SANTA CRUZ BIOTECHNOLOGY, INC.

Nup50 (B-6): sc-398992

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). Nup50 (nucleoporin 50), also known as NPAP60 or NPAP60L (nuclear pore-associated protein 60 kDa-like), is a 468 amino acid nuclear protein that functions as a binding site for export receptor-cargo complexes. Localizing to the nucleoplasmic fibrils of the nuclear pore complex, Nup50 associates with various transport receptor proteins including p27. While ubiquitously expressed, Nup50 is found at highest levels in peripheral blood leukocytes, testis and fetal liver, and contains multiple FG repeats in addition to a single RanBD1 domain.

REFERENCES

1. Trichet, V., et al. 1999. Mapping and complex expression pattern of the human NPAP60L nucleoporin gene. Cytogenet. Cell Genet. 85: 221-226.
2. Guan, T., et al. 2000. Nup50, a nucleoplasmically oriented nucleoporin with a role in nuclear protein export. Mol. Cell. Biol. 20: 5619-5630.
3. Smitherman, M., et al. 2000. Characterization and targeted disruption of murine Nup50, a p27 Kip1-interacting component of the nuclear pore complex. Mol. Cell. Biol. 20: 5631-5642.
4. Lindsay, M.E., et al. 2002. Npap60/Nup50 is a tri-stable switch that stimulates importin-α:β-mediated nuclear protein import. Cell 110: 349-360.
5. Swaminathan, S., et al. 2002. Nucleocytoplasmic transport: more than the usual suspects. Dev. Cell 3: 304-306.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604646. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Yu, Y., et al. 2006. Nucleophosmin is essential for ribosomal protein L5 nuclear export. Mol. Cell. Biol. 26: 3798-3809.

CHROMOSOMAL LOCATION

Genetic locus: NUP50 (human) mapping to 22q13.31.

SOURCE

Nup50 (B-6) is a mouse monoclonal antibody raised against amino acids 43-166 mapping near the N-terminus of Nup50 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

Nup50 (B-6) is recommended for detection of Nup50 of 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 Nup50 siRNA (h): sc-75979, Nup50 shRNA Plasmid (h): sc-75979-SH and Nup50 shRNA (h) Lentiviral Particles: sc-75979-V.

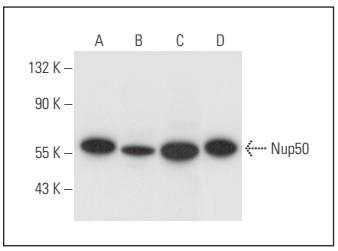
Molecular Weight of Nup50: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120 or Jurkat whole cell lysate: sc-2204.

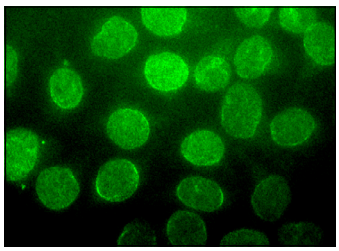
RECOMMENDED SUPPORT REAGENTS

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



Nup50 (B-6): sc-398992. Western blot analysis of Nup50 expression in HeLa (**A**), Hep G2 (**B**) and Jurkat (**C**) whole cell lysates and HeLa nuclear extract (**D**).



Nup50 (B-6): sc-398992. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear membrane localization.

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.