

# NIPBL (C-9): sc-374625

## BACKGROUND

NIPBL (Nipped-B-like protein), also known as IDN3, Delangin or CDLS, is a 2,804 amino acid nuclear protein that is the mammalian homolog of the *Drosophila* Nipped-B gene product, a protein that plays a role in developmental regulation by facilitating the communication between promoters and transcriptional enhancers. Widely expressed with particularly high levels present in skeletal muscle, heart, liver and kidney, NIPBL contains five HEAT repeats and interacts with HP1 $\alpha$ , possibly playing a role in sister chromatid adhesion and in the maintenance of proper chromatin structure. NIPBL exists as three isoforms and is subject to DNA damage-dependent phosphorylation, probably by ATM or ATR. Mutations in the gene encoding NIPBL are the cause of Cornelia de Lange syndrome type 1 (CDLS1), a developmental disorder that is characterized by facial dysmorphisms, abnormal hands and feet, growth delay, cognitive retardation and various other malformations, including gastroesophageal dysfunction and cardiac, ophthalmologic and genitourinary anomalies.

## CHROMOSOMAL LOCATION

Genetic locus: NIPBL (human) mapping to 5p13.2; Nipbl (mouse) mapping to 15 A1.

## SOURCE

NIPBL (C-9) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of NIPBL of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NIPBL (C-9) is available conjugated to agarose (sc-374625 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374625 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374625 PE), fluorescein (sc-374625 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374625 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374625 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374625 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374625 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374625 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374625 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

NIPBL (C-9) is recommended for detection of NIPBL of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 NIPBL siRNA (h): sc-75921, NIPBL siRNA (m): sc-75922, NIPBL shRNA Plasmid (h): sc-75921-SH, NIPBL shRNA Plasmid (m): sc-75922-SH, NIPBL shRNA (h) Lentiviral Particles: sc-75921-V and NIPBL shRNA (m) Lentiviral Particles: sc-75922-V.

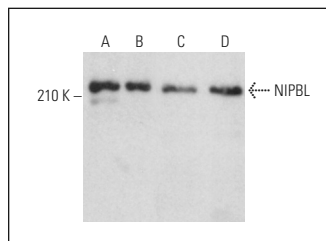
Molecular Weight of NIPBL: 316 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HL-60 nuclear extract: sc-2147 or HEL 92.1.7 cell lysate: sc-2270.

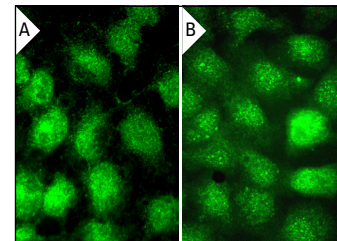
## STORAGE

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

## DATA



NIPBL (C-9): sc-374625. Western blot analysis of NIPBL expression in HeLa (A) and HL-60 (B) nuclear extracts and SJRH30 (C) and HEL 92.1.7 (D) whole cell lysates.



NIPBL (C-9): sc-374625. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear and cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

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- Papachristou, E.K., et al. 2018. A quantitative mass spectrometry-based approach to monitor the dynamics of endogenous chromatin-associated protein complexes. *Nat. Commun.* 9: 2311.
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- He, X., et al. 2020. USP13 interacts with cohesin and regulates its ubiquitination in human cells. *J. Biol. Chem.* 296: 100194.
- Shimori, M., et al. 2021. Suv4-20h2 protects against influenza virus infection by suppression of chromatin loop formation. *iScience* 24: 102660.
- Stefos, G.C., et al. 2021. aniFOUND: analysing the associated proteome and genomic landscape of the repaired nascent non-replicative chromatin. *Nucleic Acids Res.* 49: e64.

## RESEARCH USE

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

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