

NDEL1 (D-5): sc-365094

BACKGROUND

NUDE-like protein (NDEL1) is expressed in the testis, brain, heart, hypothalamus, liver, lung, spleen and stomach, specifically in the interphase centrosome and mitotic spindle. It positively regulates minus-end directed dynein. Evidence suggests that NDEL1 interacts with LIS1 to sustain the function of dynein, thereby impacting microtubule organization, nuclear translocation and neuronal positioning. NDEL1 is phosphorylated during mitosis and seems to tether Dynactin and Dynein to the mother centriole for microtubule anchoring. Loss of function of NDEL1 in the developing neocortex impairs neuronal positioning and uncouples the centrosome and nucleus. NDEL1 may also impair mitochondrial transport or function, initiating a cascade of events culminating in psychiatric illness such as lissencephaly and schizophrenia.

REFERENCES

- Niethammer, M., et al. 2001. NUDEL is a novel Cdk5 substrate that associates with LIS1 and cytoplasmic Dynein. *Neuron* 28: 697-711.
- Yan, X., et al. 2003. Human NUDEL and NUDE as regulators of cytoplasmic Dynein in poleward protein transport along the mitotic spindle. *Mol. Cell. Biol.* 23: 1239-1250.
- Shu, T., et al. 2004. NDEL1 operates in a common pathway with LIS1 and cytoplasmic Dynein to regulate cortical neuronal positioning. *Neuron* 44: 263-277.
- Brandon, N.J., et al. 2005. Subcellular targeting of DISC-1 is dependent on a domain independent from the NUDEL binding site. *Mol. Cell. Neurosci.* 28: 613-624.
- Li, J., et al. 2005. NUDEL targets dynein to microtubule ends through LIS1. *Nat. Cell Biol.* 7: 686-690.
- Sasaki, S., et al. 2005. Complete loss of NDEL1 results in neuronal migration defects lethality. *Mol. Cell. Biol.* 25: 7812-7827.

CHROMOSOMAL LOCATION

Genetic locus: NDEL1 (human) mapping to 17p13.1; Ndel1 (mouse) mapping to 11 B3.

SOURCE

NDEL1 (D-5) is a mouse monoclonal antibody raised against amino acids 181-245 mapping within an internal region of NDEL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NDEL1 (D-5) is available conjugated to agarose (sc-365094 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365094 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365094 PE), fluorescein (sc-365094 FITC), Alexa Fluor® 488 (sc-365094 AF488), Alexa Fluor® 546 (sc-365094 AF546), Alexa Fluor® 594 (sc-365094 AF594) or Alexa Fluor® 647 (sc-365094 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365094 AF680) or Alexa Fluor® 790 (sc-365094 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NDEL1 (D-5) is recommended for detection of NDEL1 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 NDEL1 siRNA (h): sc-61162, NDEL1 siRNA (m): sc-61163, NDEL1 shRNA Plasmid (h): sc-61162-SH, NDEL1 shRNA Plasmid (m): sc-61163-SH, NDEL1 shRNA (h) Lentiviral Particles: sc-61162-V and NDEL1 shRNA (m) Lentiviral Particles: sc-61163-V.

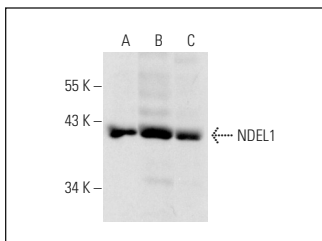
Molecular Weight of NDEL1: 40 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, C3H/10T1/2 cell lysate: sc-3801 or HeLa + nocodazole cell lysate: sc-2274.

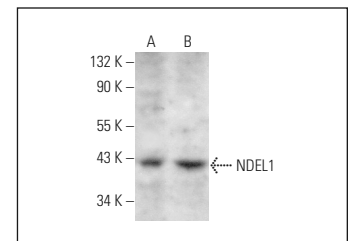
RECOMMENDED SUPPORT REAGENTS

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



NDEL1 (D-5): sc-365094. Western blot analysis of NDEL1 expression in nocodazole treated HeLa (A), nocodazole treated SK-N-SH (B) and Quercetin treated MCF-7 (C) whole cell lysates.



NDEL1 (D-5): sc-365094. Western blot analysis of NDEL1 expression in 3T3-L1 (A) and C3H/10T1/2 (B) whole cell lysates.

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.

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