



SRF siRNA (r): sc-156005

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

1. Norman, C., et al. 1988. Isolation and properties of cDNA clones encoding SRF, a transcription factor that binds to the c-Fos serum response element. *Cell* 55: 989-1003.
2. Boxer, L.M., et al. 1989. The sarcomeric actin CARG-binding factor is indistinguishable from the c-Fos serum response factor. *Mol. Cell. Biol.* 9: 515-522.
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.

CHROMOSOMAL LOCATION

Genetic locus: Srf (rat) mapping to 9q12.

PRODUCT

SRF siRNA (r) 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 SRF shRNA Plasmid (r): sc-156005-SH and SRF shRNA (r) Lentiviral Particles: sc-156005-V as alternate gene silencing products.

For independent verification of SRF (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-156005A, sc-156005B and sc-156005C.

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

SRF siRNA (r) is recommended for the inhibition of SRF expression in rat 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

SRF (A-11): sc-25290 is recommended as a control antibody for monitoring of SRF 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 SRF gene expression knockdown using RT-PCR Primer: SRF (r)-PR: sc-156005-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. Wu, Y., et al. 2015. Effects of estrogen on growth and smooth muscle differentiation of vascular wall-resident CD34⁺ stem/progenitor cells. *Atherosclerosis* 240: 453-461.

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.