Human/Mouse/Rat Neurofascin Antibody

Antigen Affinity-purified Polyclonal Chicken IgY
Catalog Number: AF3235

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse, rat Neurofascin in Western blots and rat Neurofascin in direct ELISAs.
Source	Polyclonal Chicken IgY
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Neurofascin Ile25-Ala1031 Accession # NP_446361
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

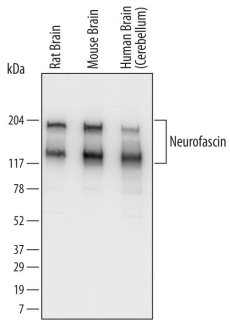
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

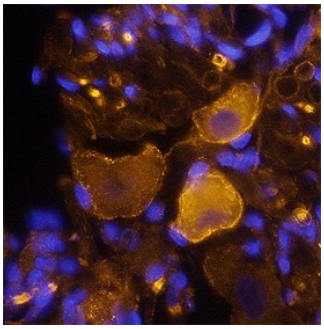
DATA

Western Blot



Detection of Human, Mouse, and Rat Neurofascin by Western Blot. Western blot shows lysates of rat brain tissue, mouse brain tissue, and human brain (cerebellum). PVDF Membrane was probed with 0.1 µg/mL of Chicken Anti-Human/Mouse/Rat Neurofascin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3235) followed by HRP-conjugated Anti-Chicken IgY Secondary Antibody. Specific bands were detected for Neurofascin at approximately 140 and186 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Neurofascin in Rat Brain. Neurofascin was detected in perfusion fixed frozen sections of rat brain (dorsal root ganglion) using Chicken Anti-Human/Mouse/Rat Neurofascin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3235) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Chicken IgY Secondary Antibody (yellow; Catalog # NL016) and counterstained with DAPI (blue). Specific staining was localized to neuronal cell bodies and Schwann cells (perinodal regions). View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Human/Mouse/Rat Neurofascin Antibody

Antigen Affinity-purified Polyclonal Chicken IgY
Catalog Number: AF3235

BACKGROUND

Neurofascin 155 (NF155) is a type I transmembrane glycoprotein that belongs to the L1CAM family of cell adhesion proteins (1, 2). The rat NF155 cDNA encodes a 1240 amino acid (aa) precursor that contains a 24 aa signal sequence, a 1086 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 109 aa cytoplasmic domain. The ECD consists of six Ig-like domains and four fibronectin type III repeats, the second of which has an RGD motif. A splice variant of Neurofascin, NF186, lacks the RGD-containing fibronectin type III domain but instead has a mucin-like domain and an additional non-RGD fibronectin type III domain (3). Within shared regions of the ECD, rat NF155 shares 45% and 39% aa sequence identity with rat Nr-CAM and L1CAM, respectively, and 98% aa sequence identity with human and mouse NF155. NF155 is transiently expressed by oligodendrocytes at the onset of axon myelination, whereas NF186 is neuronally expressed in nodes of Ranvier (4-6). Clustering of NF155 in paranodal oligodengroglia lipid raft domains is stabilized by dimerization of its cytoplasmic domains and association with intracellular ankyrin (6-9). NF155 interacts with axonal contactin and plays a role in node of Ranvier formation and the establishment of saltatory conduction (5, 9-12). The ECD of NF155 is cleaved from oligodengroglia membranes by metalloproteases, a process which is required for NF155 transport from the glial cell body to the axoglial junction (13). In addition to distinct expression patterns, Neurofascin isoforms have different functional properties. NF155 promotes neuronal adhesion and neurite outgrowth, whereas NF186 inhibits neuronal adhesion (4, 7, 13).

References:

1. Sherman, D.L. and P.J. Brophy (2005) Nat. Rev. Neurosci. **6**:683.
2. Coman, I. *et al.* (2005) J. Neurol. Sci. **233**:67.
3. Volkmer, H. *et al.* (1992) J. Cell Biol. **118**:149.
4. Koticha, D. *et al.* (2005) Mol. Cell. Neurosci. **30**:137.
5. Collinson, J.M. *et al.* (1998) Glia **23**:11.
6. Schafer, D.P. *et al.* (2004) J. Neurosci. **24**:3176.
7. Maier, O. *et al.* (2005) Mol. Cell. Neurosci. **28**:390.
8. Zhang, X. *et al.* (1998) J. Biol. Chem. **273**:30785.
9. Sherman, D.L. *et al.* (2005) Neuron **48**:737.
10. Gollan, L. *et al.* (2003) J. Cell Biol. **163**:1213.
11. Charles, P. *et al.* (2002) Curr. Biol. **12**:217.
12. Volkmer, H. *et al.* (1996) J. Cell Biol. **135**:1059.
13. Maier, O. *et al.* (2006) Exp. Cell Res. **312**:500.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956