

NELF-A (F-2): sc-271731

BACKGROUND

NELF-A, for negative elongation factor A, is a protein factor required for DRB-sensitive transcription. NELF-A 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 β (P-TEF β) 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-TEF β in cooperation with FACT. NELF-A is also known as WHSC2 (Wolf-Hirschhorn syndrome candidate 2). Wolf-Hirschhorn syndrome is a multiple malformation syndrome characterized by mental and developmental defects resulting from a hemizygous deletion of the distal short arm of chromosome 4 (4p16.3). The human NELF-A gene maps to chromosome 4p16.3 and encodes a 528 amino acid protein that is expressed in endothelial cells.

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. Wright, T.J., et al. 1999. Comparative analysis of a novel gene from the Wolf-Hirschhorn/Pitt-Rogers-Danks syndrome critical region. *Genomics* 59: 203-212.
3. Mariotti, M., et al. 2000. Modulation of WHSC2 expression in human endothelial cells. *FEBS Lett.* 487: 166-170.
4. Wada, T., et al. 2000. FACT relieves DSIF/NELF-mediated inhibition of transcriptional elongation and reveals functional differences between P-TEFb and TFIIH. *Mol. Cell* 5: 1067-1072.
5. Ping, Y.H., et al. 2001. DSIF and NELF interact with RNA polymerase II elongation complex and HIV-1 Tat stimulates P-TEFb-mediated phosphorylation of RNA polymerase II and DSIF during transcription elongation. *J. Biol. Chem.* 276: 12951-12958.

CHROMOSOMAL LOCATION

Genetic locus: NELFA (human) mapping to 4p16.3; Nelfa (mouse) mapping to 5 B2.

SOURCE

NELF-A (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-33 at the N-terminus of NELF-A of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271731 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NELF-A (F-2) is recommended for detection of NELF-A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

NELF-A (F-2) is also recommended for detection of NELF-A in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for NELF-A siRNA (h): sc-38095, NELF-A siRNA (m): sc-38096, NELF-A shRNA Plasmid (h): sc-38095-SH, NELF-A shRNA Plasmid (m): sc-38096-SH, NELF-A shRNA (h) Lentiviral Particles: sc-38095-V and NELF-A shRNA (m) Lentiviral Particles: sc-38096-V.

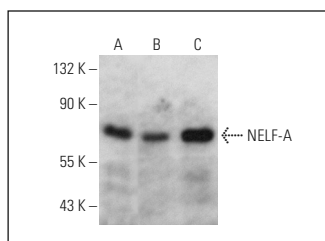
Molecular Weight of NELF-A: 66 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, EOC 20 whole cell lysate: sc-364187 or BC $_3$ H1 cell lysate: sc-2299.

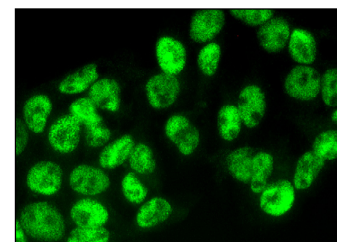
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



NELF-A (F-2): sc-271731. Western blot analysis of NELF-A expression in DU 145 (A), BC $_3$ H1 (B) and EOC 20 (C) whole cell lysates.



NELF-A (F-2): sc-271731. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

STORAGE

Store at 4 $^{\circ}$ 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.