

Neurofascin (N-15): sc-51152

BACKGROUND

Members of the L1 subgroup of the immunoglobulin (Ig) superfamily promote axon outgrowth by interactions with a neuronal NgCAM-related cell adhesion molecule. Neurofascin is a cell adhesion, ankyrin-binding, single-pass membrane protein that plays a role in neurite extension in embryonic development. It also is involved in synaptogenesis, myelination and neuron-glia cell interaction. Neurofascin may be a component of a Neurofascin/NRCAM/Ankyrin G complex and can dimerize in solution. The Neurofascin protein interacts with GLDN/gliomedin and associates with the sodium channel β -3 (SCN3B) and β -1 (SCNB1) subunits. It contains five Fibronectin type-III domains and six Ig-like C2-type (immunoglobulin-like) domains. There are 13 known isoforms of the Neurofascin protein.

REFERENCES

1. Pruss, T., et al. 2004. Homophilic interactions of chick Neurofascin *in trans* are important for neurite induction. *Eur. J. Neurosci.* 20: 3184-3188.
2. Koticha, D., et al. 2005. Cell adhesion and neurite outgrowth are promoted by Neurofascin NF155 and inhibited by NF186. *Mol. Cell. Neurosci.* 30: 137-148.
3. Eshed, Y., et al. 2005. Gliomedin mediates Schwann cell-axon interaction and the molecular assembly of the nodes of Ranvier. *Neuron* 47: 215-229.
4. Sherman, D.L., et al. 2005. Neurofascins are required to establish axonal domains for saltatory conduction. *Neuron* 48: 737-742.
5. Maier, O., et al. 2005. Alteration of the extracellular matrix interferes with raft association Neurofascin in oligodendrocytes. Potential significance for multiple sclerosis? *Mol. Cell. Neurosci.* 28: 390-401.
6. Van Wart, A., et al. 2005. Novel clustering of sodium channel $\text{Na}_v1.1$ with ankyrin G and neurofascin at discrete sites in the inner plexiform layer of the retina. *Mol. Cell. Neurosci.* 28: 661-673.
7. Godenschwege, T.A., et al. 2006. A conserved role for *Drosophila* Neuroglian and human L1-CAM in central-synapse formation. *Curr. Biol.* 16: 12-23.
8. Maier, O., et al. 2006. The function of neurofascin155 in oligodendrocytes is regulated by metalloprotease cleavage and ectodomain shedding. *Exp. Cell Res.* 312: 500-511.
9. Pruss, T., et al. 2006. A regulated switch of chick Neurofascin isoforms modulates ligand recognition and neurite extension. *Mol. Cell. Neurosci.* 31: 354-365.

CHROMOSOMAL LOCATION

Genetic locus: NFASC (human) mapping to 1q32.1; Nfasc (mouse) mapping to 1 E4.

SOURCE

Neurofascin (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Neurofascin of human origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-51152 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Neurofascin (N-15) is recommended for detection of Neurofascin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Neurofascin (N-15) is also recommended for detection of Neurofascin in additional species, including canine and bovine.

Suitable for use as control antibody for Neurofascin siRNA (h): sc-61184, Neurofascin siRNA (m): sc-61185, Neurofascin shRNA Plasmid (h): sc-61184-SH, Neurofascin shRNA Plasmid (m): sc-61185-SH, Neurofascin shRNA (h) Lentiviral Particles: sc-61184-V and Neurofascin shRNA (m) Lentiviral Particles: sc-61185-V.

Molecular Weight of Neurofascin: 155 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.