

NUDC (h): 293 Lysate: sc-113111

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. and Ledbetter, D.H. 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.
9. Helmstaedt, K., et al. 2008. The nuclear migration protein NUDF/LIS1 forms a complex with NUDC and BNFA at spindle pole bodies. *Eukaryot. Cell* 7: 1041-1052.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

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

PRODUCT

NUDC (h): 293 Lysate represents a lysate of human NUDC transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NUDC (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive NUDC antibodies. Recommended use: 10-20 µl per lane.

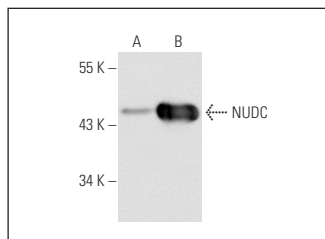
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

NUDC (JT-9): sc-100794 is recommended as a positive control antibody for Western Blot analysis of enhanced human NUDC expression in NUDC transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

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.

RESEARCH USE

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