SANTA CRUZ BIOTECHNOLOGY, INC.

Rsf-1 siRNA (h): sc-72261

BACKGROUND

Remodeling and spacing factor 1 (Rsf-1) is a member of the chromatin-remodeling complex family of proteins that regulate gene expression and cell growth. Rsf-1 is a nuclear protein that acts as a histone chaperone and binds to another member of the chromatin-remodeling complex, hSNF2H. Together, this protein duplex regulates RNA transcription and DNA replication by both correctly spacing nucleosome arrays and by mobilizing nucleosomes when chromatin remodeling occurs. In reponse to hepatitis B infection, Rsf-1 can bind to the viral transcription activator pX, which then coactivates the transcription factor NFκB, thus supporting the life cycle of the viral genome. Additionally, Rsf-1 is thought to be a potent oncogene, with elevated expression observed in ovarian carcinomas.

REFERENCES

1. Shamay, M., et al. 2002. HBXAP, a novel PHD-finger protein, possesses transcription repression activity. Genomics 79: 523-529.
2. Huh, K.W., et al. 2002. Characterization of the mitochondrial association of hepatitis B virus X protein, HBx. Mitochondrion 1: 349-359.
3. Loyola, A., et al. 2003. Functional analysis of the subunits of the chromatin assembly factor Rsf. Mol. Cell. Biol. 23: 6759-6768.
4. Kim, S.Y., et al. 2005. Hepatitis B virus X protein sensitizes UV-induced apoptosis by transcriptional transactivation of FAS ligand gene expression. IUBMB Life 57: 651-658.
5. Leupin, O., et al. 2005. Hepatitis B virus X protein stimulates viral genome replication via a DDB1-dependent pathway distinct from that leading to cell death. J. Virol. 79: 4238-4245.
6. Minemura, M., et al. 2005. Functional analysis of transactivation by mutants of hepatitis B virus X gene in human hepatocellular carcinoma. Oncol. Rep. 14: 495-499.
7. Nordlie, M.A., et al. 2005. Genetic contributors toward increased risk for ischemic heart disease. J. Mol. Cell. Cardiol. 39: 667-679.
8. Ramadoss, P., et al. 2005. The transactivation domain of the Ah receptor is a key determinant of cellular localization and ligand-independent nucleocytoplasmic shuttling properties. Biochemistry 44: 11148-11159.

CHROMOSOMAL LOCATION

Genetic locus: RSF1 (human) mapping to 11q14.1.

PRODUCT

Rsf-1 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 Rsf-1 shRNA Plasmid (h): sc-72261-SH and Rsf-1 shRNA (h) Lentiviral Particles: sc-72261-V as alternate gene silencing products.

For independent verification of Rsf-1 (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-72261A, sc-72261B and sc-72261C.

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

Rsf-1 siRNA (h) is recommended for the inhibition of Rsf-1 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 Rsf-1 gene expression knockdown using RT-PCR Primer: Rsf-1 (h)-PR: sc-72261-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhao, X.C., et al. 2016. Overexpression of hSNF2H in glioma promotes cell proliferation, invasion, and chemoresistance through its interaction with Rsf-1. Tumour Biol. 37: 7203-7212.

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.