SANTA CRUZ BIOTECHNOLOGY, INC.

NIMP (D-2): sc-514049

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Huber, A.B. and Schwab, M.E. 2000. Nogo-A, a potent inhibitor of neurite outgrowth and regeneration. Biol. Chem. 381: 407-419.
2. Hu, W.H., et al. 2002. Identification and characterization of a novel Nogo-interacting mitochondrial protein (NIMP). J. Neurochem. 81: 36-45.
3. Hunt, D., et al. 2002. The Nogo receptor, its ligands and axonal regeneration in the spinal cord; a review. J. Neurocytol. 31: 93-120.
4. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.
5. Schwab, M.E. 2004. Nogo and axon regeneration. Curr. Opin. Neurobiol. 14: 118-124.

CHROMOSOMAL LOCATION

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

SOURCE

NIMP (D-2) is a mouse monoclonal antibody raised against amino acids 93-214 mapping within an internal region of NIMP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NIMP (D-2) is available conjugated to agarose (sc-514049 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514049 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514049 PE), fluorescein (sc-514049 FITC), Alexa Fluor® 488 (sc-514049 AF488), Alexa Fluor® 546 (sc-514049 AF546), Alexa Fluor® 594 (sc-514049 AF594) or Alexa Fluor® 647 (sc-514049 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514049 AF680) or Alexa Fluor® 790 (sc-514049 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

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

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.

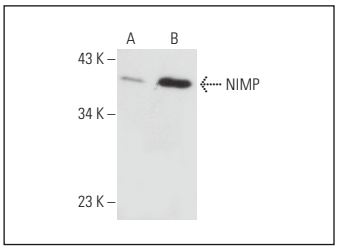
Molecular Weight of NIMP isoforms: 44/32/24 kDa.

Positive Controls: human skeletal muscle extract: sc-363776 or human heart extract: sc-363763.

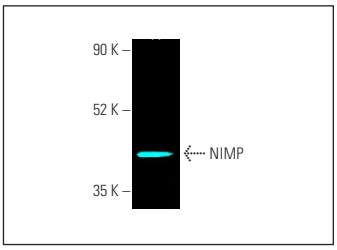
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NIMP (D-2): sc-514049. Western blot analysis of NIMP expression in human skeletal muscle (**A**) and human heart (**B**) tissue extracts.



NIMP (D-2): sc-514049. Fluorescent western blot analysis of NIMP expression in human heart tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 647: sc-533664.

SELECT PRODUCT CITATIONS

1. Duan, Y., et al. 2019. Heat shock protein 60 regulates yolk sac erythropoiesis in mice. Cell Death Dis. 10: 766.

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.