P.O. Box 3286 - Logan, Utah 84323, U.S.A. - Tel. (800) 729-8350 – Tel. (435) 755-9848 - Fax (435) 755-0015 - www.ScyTek.com

Neurofilament; Clone 2F11

Catalog Number	Format	Volume
A00020-0002	(Ready-To-Use)	2 ml
A00020-0007	(Ready-To-Use)	7 ml
A00020-0025	(Ready-To-Use)	25 ml
A00020-C	(Concentrate)	1 ml

Intended Use

For In-Vitro Diagnostic Use. This antibody is intended for the qualitative visualization of the anatomical elements listed in the Specificity section. It is intended to be used within an Immunohistochemistry (IHC) procedure on formalin-fixed paraffin-embedded (FFPE) human tissue followed by visualization by light microscopy.

Description

Titer/Working Dilution: Ready-to-Use: No further dilution required.
Concentrate: Suggested dilution is 1:50-100

Species: Mouse

Immunogen: BALB/C mice were immunized with purified neurofilaments from human brain.

Clone: 2F11

Isotype: IgG1 / Kappa

Format: Ready-To-Use antibody has been pre-titered and quality controlled to work on formalin-fixed paraffin-embedded as well as acetone fixed cryostat tissue sections. No further titration is required.
Concentrate antibody is provided in a phosphate buffered saline containing 1% BSA

Specificity: This antibody stains neurons (axons) of the central and peripheral nervous system. It is useful for the identification of tumors with neuronal differentiation viz. Neuroblastomas, Ganglioneuromas, Pheochromocytomas and Esthesioblastomas. The antibody cross-reacts with the NF-equivalent protein in mouse, rabbit, rat and swine. The antibody can also be utilized to discriminate between Hirschsprung´s disease and allied enteric nervous system malformations.

Background: Neurofilaments (NFs) are the type IV family of intermediate filaments which are structural elements of the neuronal cytoskeleton in an interconnection with actin microfilaments, microtubules and other intermediate filaments.

NFs are the most abundant fibrillar components of the axon, are built from three intertwined protofibrils which are themselves composed of two tetrameric protofilament complexes of monomeric proteins. The neurofilament triplet proteins (68/70,160, and 200 kDa) are neuron specific which are expressed in both the central and peripheral nervous system. The 68/70 kDa NF-L protein can self-assemble into a filamentous structure; however, the 160 kDa NF-M and 200 kDa NF-H proteins require the presence of the 68-/70 kDa NF-L protein to co-assemble). Alpha-internexin is also a neurofilament which is approximately 66 kDa in size. Alpha-internexin forms homopolymers and may well form a separate filament system from the other three heteropolymeric neurofilaments. Alpha-internexin is one of the earliest expressed filaments in neurons, being present in developing neuroblasts, but also in the CNS of adults. The neuron-specific nature of neurofilaments and their wide cytoplasmic distribution present themselves excellent targets for antibody markers to identify neuron in the target tissue.

Species Reactivity: Human, Mouse, Rat, Rabbit, Cat. Does not react with Dog. Others not tested.

Positive Control: Brain.

