

# NELF-D (C-10): sc-393972

## BACKGROUND

NELF-D (negative elongation factor C/D), also known as TH1, NELF-C, HSPC130 or TH1L, is a 590 amino acid protein that localizes to the nucleus and exists as a component of the multi-protein NELF complex, a structure which negatively regulates Pol II-dependent transcription elongation. Expressed in a variety of tissues, including liver, heart, kidney, lung, brain, placenta and pancreas, NELF-D is involved in controlling transcriptional pausing of Pol II and may be able to induce chromatin unfolding, possibly playing a role in tumorigenesis. NELF-D is encoded by a gene which maps to human chromosome 20. Comprising approximately 2% of the human genome, chromosome 20 contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

## REFERENCES

1. Ping, Y.H. and Rana, T.M. 2001. DSIF and NELF interact with RNA polymerase II elongation complex and HIV-1 Tat stimulates P-TEF $\beta$ -mediated phosphorylation of RNA polymerase II and DSIF during transcription elongation. *J. Biol. Chem.* 276: 12951-12958.
2. Narita, T., et al. 2003. Human transcription elongation factor NELF: identification of novel subunits and reconstitution of the functionally active complex. *Mol. Cell. Biol.* 23: 1863-1873.

## CHROMOSOMAL LOCATION

Genetic locus: NELFCD (human) mapping to 20q13.32; Nelfcd (mouse) mapping to 2 H4.

## SOURCE

NELF-D (C-10) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of NELF-D of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NELF-D (C-10) is available conjugated to agarose (sc-393972 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393972 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393972 PE), fluorescein (sc-393972 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393972 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393972 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393972 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393972 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393972 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393972 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

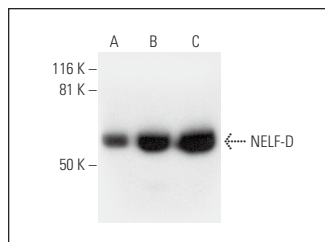
NELF-D (C-10) is recommended for detection of NELF-D of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 NELF-D siRNA (h): sc-75898, NELF-D siRNA (m): sc-149908, NELF-D shRNA Plasmid (h): sc-75898-SH, NELF-D shRNA Plasmid (m): sc-149908-SH, NELF-D shRNA (h) Lentiviral Particles: sc-75898-V and NELF-D shRNA (m) Lentiviral Particles: sc-149908-V.

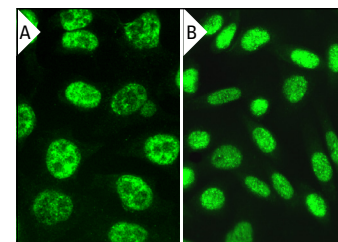
Molecular Weight of NELF-D: 59 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or MCF7 nuclear extract: sc-2149.

## DATA



NELF-D (C-10): sc-393972. Western blot analysis of NELF-D expression in HeLa (A), MCF7 (B) and NIH/3T3 (C) nuclear extracts.



NELF-D (C-10): sc-393972. Immunofluorescence staining of methanol-fixed HeLa (A) and SW480 (B) cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Liu, X., et al. 2017. Dynamic change of transcription pausing through modulating NELF protein stability regulates granulocytic differentiation. *Blood Adv.* 1: 1358-1367.
2. Rawat, P., et al. 2021. Stress-induced nuclear condensation of NELF drives transcriptional downregulation. *Mol. Cell* 81: 1013-1026.e11.
3. Ohe, S., et al. 2022. ERK-mediated NELF-A phosphorylation promotes transcription elongation of immediate-early genes by releasing promoter-proximal pausing of RNA polymerase II. *Nat. Commun.* 13: 7476.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.