

C-Nap1 (42): sc-135851

BACKGROUND

C-Nap1 (centrosome-associated protein), also known as centrosomal Nek2-associated protein 1 or CEP2 (centrosomal protein 2), is localized to the cytoplasm and exists in every human cell. C-Nap1 is expressed as three isoforms and is a 2,442 amino acid protein. C-Nap1 is a centrosomal protein found at the tips of parental centrioles and in basal bodies of cellular projections, such as cilia. C-Nap1 is associated with the interphase stage of the cell cycle, during which C-Nap1 functions in the cohesion of centrioles. The phosphorylation of C-Nap1 plays a role in regulating whether the centrosomes are associating or dissociating. Nek2 phosphorylates the C-terminal end of C-Nap1 during mitosis, an event which is thought to play a role in the dissociation of centrosomes. C-Nap1 reaccumulates in centrosomes at the end of cellular division. Some autoimmune diseases are characterized by the production of antibodies against C-Nap1, suggesting that C-Nap1 may be involved in the pathogenesis of autoimmune diseases.

REFERENCES

1. Fry, A.M., et al. 1998. C-Nap1, a novel centrosomal coiled-coil protein and candidate substrate of the cell cycle-regulated protein kinase Nek2. *J. Cell Biol.* 141: 1563-1574.
2. Mayor, T., et al. 2000. The centrosomal protein C-Nap1 is required for cell cycle-regulated centrosome cohesion. *J. Cell Biol.* 151: 837-846.
3. Mayor, T., et al. 2002. The mechanism regulating the dissociation of the centrosomal protein C-Nap1 from mitotic spindle poles. *J. Cell Sci.* 115: 3275-3284.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609689. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Yang, J., et al. 2006. Rootletin interacts with C-Nap1 and may function as a physical linker between the pair of centrioles/basal bodies in cells. *Mol. Biol. Cell* 17: 1033-1040.
6. Graser, S., et al. 2007. CEP68 and CEP215 (Cdk5 Rap 2) are required for centrosome cohesion. *J. Cell Sci.* 120: 4321-4331.
7. Kim, K., et al. 2008. A novel function of CEP135 as a platform protein of C-Nap1 for its centriolar localization. *Exp. Cell Res.* 314: 3692-3700.
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CHROMOSOMAL LOCATION

Genetic locus: CEP250 (human) mapping to 20q11.22.

SOURCE

C-Nap1 (42) is a mouse monoclonal antibody raised against amino acids 171-385 of C-Nap1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 50 μ g IgG₁ in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% BSA.

APPLICATIONS

C-Nap1 (42) is recommended for detection of C-Nap1 of 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for C-Nap1 siRNA (h): sc-72669, C-Nap1 shRNA Plasmid (h): sc-72669-SH and C-Nap1 shRNA (h) Lentiviral Particles: sc-72669-V.

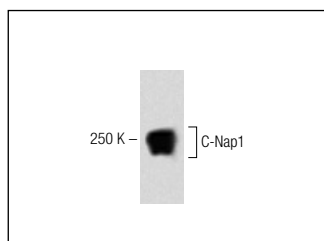
Molecular Weight of C-Nap1: 250 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

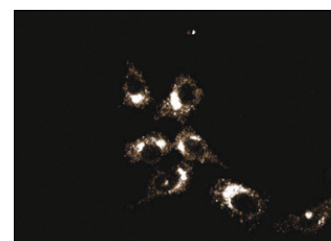
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



C-Nap1 (42): sc-135851. Western blot analysis of C-Nap1 expression in Jurkat whole cell lysate.



C-Nap1 (42): sc-135851. Immunofluorescence staining of HeLa cells showing cytoplasmic localization.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.