

NUDE1 (m): 293T Lysate: sc-122153

BACKGROUND

NUDE1 (Nuclear Distribution Protein nudE homolog 1) is a 346 amino acid cytoplasmic protein belonging to the nudE protein family (whose members include NUDE1 and NDEL1). Phosphorylated during mitosis, NUDE1 is essential for the formation and function of the mitotic spindle in M phase and functions to regulate the Dynein-mediated transport of kinetochore proteins, as well as centrosome duplication during interphase. NUDE1 is thought to interact with NDEL1, LIS1 and Dynein IC1/2, cytosolic in a signaling pathway that regulates the formation of neurons and is fundamental to the development of the cerebral cortex. Mutations in the NUDE1 gene result in a reduced cerebral cortex size caused by defects in mitotic progression and chromosomal localization of cortical progenitors. NUDE1 is expressed as 2 isoforms produced by alternative splicing of the primary gene transcript.

REFERENCES

1. Kitagawa, M., Umez, M., Aoki, J., Koizumi, H., Arai, H. and Inoue, K. 2000. Direct association of LIS1, the lissencephaly gene product, with a mammalian homologue of a fungal nuclear distribution protein, rNUDE. *FEBS Lett.* 479: 57-62.
2. Feng, Y., Olson, E.C., Stukenberg, P.T., Flanagan, L.A., Kirschner, M.W. and Walsh, C.A. 2000. LIS1 regulates CNS lamination by interacting with mNudE, a central component of the centrosome. *Neuron.* 28: 665-679.
3. Meyer, G., Perez-Garcia, C.G. and Gleeson, J.G. 2002. Selective expression of Doublecortin and LIS1 in developing human cortex suggests unique modes of neuronal movement. *Cereb. Cortex.* 12: 1225-1236.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609449. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Yan, X., Li, F., Liang, Y., Shen, Y., Zhao, X., Huang, Q. and Zhu, X. 2003. Human Nudel and NudE as regulators of cytoplasmic dynein in poleward protein transport along the mitotic spindle. *Mol. Cell. Biol.* 23: 1239-1250.
6. Feng, Y. and Walsh, C.A. 2004. Mitotic spindle regulation by Nde1 controls cerebral cortical size. *Neuron.* 44: 279-293.
7. Brandon, N.J., Schurov, I., Camargo, L.M., Handford, E.J., Duran-Jimeniz, B., Hunt, P., Millar, J.K., Porteous, D.J., Shearman, M.S. and Whiting, P.J. 2005. Subcellular targeting of DISC1 is dependent on a domain independent from the Nudel binding site. *Mol. Cell. Neurosci.* 28: 613-624.
8. Guo, J., Yang, Z., Song, W., Chen, Q., Wang, F., Zhang, Q. and Zhu, X. 2006. Nudel contributes to microtubule anchoring at the mother centriole and is involved in both dynein-dependent and -independent centrosomal protein assembly. *Mol. Biol. Cell.* 17: 680-689.
9. Hirohashi, Y., Wang, Q., Liu, Q., Li, B., Du, X., Zhang, H., Furuuchi, K., Masuda, K., Sato, N. and Greene, M.I. 2006. Centrosomal proteins Nde1 and Su48 form a complex regulated by phosphorylation. *Oncogene.* 25: 6048-6055.

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.

CHROMOSOMAL LOCATION

Genetic locus: Nde1 (mouse) mapping to 16 A1.

PRODUCT

NUDE1 (m): 293T Lysate represents a lysate of mouse NUDE1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NUDE1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive NUDE1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

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.