

ERF siRNA (m): sc-144923

BACKGROUND

ABT1 (activator of basal transcription 1) is a nuclear protein that associates with the TATA-binding protein (TBP) and enhances basal transcription activity of class II promoters. ABT1 associates with TBP in HeLa nuclear extracts *in vitro*. Another protein, designated ERF, is a member of the Ets family of transcription factors. The members of the Ets family are grouped because they share a highly conserved DNA binding domain. These factors are involved in growth factor pathways and regulate both proliferation and differentiation. ERF (Ets-2 repressor factor) is a ubiquitously expressed Ets-domain protein that exhibits strong transcriptional repressor activity, suppresses Ets-induced transformation and is regulated by MAPK phosphorylation. ERF transcription may be regulated by Ets-domain proteins. Additionally, modulation of ERF activity is involved in the transcriptional regulation of genes activated during entry into G₁ phase.

REFERENCES

1. Sgouras, D.N., et al. 1995. ERF: an Ets domain protein with strong transcriptional repressor activity, can suppress Ets-associated tumorigenesis and is regulated by phosphorylation during cell cycle and mitogenic stimulation. *EMBO J.* 14: 4781-4793.
2. de Castro, C.M., et al. 1997. Genomic structure and chromosomal localization of the novel Ets factor, PE-2 (ERF). *Genomics* 42: 227-235.
3. Liu, D., et al. 1997. ERF: genomic organization, chromosomal localization and promoter analysis of the human and mouse genes. *Oncogene* 14: 1445-1451.
4. Oda, T., et al. 2000. A novel TATA-binding protein-binding protein, ABT1, activates basal transcription and has a yeast homolog that is essential for growth. *Mol. Cell. Biol.* 20: 1407-1418.

CHROMOSOMAL LOCATION

Genetic locus: Erf (mouse) mapping to 7 A3.

PRODUCT

ERF siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ERF shRNA Plasmid (m): sc-144923-SH and ERF shRNA (m) Lentiviral Particles: sc-144923-V as alternate gene silencing products.

For independent verification of ERF (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-144923A, sc-144923B and sc-144923C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ERF siRNA (m) is recommended for the inhibition of ERF expression in mouse 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 μ M in 66 μ l. 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

ERF (E-9): sc-398269 is recommended as a control antibody for monitoring of ERF 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ERF gene expression knockdown using RT-PCR Primer: ERF (m)-PR: sc-144923-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.