

Nup153 (D-4): sc-515373

BACKGROUND

Nuclear pore complexes (NPCs) are the channels for the bi-directional movement of macromolecules between the nucleus and cytoplasm, and contain more than 100 different subunits. Many of them belong to a family called nucleoporins, which are characterized by the presence of O-linked N-acetylglucosamine moieties and a distinctive pentapeptide repeat (XFXFG). Nup153 is a peripheral NPC component that is implicated in protein and RNP transport and in the interaction of NPCs with the nuclear lamina. Nup153 contains a unique N-terminal region, a central domain consisting of 4 to 5 zinc fingers and a C-terminal region containing about 30 irregularly spaced FXFG repeats. Nup153 is cleaved by caspases during apoptosis. Nup153 interacts with TAP, which is essential for mRNA export, and associates with chromatin towards the end of anaphase, in parallel with the inner nuclear membrane protein LAP2. Nup153 is involved in NPC assembly, in anchoring NPCs within the nuclear envelope and in mediating specific nuclear import events.

REFERENCES

- McMorrow, L., et al. 1994. Sequence analysis of cDNA encoding a human nuclear pore complex protein, hnup152. *Biochim. Biophys. Acta* 1217: 219-223.
- Bastos, R., et al. 1996. Targeting and function in mRNA export of nuclear pore complex protein Nup153. *J. Cell Biol.* 134: 1141-1156.
- Bodoor, K., et al. 1999. Sequential recruitment of NPC proteins to the nuclear periphery at the end of mitosis. *J. Cell Sci.* 112: 2253-2264.
- Tan, W., et al. 2000. The mRNA export in *Caenorhabditis elegans* is mediated by CeNXF-1, an ortholog of human TAP/NXF and *Saccharomyces cerevisiae* Mex67p. *RNA* 6: 1762-1772.
- Walther, T.C., et al. 2001. The nucleoporin Nup153 is required for nuclear pore basket formation, nuclear pore complex anchoring and import of a subset of nuclear proteins. *EMBO J.* 20: 5703-5714.
- Ferrando-May, E., et al. 2001. Caspases mediate nucleo-protein cleavage, but not early redistribution of nuclear transport factors and modulation of nuclear permeability in apoptosis. *Cell Death Differ.* 8: 495-505.

CHROMOSOMAL LOCATION

Genetic locus: NUP153 (human) mapping to 6p22.3; Nup153 (mouse) mapping to 13 A5.

SOURCE

Nup153 (D-4) is a mouse monoclonal antibody raised against amino acids 108-268 mapping near the N-terminus of Nup153 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Nup153 (D-4) is recommended for detection of Nup153 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 Nup153 siRNA (h): sc-41279, Nup153 siRNA (m): sc-41280, Nup153 shRNA Plasmid (h): sc-41279-SH, Nup153 shRNA Plasmid (m): sc-41280-SH, Nup153 shRNA (h) Lentiviral Particles: sc-41279-V and Nup153 shRNA (m) Lentiviral Particles: sc-41280-V.

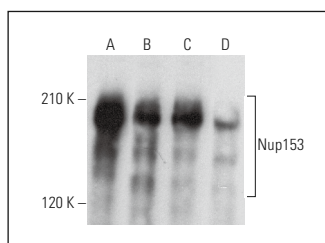
Molecular Weight of Nup153: 150-180 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, RAW 264.7 whole cell lysate: sc-2211 or NRK whole cell lysate: sc-364197.

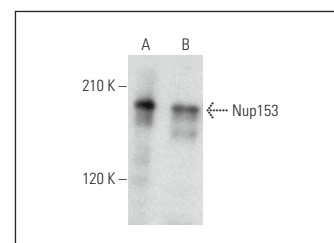
RECOMMENDED SUPPORT REAGENTS

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



Nup153 (D-4): sc-515373. Western blot analysis of Nup153 expression in U-251-MG (A), RAW 264.7 (B), M1 (C) and NRK (D) whole cell lysates.



Nup153 (D-4): sc-515373. Western blot analysis of Nup153 expression in LADMAC nuclear extract (A) and RT-4 whole cell lysate (B).

STORAGE

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

PROTOCOLS

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