SANTA CRUZ BIOTECHNOLOGY, INC.

Nup153 (R3G1): sc-101544

SANTA CRUZ BIOTECHNOLOGY

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., et al. 1994. Sequence analysis of cDNA encoding a human nuclear pore complex protein, hNup152. Biochim. Biophys. Acta 1217: 219-223.
2. Bastos, R., et al. 1996. Targeting and function in mRNA export of nuclear pore complex protein Nup153. J. Cell Biol. 134: 1141-1156.
3. 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.
4. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Nup153 (R3G1) is a rat monoclonal antibody raised against a recombinant protein corresponding to amino acids 610-1191 of Nup153 of rat origin.

PRODUCT

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

Nup153 (R3G1) is available conjugated to agarose (sc-101544 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-101544 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101544 PE), fluorescein (sc-101544 FITC), Alexa Fluor® 488 (sc-101544 AF488), Alexa Fluor® 546 (sc-101544 AF546), Alexa Fluor® 594 (sc-101544 AF594) or Alexa Fluor® 647 (sc-101544 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101544 AF680) or Alexa Fluor® 790 (sc-101544 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

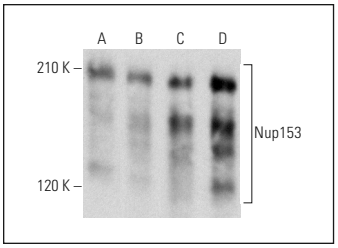
Nup153 (R3G1) is recommended for detection of Nup153 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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.

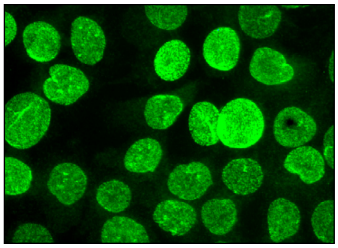
Molecular Weight of Nup153: 154 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, K-562 whole cell lysate: sc-2203 or RAW 264.7 whole cell lysate: sc-2211.

DATA



Nup153 (R3G1): sc-101544. Western blot analysis of Nup153 expression in K-562 (**A**), U-251-MG (**B**), RAW 264.7 (**C**) and M1 (**D**) whole cell lysates.



Nup153 (R3G1): sc-101544. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear membrane localization.

SELECT PRODUCT CITATIONS

1. Schachtrup, C., et al. 2015. Nuclear pore complex remodeling by $p75^{NTR}$ cleavage controls TGF-β signaling and astrocyte functions. Nat. Neurosci. 18: 1077-1080.
2. Marini, B., et al. 2015. Nuclear architecture dictates HIV-1 integration site selection. Nature 521: 227-231.
3. Kato, K., et al. 2020. Overexpression of SARS-CoV-2 protein ORF6 dislocates RAE1 and Nup98 from the nuclear pore complex. Biochem. Biophys. Res. Commun. 536: 59-66.

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.