Revision 4

Store at -20C

#15034

# Neurofascin 186 (D6G6O) Rabbit mAb

Cell Signaling TECHNOLOGY®

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W, IP, IF-F | H M R | Endogenous | 200 | Rabbit IgG | #O94856 | 23114 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 1:50 |
| Immunofluorescence (Frozen) | 1:1600 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #88117.

## Specificity/Sensitivity

Neurofascin 186 (D6G6O) Rabbit mAb recognizes endogenous levels of total neurofascin 186 protein.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr1108 of human neurofascin 186 protein.

## Background

Myelinated axons contain un-myelinated gaps called nodes of Ranvier. These regularly spaced gaps are critical for the proper propagation and rapid conduction of nerve impulses in the central and peripheral nervous system (1). The structure and organization of the nodes of Ranvier is dictated by interaction between the axon and glial cells (2). Voltage-gated sodium channels concentrated at the nodes and potassium channels clustered at the paranodes are responsible for propagation of the action potentials (3,4). Other proteins that contribute to the architecture and function of the nodes of Ranvier include βIV spectrin (5), ankyrin-G (6), and the L1 cell adhesion molecules, neurofascin and NrCAM (7,8).
Alternative splicing produces several neurofascin isoforms that differ in temporal and spatial expression. Neurofascin 186 is expressed in axons where it is concentrated at the nodes. Research studies indicate that neurofascin 186 is responsible for nodal assembly and clustering of sodium channels (9). Neurofascin 155 is expressed in glial cells and is localized to myelin paranodes. Interactions between neurofascin 155 and the contactin-associated protein (Caspr) tether the myelin sheath to the axon (10). N-linked glycosylation results in two forms of neurofascin 155 (high and low) that are differentially expressed during development (11).

## Background References

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3. Waxman, S.G. et al. (1989) *Proc Natl Acad Sci U S A* 86, 1406-10.
4. Ritchie, J.M. (1992) *Trends Neurosci* 15, 345-51.
5. Berghs, S. et al. (2000) *J Cell Biol* 151, 985-1002.
6. Zhou, D. et al. (1998) *J Cell Biol* 143, 1295-304.
7. Davis, J.Q. et al. (1996) *J Cell Biol* 135, 1355-67.
8. Ratcliffe, C.F. et al. (2001) *J Cell Biol* 154, 427-34.
9. Thaxton, C. et al. (2011) *Neuron* 69, 244-57.
10. Charles, P. et al. (2002) *Curr Biol* 12, 217-20.
11. Pomicter, A.D. et al. (2010) *Brain* 133, 389-405.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen)

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

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