SANTA CRUZ BIOTECHNOLOGY, INC.

EAF1 (F-7): sc-398450

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The ELL family of RNA polymerase II (Pol II) elongation factors function to activate transcript elongation by inhibiting the transient pausing of Pol II. ELL-associated factor 1 (EAF1) and EAF2 directly interact with ELL family members ELL and ELL2, functioning as transcriptional activators of their elongation activities. More specifically, EAF1 and EAF2 can form a complex with ELL that targets the ternary elongation complex of Pol II, stimulating the rate of elongation. In addition, EAF1 and EAF2 are important for the stability of the NuA4 histone acetyltransferase complex, which transcriptionally activates certain genes by acetylation of Histones H4 and H2A. Both EAF1 and EAF2 are ubiquitously expressed members of the EAF family that colocalize with ELL to the the Cajal bodies and nuclear speckles. EAF1 contains a C-terminal region rich in aspartic acid, glutamic acid and serine residues. EAF2 is an androgen-response gene and can act as a potent apoptosis inducer.

REFERENCES

1. Luo, R.T., et al. 2001. The elongation domain of ELL is dispensable but its ELL-associated factor 1 interaction domain is essential for MLL-ELL-induced leukemogenesis. Mol. Cell. Biol. 21: 5678-5687.
2. Simone, F., et al. 2001. EAF1, a novel ELL-associated factor that is delocalized by expression of the MLL-ELL fusion protein. Blood 98: 201-209.
3. Li, M., et al. 2003. Expression of murine ELL-associated factor 2 (EAF2) is developmentally regulated. Dev. Dyn. 228: 273-280.
4. Polak, P.E., et al. 2003. ELL and EAF1 are Cajal body components that are disrupted in MLL-ELL leukemia. Mol. Biol. Cell 14: 1517-1528.
5. Simone, F., et al. 2003. ELL-associated factor 2 (EAF2), a functional homolog of EAF1 with alternative ELL binding properties. Blood 101: 2355-2362.
6. Kong, S.E., et al. 2005. ELL-associated factors 1 and 2 are positive regulators of RNA polymerase II elongation factor ELL. Proc. Natl. Acad. Sci. USA 102: 10094-10098.
7. Xiao, W., et al. 2006. ELL binding regulates U19/EAF2 intracellular localization, stability, and transactivation. Prostate 66: 1-12.

CHROMOSOMAL LOCATION

Genetic locus: EAF1 (human) mapping to 3p25.1; Eaf1 (mouse) mapping to 14 B.

SOURCE

EAF1 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of EAF1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398450 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-398450 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

EAF1 (F-7) is recommended for detection of EAF1 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).

EAF1 (F-7) is also recommended for detection of EAF1 in additional species, including canine and bovine.

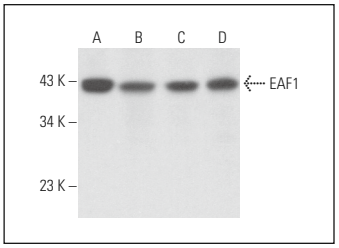
Suitable for use as control antibody for EAF1 siRNA (h): sc-62249, EAF1 siRNA (m): sc-62250, EAF1 shRNA Plasmid (h): sc-62249-SH, EAF1 shRNA Plasmid (m): sc-62250-SH, EAF1 shRNA (h) Lentiviral Particles: sc-62249-V and EAF1 shRNA (m) Lentiviral Particles: sc-62250-V.

EAF1 (F-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

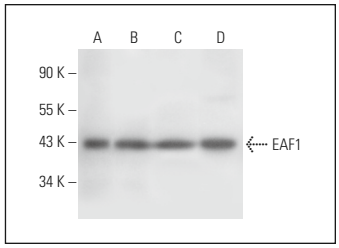
Molecular Weight of EAF1: 43 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

DATA



EAF1 (F-7): sc-398450. Western blot analysis of EAF1 expression in Jurkat nuclear extract (**A**) and MDA-MB-231 (**B**), JAR (**C**) and Neuro-2A (**D**) whole cell lysates.



EAF1 (F-7): sc-398450. Western blot analysis of EAF1 expression in K-562 (**A**) and Jurkat (**B**) nuclear extracts and K-562 (**C**) and Jurkat (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Suzuki, H., et al. 2022. The 3' Pol II pausing at replication-dependent histone genes is regulated by Mediator through Cajal bodies' association with histone locus bodies. Nat. Commun. 13: 2905.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.