

RCL1 siRNA (m): sc-152774

BACKGROUND

RCL1 (RNA terminal phosphate cyclase-like 1), also known as RNAC, RPC2, RPCL1 or RTC2, is a 373 amino acid protein that localizes to the nucleolus and belongs to the type two subfamily of RNA 3'-terminal cyclases. Involved in the proper maturation of the small 18S ribosomal subunit, RCL1 plays a role in the biogenesis of the 40S ribosomal subunit, specifically in early pre-rRNA processing steps at the A₀, A₁ and A₂ 40S cleavage sites. Processing at the 40S cleavage sites is crucial for correct 18S RNA formation. Human RCL1 shares 97% sequence identity with its mouse counterpart, suggesting a conserved role between species.

REFERENCES

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3. Wegierski, T., Billy, E., Nasr, F. and Filipowicz, W. 2001. Bms1p, a G-domain-containing protein, associates with Rcl1p and is required for 18S rRNA biogenesis in yeast. *RNA* 7: 1254-1267.
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5. Karbstein, K., Jonas, S. and Doudna, J.A. 2005. An essential GTPase promotes assembly of preribosomal RNA processing complexes. *Mol. Cell* 20: 633-643.
6. Karbstein, K. and Doudna, J.A. 2006. GTP-dependent formation of a ribonucleoprotein subcomplex required for ribosome biogenesis. *J. Mol. Biol.* 356: 432-443.

CHROMOSOMAL LOCATION

Genetic locus: Rcl1 (mouse) mapping to 19 C1.

PRODUCT

RCL1 siRNA (m) 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 RCL1 shRNA Plasmid (m): sc-152774-SH and RCL1 shRNA (m) Lentiviral Particles: sc-152774-V as alternate gene silencing products.

For independent verification of RCL1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152774A, sc-152774B and sc-152774C.

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

RCL1 siRNA (m) is recommended for the inhibition of RCL1 expression in mouse 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 RCL1 gene expression knockdown using RT-PCR Primer: RCL1 (m)-PR: sc-152774-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.