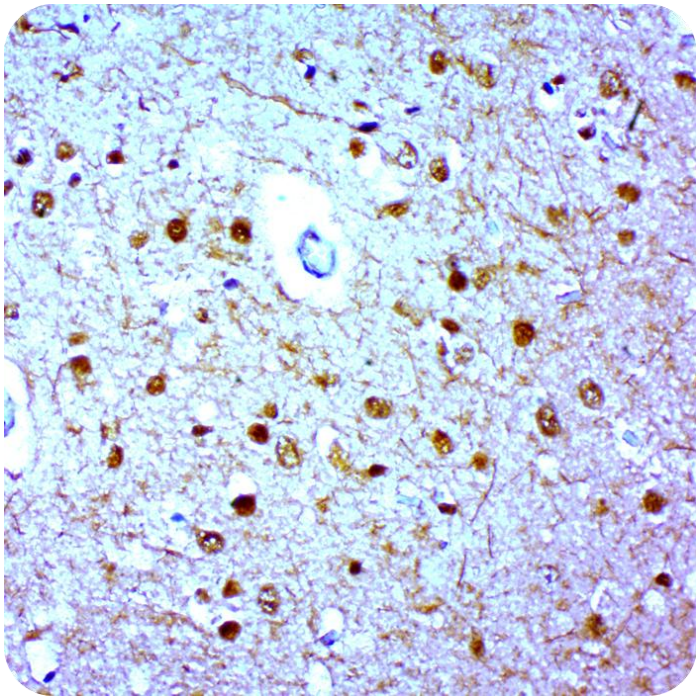
Cellular Localization: Cytoplasm

Microbiological State: Nonsterile

Materials and Reagents Required but not Provided

1. Control tissue and reagents
2. Xylene, graded alcohols, and deionized/distilled water
3. Antibody Diluent.
4. IHC detection system. Suggested: ScyTek Cat# ABZ125 “CRF Anti-Polyvalent HRP Polymer” and ScyTek Cat# ACV500 “DAB Chromogen/Substrate Kit (High Contrast)”.
5. Wash buffer for rinses (ScyTek Cat# TBT500)
6. HIER Retrieval Solution
7. Hematoxylin counterstain and bluing reagent (ScyTek Cat# HMM500 and BRT500)
8. Mounting medium and coverslips

Note: ScyTek Laboratories has a wide range of IHC reagents and ancillaries that can be found at scytek.com.



Human brain stained with Ultra-Tek HRP and DAB Chromogen.

Procedure

1. **Tissue Section Pretreatment (Highly Recommended):** Staining of formalin fixed paraffin embedded tissue sections is significantly enhanced by pretreatment with Tris-EDTA HIER Solution (10x) pH 9.0 (ScyTek catalog# TES500) or Citrate Plus (10x) HIER Solution (ScyTek catalog# CPL500)

2. **Primary Antibody Incubation Time:** We suggest an incubation period of 30 minutes at room temperature. However, depending upon the fixation conditions and the staining system employed, optimal incubation should be determined by the user.

Storage: 2° C 8° C

ScyTek Laboratories, Inc.
205 South 600 West
Logan, UT 84321
U.S.A.

CE

EC REP

Emergo Europe
Westervoortsedijk 60
6827 AT Arnhem, The Netherlands

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3. **Visualization:** For maximum staining intensity we recommend the "UltraTek HRP Anti-Polyvalent Lab Pack" (ScyTek catalog# UHP125, see IFU for instructions) combined with the "DAB Chromogen/Substrate Bulk Pack (High Contrast)" (ScyTek catalog# ACV500, see IFU for instructions).

Storage and Stability

Do not Freeze. Store at 2-8°C. Return to 2-8° immediately after use. Do not use after expiration date printed on label. Verify visually that antibody has not been contaminated before use. Do not use if reagent becomes cloudy or precipitates.

Limitations

Immunohistochemistry is a complex technique involving both histological and immunological detection methods. Tissue processing and handling prior to immunostaining can cause inconsistent results. Variations in fixation and embedding or the inherent nature of the tissue specimen may cause variations in results. Endogenous peroxidase activity or pseudoperoxidase activity in erythrocytes and endogenous biotin may cause non-specific staining depending on detection system used. This data sheet's recommendations and procedures were validated using ScyTek IHC reagents and may not be suitable for other detection systems.

Precautions

1. Contains Sodium Azide as a preservative (0.09% w/v), do not ingest. Sodium Azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. This product contains no hazardous material at a reportable concentration according to U.S. 29 CFR 1910.1200, OSHA Hazardous Communication Standard and EC Directive 91/155/EC.
2. Do not pipette by mouth.
3. Avoid contact of reagents and specimens with skin and mucous membranes.
4. Avoid microbial contamination of reagents or increased nonspecific staining may occur.
5. The user must validate any procedures and recommendations that differ from this data sheet.
6. The SDS may be found at scytek.com

References

1. Schlaepfer WW. Neurofilaments: structure, metabolism and implications in disease. J Neuropathol Exp Neurol 1987;46:117-29.
2. Herrmann H, Aebi U. Intermediate filaments and their associates: multi-talented structural elements specifying cytoarchitecture and cytodynamics. Curr Opin Cell Biol 2000;12:79-90.
3. Breckenridge LJ, Sommer IU, Blackshaw SE. Developmentally regulated markers in the postnatal cervical spinal cord of the opossum Monodelphis domestica. Dev Brain Res 1997;103:47-57.
4. Gatter KC, Dunnill MS, van Muijen GNP, Mason DY. Human lung tumours may co-express different classes of intermediate filaments. J Clin Pathol 1986;39:950-4.

Warranty

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