SANTA CRUZ BIOTECHNOLOGY, INC.

EAF2 siRNA (h): sc-62251

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 alter-native ELL binding properties. Blood 101: 2355-2362.
6. Xiao, W., et al. 2005. ELL binding regulates U19/EAF2 intracellular localization, stability, and transactivation. Prostate 66: 1-12.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: EAF2 (human) mapping to 3q13.33.

PRODUCT

EAF2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EAF2 shRNA Plasmid (h): sc-62251-SH and EAF2 shRNA (h) Lentiviral Particles: sc-62251-V as alternate gene silencing products.

For independent verification of EAF2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62251A, sc-62251B and sc-62251C.

RESEARCH USE

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

EAF2 siRNA (h) is recommended for the inhibition of EAF2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EAF2 gene expression knockdown using RT-PCR Primer: EAF2 (h)-PR: sc-62251-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cai, L., et al. 2014. Identification of a genetic interaction between the tumor suppressor EAF2 and the retinoblastoma protein (Rb) signaling pathway in *C. elegans* and prostate cancer cells. Biochem. Biophys. Res. Commun. 447: 292-298.
2. Guo, W., et al. 2015. FOXA1 modulates EAF2 regulation of AR transcriptional activity, cell proliferation, and migration in prostate cancer cells. Prostate 75: 976-987.

PROTOCOLS

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