SANTA CRUZ BIOTECHNOLOGY, INC.

SRF siRNA (h): sc-36563

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 promotor elements in many muscle-specific promotors. 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.

CHROMOSOMAL LOCATION

Genetic locus: SRF (human) mapping to 6p21.1.

PRODUCT

SRF 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 SRF shRNA Plasmid (h): sc-36563-SH and SRF shRNA (h) Lentiviral Particles: sc-36563-V as alternate gene silencing products.

For independent verification of SRF (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-36563A, sc-36563B and sc-36563C.

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

SRF siRNA (h) is recommended for the inhibition of SRF 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.

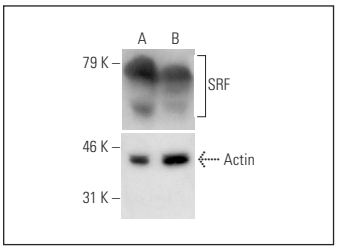
GENE EXPRESSION MONITORING

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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SRF gene expression knockdown using RT-PCR Primer: SRF (h)-PR: sc-36563-PR (20 µl, 491 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



SRF siRNA (h): sc-36563. Western blot analysis of SRF expression in non-transfected control (**A**) and SRF siRNA transfected (**B**) K-562 cells. Blot probed with SRF (H-300): sc-13029. Actin (I-19): sc-1616 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Freddie, C.T., et al. 2007. Functional interactions between the forkhead transcription factor FOXK1 and the MADS-box protein SRF. Nucleic Acids Res. 35: 5203-5212.
2. He, L., et al. 2014. Serum response factor accelerates the high glucose-induced epithelial-to-mesenchymal transition (EMT) via snail signaling in human peritoneal mesothelial cells. PLoS ONE 9: e108593.
3. Flachsbart, F., et al. 2017. Identification and characterization of two functional variants in the human longevity gene FOXO3. Nat. Commun. 8: 2063.
4. Hedrick, E., et al. 2018. TGFβ-induced lung cancer cell migration is NR4A1-dependent. Mol. Cancer Res. 16: 1991-2002.
5. Wang, C., et al. 2021. FUNDC1-dependent mitochondria-associated endoplasmic reticulum membranes are involved in angiogenesis and neoangiogenesis. Nat. Commun. 12: 2616.
6. Zheng, H.C., et al. 2022. Transcriptional regulation of ING5 and its suppressive effects on gastric cancer. Front. Oncol. 12: 918954.
7. Park, J., et al. 2023. Classification of IDH wild-type glioblastoma tumorspheres into low- and high-invasion groups based on their transcriptional program. Br. J. Cancer 129: 1061-1070.

RESEARCH USE

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