

# NELF-E (F-9): sc-377052

## BACKGROUND

NELF-E, for negative elongation factor E, is a putative RNA binding protein. NELF-E is one of the five components of the multisubunit NELF complex that cooperates with DSIF to repress RNA polymerase II elongation. Control of transcription elongation requires a complex interplay between positive transcription elongation factor b (P-TEFb) and negative transcription elongation factors, DSIF and NELF. DSIF and NELF act as negative transcription elongation factors by increasing the time the polymerase spends at pause sites. DSIF/NELF inhibition of transcription is prevented by P-TEFb in cooperation with FACT. NELF-E is also known as RD and RDBP (RD RNA-binding protein). RD, the acronym of the most common dipeptide repeat describes the single letter symbols for arginine (R) and aspartic acid (D), respectively. NELF-E has a functional RNA-binding domain, whose mutations impair transcription repression without affecting known protein-protein interactions. The human NELF-E gene maps to chromosome 6p21.33 and encodes a 371 amino acid protein.

## REFERENCES

1. Yamaguchi, Y., et al. 1999. NELF, a multisubunit complex containing RD, cooperates with DSIF to repress RNA polymerase II elongation. *Cell* 97: 41-51.
2. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 154040. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: NELFE (human) mapping to 6p21.33; Nelfe (mouse) mapping to 17 B1.

## SOURCE

NELF-E (F-9) is a mouse monoclonal antibody raised against amino acids 241-380 mapping at the C-terminus of NELF-E of human origin.

## PRODUCT

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

NELF-E (F-9) is available conjugated to agarose (sc-377052 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377052 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377052 PE), fluorescein (sc-377052 FITC), Alexa Fluor® 488 (sc-377052 AF488), Alexa Fluor® 546 (sc-377052 AF546), Alexa Fluor® 594 (sc-377052 AF594) or Alexa Fluor® 647 (sc-377052 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377052 AF680) or Alexa Fluor® 790 (sc-377052 AF790), 200 µg/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

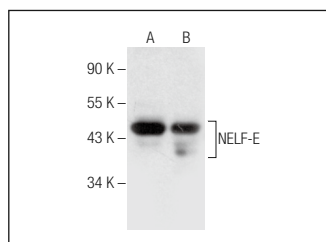
NELF-E (F-9) is recommended for detection of NELF-E of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NELF-E (F-9) is also recommended for detection of NELF-E in additional species, including equine, bovine and porcine.

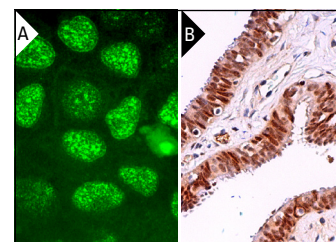
Suitable for use as control antibody for NELF-E siRNA (h): sc-38093, NELF-E siRNA (m): sc-38094, NELF-E shRNA Plasmid (h): sc-38093-SH, NELF-E shRNA Plasmid (m): sc-38094-SH, NELF-E shRNA (h) Lentiviral Particles: sc-38093-V and NELF-E shRNA (m) Lentiviral Particles: sc-38094-V.

Molecular Weight of NELF-E: 43 kDa.

## DATA



NELF-E (F-9): sc-377052. Western blot analysis of NELF-E expression in Jurkat (A) and HeLa (B) nuclear extracts.



NELF-E (F-9): sc-377052. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear bodies localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Dang, H., et al. 2017. Oncogenic activation of the RNA binding protein NELFE and Myc signaling in hepatocellular carcinoma. *Cancer Cell* 32: 101-114.e8.
2. Bacon, C.W., et al. 2020. KAP1 is a chromatin reader that couples steps of RNA polymerase II transcription to sustain oncogenic programs. *Mol. Cell* 78: 1133-1151.e14.
3. Robinson, D.C.L., et al. 2021. Negative elongation factor regulates muscle progenitor expansion for efficient myofiber repair and stem cell pool repopulation. *Dev. Cell* 56: 1014-1029.e7.
4. 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.
5. Yamanashi, Y., et al. 2025. Chemical catalyst manipulating cancer epigenome and transcription. *Nat. Commun.* 16: 887.

## RESEARCH USE

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