

N-RAP (P-13): sc-138042

BACKGROUND

Nebulin is a large filamentous protein specific to muscle tissue that may function as a "ruler" for Actin filament length. N-RAP (Nebulin-related anchoring protein) is a 1,730 amino acid protein that may play a role in myofibril assembly and in mediating force transmission in cardiomyocytes. N-RAP localizes to the intercalated disks of cardiac muscle and the myotendinous junctions of skeletal muscle, where it is exclusively expressed. Existing as four alternatively spliced isoforms, N-RAP contains one N-terminal LIM domain and forty-four Nebulin repeats. N-RAP binds α -actinin and Filamin 2 during myofibril assembly and is also known to interact with Actin, KBTBD10, Talin-1 and vinculin. The gene encoding N-RAP maps to human chromosome 10q25.3 and mouse chromosome 19 D2.

REFERENCES

1. Luo, G., Zhang, J.Q., Nguyen, T.P., Herrera, A.H., Paterson, B. and Horowitz, R. 1997. Complete cDNA sequence and tissue localization of N-RAP, a novel Nebulin-related protein of striated muscle. *Cell Motil. Cytoskeleton* 38: 75-90.
2. Luo, G., Leroy, E., Kozak, C.A., Polymeropoulos, M.H. and Horowitz, R. 1997. Mapping of the gene (NRAP) encoding N-RAP in the mouse and human genomes. *Genomics* 45: 229-232.
3. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602873. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Luo, G., Herrera, A.H. and Horowitz, R. 1999. Molecular interactions of N-RAP, a Nebulin-related protein of striated muscle myotendon junctions and intercalated disks. *Biochemistry* 38: 6135-6143.
5. Mohiddin, S.A., Lu, S., Cardoso, J.P., Carroll, S., Jha, S., Horowitz, R. and Fananapazir, L. 2003. Genomic organization, alternative splicing, and expression of human and mouse N-RAP, a Nebulin-related LIM protein of striated muscle. *Cell Motil. Cytoskeleton* 55: 200-212.

CHROMOSOMAL LOCATION

Genetic locus: NRAP (human) mapping to 10q25.3; Nrap (mouse) mapping to 19 D2.

SOURCE

N-RAP (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of N-RAP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-138042 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

N-RAP (P-13) is recommended for detection of N-RAP isoforms 1-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

N-RAP (P-13) is also recommended for detection of N-RAP isoforms 1-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for N-RAP siRNA (h): sc-90390, N-RAP siRNA (m): sc-149773, N-RAP shRNA Plasmid (h): sc-90390-SH, N-RAP shRNA Plasmid (m): sc-149773-SH, N-RAP shRNA (h) Lentiviral Particles: sc-90390-V and N-RAP shRNA (m) Lentiviral Particles: sc-149773-V.

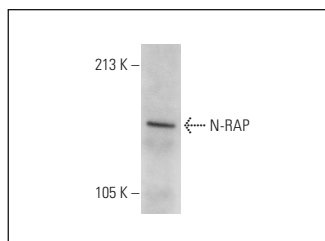
Molecular Weight of N-RAP: 198 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



N-RAP (P-13): sc-138042. Western blot analysis of N-RAP expression in Jurkat whole cell lysate.

RESEARCH USE

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

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Try **N-RAP (H-5): sc-514480**, our highly recommended monoclonal alternative to N-RAP (P-13).