SANTA CRUZ BIOTECHNOLOGY, INC.

RTF1 siRNA (h): sc-89916

BACKGROUND

RTF1 (RNA polymerase-associated protein RTF1 homolog) is a 710 amino acid nuclear protein that is involved in transcription-coupled histone modification and induction of heat-shock genes. RTF1 also plays a role in transcription regulation and is thought to interact with both the Paf1 and RNA polymerase II complexes. Containing one Plus3 domain, which is utilized for modulating single-stranded DNA-binding, RTF1 is encoded by a gene that maps to human chromosome 15q15.1 and mouse chromosome 2 E5. Chromosome 15 houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

1. Hurowitz, G.I., et al. 1993. Neuropsychiatric aspects of adult-onset Tay-Sachs disease: two case reports with several new findings. J. Neuropsychiatry Clin. Neurosci. 5: 30-36.
2. Warner, M.H., et al. 2007. Rtf1 is a multifunctional component of the Paf1 complex that regulates gene expression by directing cotranscriptional histone modification. Mol. Cell. Biol. 27: 6103-6115.
3. Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. JAAPA 21: 21-25.
4. de Jong, R.N., et al. 2008. Structure and DNA binding of the human Rtf1 Plus3 domain. Structure 16: 149-159.
5. Dan, B. 2009. Angelman syndrome: current understanding and research prospects. Epilepsia 50: 2331-2339.
6. Ferrer-Bolufer, I., et al. 2009. Tyrosinemia type 1 and Angelman syndrome due to paternal uniparental isodisomy 15. J. Inherit. Metab. Dis. 32: S349-S353.

CHROMOSOMAL LOCATION

Genetic locus: RTF1 (human) mapping to 15q15.1.

PRODUCT

RTF1 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 RTF1 shRNA Plasmid (h): sc-89916-SH and RTF1 shRNA (h) Lentiviral Particles: sc-89916-V as alternate gene silencing products.

For independent verification of RTF1 (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-89916A, sc-89916B and sc-89916C.

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.

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

RTF1 siRNA (h) is recommended for the inhibition of RTF1 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 RTF1 gene expression knockdown using RT-PCR Primer: RTF1 (h)-PR: sc-89916-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.