SANTA CRUZ BIOTECHNOLOGY, INC.

NELF-A (G-11): sc-365004

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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-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.

CHROMOSOMAL LOCATION

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

SOURCE

NELF-A (G-11) is a mouse monoclonal antibody raised against amino acids 92-300 mapping near the N-terminus of NELF-A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NELF-A (G-11) is available conjugated to agarose (sc-365004 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365004 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365004 PE), fluorescein (sc-365004 FITC), Alexa Fluor® 488 (sc-365004 AF488), Alexa Fluor® 546 (sc-365004 AF546), Alexa Fluor® 594 (sc-365004 AF594) or Alexa Fluor® 647 (sc-365004 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365004 AF680) or Alexa Fluor® 790 (sc-365004 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NELF-A (G-11) is recommended for detection of NELF-A isoforms 1 and 2 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 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.

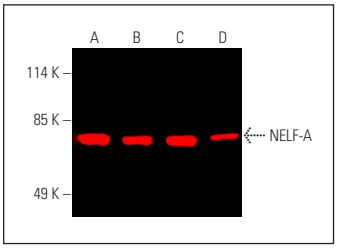
Molecular Weight of NELF-A: 66 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, COLO 320DM cell lysate: sc-2226 or Jurkat whole cell lysate: sc-2204.

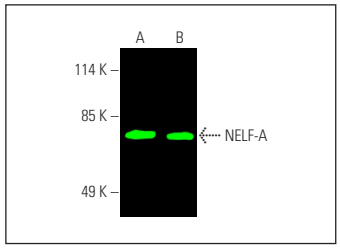
RECOMMENDED SUPPORT REAGENTS

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



NELF-A (G-11): sc-365004. Near-infrared western blot analysis of NELF-A expression in COLO 320DM (**A**), DU 145 (**B**), Jurkat (**C**) and EOC 20 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



NELF-A (G-11): sc-365004. Near-infrared western blot analysis of NELF-A expression in COLO 320DM (**A**) and Jurkat (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2021. Persistence of RNA transcription during DNA replication delays duplication of transcription start sites until G_2/M. Cell Rep. 34: 108759.
2. Rivas, T., et al. 2021. The herpes simplex virus 1 protein ICP4 acts as both an activator and a repressor of host genome transcription during infection. Mol. Cell. Biol. 41: e0017121.
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.
4. Watts, J.A., et al. 2022. A common transcriptional mechanism involving R-loop and RNA abasic site regulates an enhancer RNA of APOE. Nucleic Acids Res. 50: 12497-12514.

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.