

RQCD1 siRNA (h): sc-94449

BACKGROUND

RQCD1 (RCD1 required for cell differentiation1 homolog (*S. pombe*)) is a 299 amino acid protein that belongs to the RCD1 family. Detected in spleen, thymus, prostate, testis, ovary and intestine, RQCD1 localizes to nucleus, and is essential for the commitment to nitrogen starvation-invoked differentiation. RQCD1 interacts with c-Myb, ATF-2, RAR α , RAR β , RAR γ , RXR α , RXR β and RXR γ . The RQCD1 protein has also been identified in a complex with ATF-2 bound to target DNA. The RQCD1 gene is highly conserved throughout eukaryotes, with gene products in different species showing over 70% sequence homology. The RQCD1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *C. elegans*, *S. pombe*, *S. cerevisiae*, *K. lactis*, *E. gossypii*, *M. grisea*, *N. crassa*, *A. thaliana*, rice and *P. falciparum*, and maps to human chromosome 2q35.

REFERENCES

- Okazaki, N., Okazaki, K., Watanabe, Y., Kato-Hayashi, M., Yamamoto, M. and Okayama, H. 1998. Novel factor highly conserved among eukaryotes controls sexual development in fission yeast. *Mol. Cell. Biol.* 18: 887-895.
- Hiroi, N., Ito, T., Yamamoto, H., Ochiya, T., Jinno, S. and Okayama, H. 2002. Mammalian Rcd1 is a novel transcriptional cofactor that mediates retinoic acid-induced cell differentiation. *EMBO J.* 21: 5235-5244.
- Haas, M., Siegert, M., Schürmann, A., Sodeik, B. and Wolfes, H. 2004. c-Myb protein interacts with Rcd-1, a component of the CCR4 transcription mediator complex. *Biochemistry* 43: 8152-8159.
- Garces, R.G., Gillon, W. and Pai, E.F. 2007. Atomic model of human Rcd-1 reveals an armadillo-like-repeat protein with *in vitro* nucleic acid binding properties. *Protein Sci.* 16: 176-188.
- Garapaty, S., Mahajan, M.A. and Samuels, H.H. 2008. Components of the CCR4-NOT complex function as nuclear hormone receptor coactivators via association with the NRC-interacting Factor NIF-1. *J. Biol. Chem.* 283: 6806-6816.
- Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612054. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Gauci, S., Helbig, A.O., Slijper, M., Krijgsvelde, J., Heck, A.J. and Mohammed, S. 2009. Lys-N and trypsin cover complementary parts of the phosphoproteome in a refined SCX-based approach. *Anal. Chem.* 81: 4493-4501.
- Ajiro, M., Katagiri, T., Ueda, K., Nakagawa, H., Fukukawa, C., Lin, M.L., Park, J.H., Nishidate, T., Daigo, Y. and Nakamura, Y. 2009. Involvement of RQCD1 overexpression, a novel cancer-testis antigen, in the Akt pathway in breast cancer cells. *Int. J. Oncol.* 35: 673-681.
- Ajiro, M., Nishidate, T., Katagiri, T. and Nakamura, Y. 2010. Critical involvement of RQCD1 in the EGFR-Akt pathway in mammary carcinogenesis. *Int. J. Oncol.* 37: 1085-1093.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: CNOT9 (human) mapping to 2q35.

PRODUCT

RQCD1 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 RQCD1 shRNA Plasmid (h): sc-94449-SH and RQCD1 shRNA (h) Lentiviral Particles: sc-94449-V as alternate gene silencing products.

For independent verification of RQCD1 (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-94449A, sc-94449B and sc-94449C.

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

RQCD1 siRNA (h) is recommended for the inhibition of RQCD1 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 RQCD1 gene expression knockdown using RT-PCR Primer: RQCD1 (h)-PR: sc-94449-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.