



SAP-1 siRNA (m): sc-38359

BACKGROUND

Serum response factor (SRF) is a transcription factor that binds the serum response element (SRE), a sequence that mediates the transient response of many cellular genes to growth stimulation. SRF-binding sites are also constitutive promoter elements in many muscle-specific promoters. At the c-Fos SRE, formation of a ternary complex containing SRF and its accessory protein p62TCF appears to be important for signal transduction. Two related Ets domain proteins, Elk-1 and SRF accessory protein-1 (SAP-1), have DNA binding properties identical to that of p62TCF. Elk-1 and SAP-1 contain two homologous regions of which the two amino terminal regions, the Ets domain (box A) and the B box, mediate ternary complex formation with SRF. The third homologous region, the C box located toward the C-terminus of the proteins, contains conserved consensus phosphorylation sites for MAP kinases.

REFERENCES

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3. Treisman, R. 1990. The SRE: a growth factor responsive transcriptional regulator. *Semin. Cancer Biol.* 1: 47-58.
4. Malik, R.K., et al. 1991. Epidermal growth factor and other mitogens induce binding of a protein complex to the c-Fos serum response element in human astrocytoma and other cells. *J. Biol. Chem.* 266: 8576-8582.
5. Dalton, S., et al. 1992. Characterization of SAP-1, a protein recruited by serum response factor to the c-Fos serum response element. *Cell* 68: 597-612.
6. Treisman, R.H., et al. 1992. Spatial flexibility in ternary complex formation by SRF and its accessory proteins. *EMBO J.* 11: 4631-4640.
7. Rao, V.N., et al. 1992. Elk-1 domains responsible for autonomous DNA binding, SRE:SRF interaction and negative regulation of DNA binding. *Oncogene* 7: 2335-2440.
8. Hill, C.S., et al. 1993. Functional analysis of a growth factor-responsive transcription factor complex. *Cell* 73: 395-406.
9. Clarkson, R.W., et al. 1999. Ternary complex factors Elk-1 and Sap-1a mediate growth hormone-induced transcription of egr-1 (early growth response factor-1) in 3T3-F442A preadipocytes. *Mol. Endocrinol.* 13: 619-631.

CHROMOSOMAL LOCATION

Genetic locus: Elk4 (mouse) mapping to 1 E4.

PROTOCOLS

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

PRODUCT

SAP-1 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 SAP-1 shRNA Plasmid (m): sc-38359-SH and SAP-1 shRNA (m) Lentiviral Particles: sc-38359-V as alternate gene silencing products.

For independent verification of SAP-1 (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-38359A, sc-38359B and sc-38359C.

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

SAP-1 siRNA (m) is recommended for the inhibition of SAP-1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SAP-1 gene expression knockdown using RT-PCR Primer: SAP-1 (m)-PR: sc-38359-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Lee, S.M., et al. 2010. Activation and repression of cellular immediate early genes by serum response factor cofactors. *J. Biol. Chem.* 285: 22036-22049.

RESEARCH USE

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