



RNF43 siRNA (h): sc-94164

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF43 (ring finger protein 43), also known as URCC or RNF124, is a 783 amino acid single-pass type I membrane protein of the Endoplasmic reticulum and nuclear envelope that is thought to function as an E3 ubiquitin-protein ligase. Containing one RING-type zinc finger and existing as four alternatively spliced isoforms, RNF43 is expressed in fetal kidney and lung, as well as in cancers of the lung, colon and kidney. RNF43 functions as a cytotoxic T lymphocyte tumor antigen, and is therefore considered a target for cancer immunotherapy. The gene encoding RNF43 maps to human chromosome 17q22.

REFERENCES

1. Uchida, N., et al. 2004. Ring finger protein 43 as a new target for cancer immunotherapy. *Clin. Cancer Res.* 10: 8577-8586.
2. Yagyu, R., et al. 2004. A novel oncoprotein RNF43 functions in an autocrine manner in colorectal cancer. *Int. J. Oncol.* 25: 1343-1348.
3. Sugiura, T., et al. 2008. A cancer-associated RING finger protein, RNF43, is a ubiquitin ligase that interacts with a nuclear protein, HAP95. *Exp. Cell Res.* 314: 1519-1528.
4. Miyamoto, K., et al. 2008. Proteomic identification of a PSF/p54nrb heterodimer as RNF43 oncoprotein-interacting proteins. *Proteomics* 8: 2907-2910.
5. Ardley, H.C. 2009. Ring finger ubiquitin protein ligases and their implication to the pathogenesis of human diseases. *Curr. Pharm. Des.* 15: 3697-3715.
6. Chasapis, C.T. and Spyroulias, G.A. 2009. RING finger E3 ubiquitin ligases: structure and drug discovery. *Curr. Pharm. Des.* 15: 3716-3731.

CHROMOSOMAL LOCATION

Genetic locus: RNF43 (human) mapping to 17q22.

PRODUCT

RNF43 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RNF43 shRNA Plasmid (h): sc-94164-SH and RNF43 shRNA (h) Lentiviral Particles: sc-94164-V as alternate gene silencing products.

For independent verification of RNF43 (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-94164A, sc-94164B and sc-94164C.

PROTOCOLS

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

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

RNF43 siRNA (h) is recommended for the inhibition of RNF43 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 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 RNF43 gene expression knockdown using RT-PCR Primer: RNF43 (h)-PR: sc-94164-PR (20 μ l). 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.