SANTA CRUZ BIOTECHNOLOGY, INC.

SCAF1 siRNA (h): sc-97648

BACKGROUND

SCAF1 (SR-related and CTD-associated factor 1), also known as SRA1 (SR-related and CTD-associated factor 1), is a 1,312 amino acid protein that belongs to the splicing factor SR family. Up-regulated by estrogens, androgens and glucocorticoids, SCAF1 may function in pre-mRNA splicing. The C-terminal domain of the SCAF1 protein interacts with the CTD of RNA polymerase II. Localizing to nucleus, SCAF1 interacts with POLR2A. Ubiquitous, the SCAF1 protein is highly expressed in fetal brain and liver, however poorly in salivary gland, heart, skin and ovary. Expressed in ovarian cancers, SCAF1 is overexpressed in colorectal carcinomas as compared to normal colonic mucosa. Studies have revealed that high SCAF1 expression is associated with statistical significant probability to the stage and the grade of ovarian cancer ($p = 0.003$ and 0.006, respectively) and to the debulking success. The SCAF1 gene is conserved in bovine, mouse and rat, and maps to human chromosome 19q13.33, between the IRF-3 and the R-Ras oncogene.

REFERENCES

1. Scorilas, A., et al. 2001. Cloning of a gene (SR-A1), encoding for a new member of the human Ser/Arg-rich family of pre-mRNA splicing factors: overexpression in aggressive ovarian cancer. Br. J. Cancer 85: 190-198.
2. Mathioudaki, K., et al. 2004. SR-A1, a member of the human pre-mRNA splicing factor family, and its expression in colon cancer progression. Biol. Chem. 385: 785-790.
3. Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. Nature 428: 529-535.
4. Katsarou, M.E., et al. 2005. Expression of the C-terminal domain of novel human SR-A1 protein: interaction with the CTD domain of RNA polymerase II. Biochem. Biophys. Res. Commun. 334: 61-68.
5. Leoutsakou, T., et al. 2006. Expression analysis and prognostic significance of the SRA1 gene, in ovarian cancer. Biochem. Biophys. Res. Commun. 344: 667-674.
6. Leoutsakou, T., et al. 2006. Prognostic significance of the expression of SR-A1, encoding a novel SR-related CTD-associated factor, in breast cancer. Biol. Chem. 387: 1613-1618.

CHROMOSOMAL LOCATION

Genetic locus: SCAF1 (human) mapping to 19q13.33.

PRODUCT

SCAF1 siRNA (h) is a pool of 2 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 SCAF1 shRNA Plasmid (h): sc-97648-SH and SCAF1 shRNA (h) Lentiviral Particles: sc-97648-V as alternate gene silencing products.

For independent verification of SCAF1 (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-97648A and sc-97648B.

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

SCAF1 siRNA (h) is recommended for the inhibition of SCAF1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SCAF1 gene expression knockdown using RT-PCR Primer: SCAF1 (h)-PR: sc-97648-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.