SANTA CRUZ BIOTECHNOLOGY, INC.

Ets-1 siRNA (h): sc-29309

BACKGROUND

Ets-1 is the prototype member of a family of genes identified on the basis of homology to the v-Ets oncogene isolated from the E26 erythroblastosis virus. This family of genes currently includes Ets-1, Ets-2, Erg-1–3, Elk-1, Elf-1, Elf-5, NERF, PU.1, PEA3, ERM, FEV, ER81, Fli-1, TEL, Spi-B, ESE-1, ESE-3A, Net, ABT1 and ERF. Members of the Ets gene family exhibit varied patterns of tissue expression, and share a highly conserved carboxy-terminal domain containing a sequence related to the SV40 large T antigen nuclear localization signal sequence. This conserved domain is essential for Ets-1 binding to DNA and is likely to be responsible for the DNA-binding activity of all members of the Ets gene family. Several of these proteins have been shown to recognize similar motifs in DNA that share a centrally located 5'-GGAA-3' element. Evidence indicates that the DNA binding activity by Ets-1 is regulated at the level of phosphorylation.

REFERENCES

1. Ghysdael, J., et al. 1986. Identification and preferential expression in thymic and bursal lymphocytes of a c-Ets oncogene-encoded M_r 54,000 cytoplasmic protein. Proc. Natl. Acad. Sci. USA 83: 1714-1718.
2. Rao, V.N., et al. 1987. Erg, a human Ets-related gene on chromosome 21: alternative splicing, polyadenylation and translation. Science 237: 635-639.
3. Rao, V.N., et al. 1989. Elk, tissue-specific Ets-related genes on chromosomes X and 14 near translocation breakpoints. Science 244: 66-70.

CHROMOSOMAL LOCATION

Genetic locus: ETS1 (human) mapping to 11q24.3.

PRODUCT

Ets-1 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 Ets-1 shRNA Plasmid (h): sc-29309-SH and Ets-1 shRNA (h) Lentiviral Particles: sc-29309-V as alternate gene silencing products.

For independent verification of Ets-1 (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-29309A, sc-29309B and sc-29309C.

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

Ets-1 siRNA (h) is recommended for the inhibition of Ets-1 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.

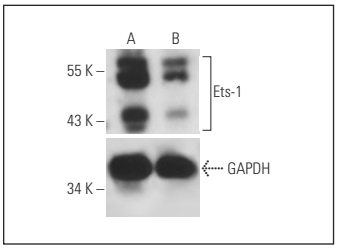
GENE EXPRESSION MONITORING

Ets-1 (C-4): sc-55581 is recommended as a control antibody for monitoring of Ets-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ets-1 gene expression knockdown using RT-PCR Primer: Ets-1 (h)-PR: sc-29309-PR (20 µl, 417 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Ets-1 siRNA (h): sc-29309. Western blot analysis of Ets-1 expression in non-transfected control (**A**) and Ets-1 siRNA transfected (**B**) Jurkat cells. Blot probed with Ets-1 (C-20): sc-350. GAPDH (FL-335): sc-25778 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Nakazawa, Y., et al. 2007. Cooperative interaction between Ets-1 and Gfi-1 transcription factors in the repression of Bax gene expression. Oncogene 26: 3541-3550.
7. Tu, W.J., et al. 2017. Priming of transcriptional memory responses via the chromatin accessibility landscape in T cells. Sci. Rep. 7: 44825.
8. Lee, K.E., et al. 2018. German cockroach extract induces matrix metalloproteinase-1 expression, leading to tight junction disruption in human airway epithelial cells. Yonsei Med. J. 59: 1222-1231.

RESEARCH USE

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