SANTA CRUZ BIOTECHNOLOGY, INC.

Elf-4 siRNA (h): sc-91302

BACKGROUND

The Ets-1 family of transcription factors has a conserved DNA binding domain through which it plays an important role in >cellular proliferation, differentiation, tematopoiesis and angiogenesis. This domain, also known as the Ets domain, binds to DNA sequences containing the consensus sequence 5'-WGGA-3', which is known as the Ets-binding domain. Elf-4, also known as myeloid Elf-1-like factor, ELF4 or MEF, is a 663 amino acid member of the Ets-1 family. Localized to the nucleus, Elf-4 is highly expressed in placenta and myeloid leukemia cells, with lower levels of expression lung, heart, thymus, slpeen, colon, ovary and peripheral blood lymphocytes. Functioning primarily to activate the promoters of hematopoietic growth factor genes, such as GM-CSF, IL-3 and IL-8, Elf-4 has also been shown to activate the Perforin 1 promoter in natural killer (NK) cells, suggesting a possible role in tumorigenesis.

REFERENCES

1. Miyazaki, Y., et al. 1996. MEF, a novel transcription factor with an Elf-1 like DNA binding domain but distinct transcriptional activating properties. Oncogene 13: 1721-1729.
2. Kai, H., et al. 1999. Myeloid Elf-1-like factor upregulates lysozyme transcription in epithelial cells. J. Biol. Chem. 274: 20098-20102.
3. Mao, S., et al. 1999. Func-tional and physical interactions between AML1 proteins and an ETS protein, MEF: implications for the pathogenesis of t(8;21)-positive leukemias. Mol. Cell. Biol. 19: 3635-3644.
4. Suico, M.A., et al. 2002. Functional dissection of the ETS transcription factor MEF. Biochim. Biophys. Acta 1577: 113-120.
5. Lacorazza, H.D., et al. 2002. The ETS protein MEF plays a critical role in perforin gene expression and the development of natural killer and NK-T cells. Immunity 17: 437-449.

CHROMOSOMAL LOCATION

Genetic locus: ELF4 (human) mapping to Xq26.1.

PRODUCT

Elf-4 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 Elf-4 shRNA Plasmid (h): sc-91302-SH and Elf-4 shRNA (h) Lentiviral Particles: sc-91302-V as alternate gene silencing products.

For independent verification of Elf-4 (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-91302A, sc-91302B and sc-91302C.

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.

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

Elf-4 siRNA (h) is recommended for the inhibition of Elf-4 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

Elf-4 (E-11): sc-515363 is recommended as a control antibody for monitoring of Elf-4 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).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Elf-4 gene expression knockdown using RT-PCR Primer: Elf-4 (h)-PR: sc-91302-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.