SANTA CRUZ BIOTECHNOLOGY, INC.

NELF-E (K-20): sc-19560

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β (P-TEFβ) 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 6p21.3 and encodes a 371 amino acid protein.

REFERENCES

1. Yamaguchi, Y., Takagi, T., Wada, T., Yano, K., Furuya, A., Sugimoto, S., Hasegawa, J. and Handa, H. 1999. NELF, a multisubunit complex containing RD, cooperates with DSIF to repress RNA polymerase II elongation. Cell 97: 41-51.
2. Wright, T.J., Costa, J.L., Naranjo, C., Francis-West, P. and Altherr, M.R. 1999. Comparative analysis of a novel gene from the Wolf-Hirschhorn/ Pitt-Rogers-Danks syndrome critical region. Genomics 59: 203-212.
3. 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/
4. Wada, T., Orphanides, G., Hasegawa, J., Kim, D.K., Shima, D., Yamaguchi, Y., Fukuda, A., Hisatake, K., Oh, S., Reinberg, D. and Handa, H. 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. Mariotti, M., Manganini, M. and Maier, J.A. 2000. Modulation of WHSC2 expression in human endothelial cells. FEBS Lett. 487: 166-170.
6. Ping, Y.H. and Rana, T.M. 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.
7. Renner, D.B., Yamaguchi, Y., Wada, T., Handa, H. and Price, D.H. 2001. A highly purified RNA polymerase II elongation control system. J. Biol. Chem. 276: 42601-42609.

CHROMOSOMAL LOCATION

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

RESEARCH USE

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

SOURCE

NELF-E (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NELF-E of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19560 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NELF-E (K-20) is recommended for detection of NELF-E of mouse, rat, and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-E (K-20) is also recommended for detection of NELF-E in additional species, including equine, canine, 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.

Positive Controls: human kidney extract: sc-363764.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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