

N-RAP (H-5): sc-514480



The Power to Question

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 4 alternatively spliced isoforms, N-RAP contains one N-terminal LIM domain and 44 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., et al. 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., et al. 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., et al. 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., et al. 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 (H-5) is a mouse monoclonal antibody raised against amino acids 169-468 mapping within an internal region of N-RAP of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

N-RAP (H-5) is available conjugated to agarose (sc-514480 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514480 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514480 PE), fluorescein (sc-514480 FITC), Alexa Fluor® 488 (sc-514480 AF488), Alexa Fluor® 546 (sc-514480 AF546), Alexa Fluor® 594 (sc-514480 AF594) or Alexa Fluor® 647 (sc-514480 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514480 AF680) or Alexa Fluor® 790 (sc-514480 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

N-RAP (H-5) is recommended for detection of N-RAP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

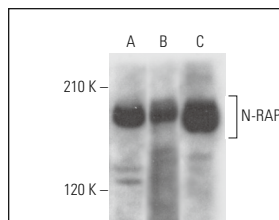
Molecular Weight of N-RAP: 198 kDa.

Positive Controls: human heart extract: sc-363763, human skeletal muscle extract: sc-363776 or Sol8 cell lysate: sc-2249.

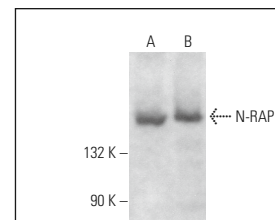
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



N-RAP (H-5): sc-514480. Western blot analysis of N-RAP expression in human heart (A) and human skeletal muscle (B) tissue extracts and Sol8 whole cell lysate (C).



N-RAP (H-5): sc-514480. Western blot analysis of N-RAP expression in C2C12 (A) and L6 (B) whole cell lysates.

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 for detailed protocols and support products.