SANTA CRUZ BIOTECHNOLOGY, INC.

Nup50 (G-4): sc-398993

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. and Melchior, F. 2002. Nucleocytoplasmic transport: more than the usual suspects. Dev. Cell 3: 304-306.

CHROMOSOMAL LOCATION

Genetic locus: NUP50 (human) mapping to 22q13.31; Nup50 (mouse) mapping to 15 E2.

SOURCE

Nup50 (G-4) 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_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nup50 (G-4) is available conjugated to agarose (sc-398993 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398993 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398993 PE), fluorescein (sc-398993 FITC), Alexa Fluor® 488 (sc-398993 AF488), Alexa Fluor® 546 (sc-398993 AF546), Alexa Fluor® 594 (sc-398993 AF594) or Alexa Fluor® 647 (sc-398993 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398993 AF680) or Alexa Fluor® 790 (sc-398993 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

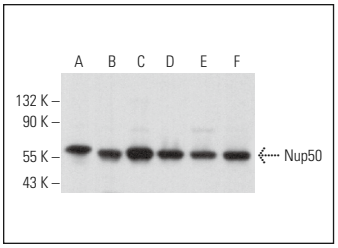
Nup50 (G-4) is recommended for detection of Nup50 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nup50 siRNA (h): sc-75979, Nup50 siRNA (m): sc-150125, Nup50 shRNA Plasmid (h): sc-75979-SH, Nup50 shRNA Plasmid (m): sc-150125-SH, Nup50 shRNA (h) Lentiviral Particles: sc-75979-V and Nup50 shRNA (m) Lentiviral Particles: sc-150125-V.

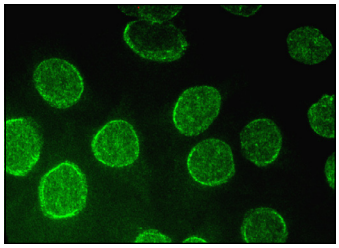
Molecular Weight of Nup50: 50 kDa.

Positive Controls: F9 cell lysate: sc-2245, 3T3-L1 cell lysate: sc-2243 or Jurkat whole cell lysate: sc-2204.

DATA



Nup50 (G-4): sc-398993. Western blot analysis of Nup50 expression in Jurkat (**A**), HL-60 (**B**), F9 (**C**), 3T3-L1 (**D**) and KNRK (**E**) whole cell lysates and rat testis tissue extract (**F**).



Nup50 (G-4): sc-398993. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear membrane localization.

SELECT PRODUCT CITATIONS

1. Marco, S., et al. 2021. Nuclear-capture of endosomes depletes nuclear G-Actin to promote SRF/MRTF activation and cancer cell invasion. Nat. Commun. 12: 6829.
2. De La Cruz-Herrera, C.F., et al. 2023. Changes in SUMO-modified proteins in Epstein-Barr virus infection identifies reciprocal regulation of TRIM24/28/33 complexes and the lytic switch BZLF1. PLoS Pathog. 19: e1011477.

STORAGE

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

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.