibody SPM145 / Heavy and Light Marker detects both heavy and light neurofilament proteins, major components of the neuronal intermediate filament cytoskeleton. Neurofilaments are abundant in neurons and particularly prominent within axons, where they contribute to structural stability and maintenance of neuronal architecture. Recognition of multiple neurofilament subunits provides broad detection of neurofilament-positive neuronal structures and supports research into nervous system organization and neuronal differentiation.

Neurofilaments are composed primarily of light, medium and heavy subunits, commonly designated NF-L, NF-M and NF-H. NF-L, encoded by the NEFL gene, has an apparent molecular weight of approximately 68 kDa and contributes to neurofilament assembly. NF-H, encoded by NEFH, has an apparent molecular weight of approximately 200 kDa and contains an extended C-terminal domain that undergoes extensive phosphorylation. Together with NF-M, these proteins form intermediate filament networks that help maintain the specialized structure of neuronal processes.

Pan-neurofilament detection is useful in neuroscience, neurodevelopment and neuropathology because neurofilament proteins are strongly associated with neuronal differentiation and axonal structures. Neurofilament staining can highlight neuronal cell bodies and processes and is useful for examining nervous system architecture, neuronal maturation and changes in the organization of the neuronal cytoskeleton.

Neurofilament proteins are also expressed in a range of neural and neuroendocrine tumors. Their detection is studied in neuroblastoma, ganglioneuroma, ganglioneuroblastoma, paraganglioma, pheochromocytoma and other tumors exhibiting neuronal or neuroendocrine differentiation. Combined recognition of heavy and light neurofilament proteins can therefore provide a broader neuronal marker than reagents directed against an individual neurofilament subunit.

Clone SPM145 is a mouse monoclonal antibody generated against semi-purified human spinal cord neurofilaments. The antibody recognizes approximately 200 kDa and 68 kDa proteins identified as the heavy and light neurofilament subunits and has been evaluated by immunohistochemistry in human tissue. NSJ Bioreagents supplies antibodies for neuroscience and neural marker research. A Pan-Neurofilament Antibody can be used to investigate heavy and light neurofilament expression, 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 Pan-Neurofilament Antibody SPM145 / Heavy and Light Marker should be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA 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

Semi-purified human neurofilaments from spinal cord were used as the immunogen for the Neurofilament antibody.

Storage

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

Alternate Names

Pan-Neurofilament antibody, Heavy and Light Neurofilament antibody, Neurofilament Heavy and Light antibody, NF-H and NF-L antibody, Neurofilament antibody

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