

NIMP (L-21): sc-133821

BACKGROUND

Nogo is an oligodendrocyte-specific member of the reticulon family and is a component of CNS white matter that inhibits axon outgrowth, induces collapse of growth cones of chick dorsal root ganglion cells, and inhibits the spreading of 3T3 fibroblasts. Nogo is expressed by oligodendrocytes but not by Schwann cells, and associates primarily with the endoplasmic reticulum. Nogo exists in three different splice forms, Nogo-A, -B and -C. NIMP (NOGO-interacting mitochondrial protein), also known as RTN4IP1 (reticulon-4-interacting protein 1), is a 396 amino acid mitochondrial protein that contains a C-terminal oxidoreductaselike domain and numerous sites for phosphorylation. NIMP is expressed in mitochondrial-rich tissue such as kidney, heart, skeletal muscle and specific regions within the nervous system. Through interaction with Nogo, it is likely that NIMP plays a role in Nogo-induced inhibition of neurite growth. There are three isoforms of NIMP that are produced as a result of alternative splicing events.

REFERENCES

- Huber, A.B. and Schwab, M.E. 2000. Nogo-A, a potent inhibitor of neurite outgrowth and regeneration. *Biol. Chem.* 381: 407-419.
- Hu, W.H., Hausmann, O.N., Yan, M.S., Walters, W.M., Wong, P.K. and Bethea, J.R. 2002. Identification and characterization of a novel Nogo-interacting mitochondrial protein (NIMP). *J. Neurochem.* 81: 36-45.
- Hunt, D., Coffin, R.S. and Anderson, P.N. 2002. The Nogo receptor, its ligands and axonal regeneration in the spinal cord; a review. *J. Neurocytol.* 31: 93-120.
- Mungall, A.J., Palmer, S.A., Sims, S.K., Edwards, C.A., Ashurst, J.L., Wilming, L., Jones, M.C., Horton, R., Hunt, S.E., Scott, C.E., Gilbert, J.G., Clamp, M.E., Bethel, G., et al. 2003. The DNA sequence and analysis of human chromosome 6. *Nature* 425: 805-811.
- Schwab, M.E. 2004. Nogo and axon regeneration. *Curr. Opin. Neurobiol.* 14: 118-124.
- Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610502. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- David, S., Fry, E.J. and López-Vales, R. 2008. Novel roles for Nogo receptor in inflammation and disease. *Trends Neurosci.* 31: 221-226.

CHROMOSOMAL LOCATION

Genetic locus: RTN4IP1 (human) mapping to 6q21; Rtn4ip1 (mouse) mapping to 10 B2.

SOURCE

NIMP (L-21) is an affinity purified rabbit polyclonal antibody raised against synthetic NIMP peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

NIMP (L-21) is recommended for detection of NIMP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NIMP siRNA (h): sc-95051, NIMP siRNA (m): sc-149975, NIMP shRNA Plasmid (h): sc-95051-SH, NIMP shRNA Plasmid (m): sc-149975-SH, NIMP shRNA (h) Lentiviral Particles: sc-95051-V and NIMP shRNA (m) Lentiviral Particles: sc-149975-V.

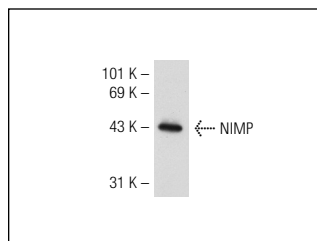
Molecular Weight of NIMP isoforms: 44/32/24 kDa.

Positive Controls: mouse heart extract: sc-2254 or human fetal muscle tissue extract.

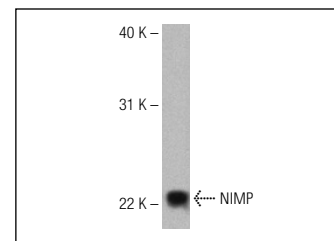
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



NIMP (L-21): sc-133821. Western blot analysis of NIMP expression in mouse heart tissue extract.



NIMP (L-21): sc-133821. Western blot analysis of NIMP expression in human fetal muscle tissue extract.

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.

MONOS
Satisfaction
Guaranteed

Try **NIMP (D-2): sc-514049**, our highly recommended monoclonal alternative to NIMP (L-21).