SANTA CRUZ BIOTECHNOLOGY, INC.

Nup153 (C-14): sc-20590

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The Power to Question

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 four to five zinc fingers and a C-terminal region containing about 30 irregularly spaced FXFG repeats. Nup153 is cleaved by caspases during apoptosis. Nup153 interacts wtih 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

1. McMorrow, I., Bastos, R., Horton, H. and Burke, B. 1994. Sequence analysis of cDNA encoding a human nuclear pore complex protein, hNup152. Biochim. Biophys. Acta 1217: 219-223.
2. Bastos, R., Lin, A., Enarson, M. and Burke, B. 1996. Targeting and function in mRNA export of nuclear pore complex protein Nup153. J. Cell Biol. 134: 1141-1156.
3. Bodoor, K., Shaikh, S., Salina, D., Raharjo, W.H., Bastos, R., Lohka, M. and Burke, B. 1999. Sequential recruitment of NPC proteins to the nuclear periphery at the end of mitosis. J. Cell Sci. 112: 2253-2264.
4. Tan, W., Zolotukhin, A.S., Bear, J., Patenaude, D.J. and Felber, B.K. 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.
5. Ferrando-May, E., Cordes, V., Biller-Ckovric, I., Mirkovic, J., Gorlich, D. and Nicotera, P. 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.
6. Walther, T.C., Fornerod, M., Pickersgill, H., Goldberg, M., Allen, T.D. and Mattaj, I.W. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Nup153 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Nup153 of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-20590 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nup153 (C-14) is recommended for detection of Nup153 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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: K-562 whole cell lysate: sc-2203 or 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) 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.

SELECT PRODUCT CITATIONS

1. Orlic, M., Spencer, C.E., Wang, L. and Gallie, B.L. 2006. Expression analysis of 6p22 genomic gain in retinoblastoma. Genes Chromosomes Cancer 45: 72-82.

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 or our catalog for detailed protocols and support products.