

NUDC (JT-9): sc-100794

BACKGROUND

NUDC (nuclear distribution gene C homolog, *A. nidulans*), also known as HNUDC, MNUDC or NPD011, is a ubiquitously expressed protein that is conserved from fungus to human. Highly expressed in proliferating cells, NUDC localizes to the cytoplasm and nucleus, contains a CS domain and participates in neurogenesis, mitosis, nuclear migration and cytokinesis. At the onset of mitosis, NUDC is phosphorylated by Plk. This modification of NUDC is required for proper mitotic spindle formation, chromosome separation during mitosis, cytokinesis and cell proliferation. In neurons and fibroblasts, NUDC forms a complex with LIS1 that localizes to the microtubule network and microtubule-organizing center and facilitates nuclear movement and transport in migrating neurons. In addition, the NUDC/LIS1 complex can associate with the minus-end directed Dynein/Dynactin motor complex and, together, these complexes cooperate in the regulation of cytokinesis.

REFERENCES

1. Matsumoto, N., et al. 1999. Molecular cloning and characterization of the human NUDC gene. *Hum. Genet.* 104: 498-504.
2. Miller, B.A., et al. 1999. A homolog of the fungal nuclear migration gene NUDC is involved in normal and malignant human hematopoiesis. *Exp. Hematol.* 27: 742-750.
3. Zhang, M.Y., et al. 2002. Involvement of the fungal nuclear migration gene NUDC human homolog in cell proliferation and mitotic spindle formation. *Exp. Cell Res.* 273: 73-84.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610325. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Aumais, J.P., et al. 2003. Role for NUDC, a Dynein-associated nuclear movement protein, in mitosis and cytokinesis. *J. Cell Sci.* 116: 1991-2003.
6. Pan, R.M., et al. 2005. A microtubule associated protein (hNUDC) binds to the extracellular domain of thrombopoietin receptor (Mpl). *J. Cell. Biochem.* 96: 741-750.
7. Nishino, M., et al. 2006. NUDC is required for Plk1 targeting to the kinetochore and chromosome congression. *Curr. Biol.* 16: 1414-1421.
8. Zhang, Y.P., et al. 2007. Regulation of cell differentiation by hNUDC via a Mpl-dependent mechanism in NIH/3T3 cells. *Exp. Cell Res.* 313: 3210-3221.

CHROMOSOMAL LOCATION

Genetic locus: NUDC (human) mapping to 1p36.11.

SOURCE

NUDC (JT-9) is a mouse monoclonal antibody raised against recombinant NUDC of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NUDC (JT-9) is recommended for detection of NUDC of 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 NUDC siRNA (h): sc-88034, NUDC shRNA Plasmid (h): sc-88034-SH and NUDC shRNA (h) Lentiviral Particles: sc-88034-V.

Molecular Weight (predicted) of NUDC: 38 kDa.

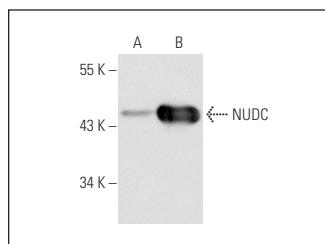
Molecular Weight (observed) of NUDC: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or NUDC (h): 293 Lysate: sc-113111.

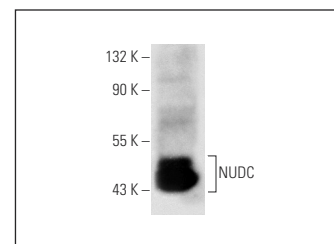
RECOMMENDED SUPPORT REAGENTS

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



NUDC (JT-9): sc-100794. Western blot analysis of NUDC expression in non-transfected: sc-110760 (A) and human NUDC transfected: sc-113111 (B) 293 whole cell lysates.



NUDC (JT-9): sc-100794. Western blot analysis of NUDC expression in HeLa whole cell lysate.

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.