

reticulocalbin-3 siRNA (h): sc-97652

BACKGROUND

Reticulocalbin-3, also known as RCN3 or EF-hand calcium-binding protein RLP49, is a 328 amino acid protein of the endoplasmic reticulum lumen that contains 6 EF-hand domains and belongs to the CREC (cab45/reticulocalbin/ERC45/calumenin) family. Reticulocalbin-3 contains five Arg-Xaa-Xaa-Arg motifs, which function as target sequences of SPCs (subtilisin-like proprotein convertases), a family of serine endoproteases that proteolytically activate proproteins. The synthesis of one such member, PACE4 (paired basic amino acid cleaving enzyme 4), is influenced by association and coexpression with reticulocalbin-3. The gene encoding reticulocalbin-3 maps to human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

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3. Wang, L., et al. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. *Clin. Cancer Res.* 6: 2988-2993.
4. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
5. Leeb, T., et al. 2004. Comparative human-mouse-rat sequence analysis of the ICAM gene cluster on HSA 19p13.2 and a 185-kb porcine region from SSC 2q. *Gene* 343: 239-244.
6. Tsuji, A., et al. 2006. A proteomic approach reveals transient association of reticulocalbin-3, a novel member of the CREC family, with the precursor of subtilisin-like proprotein convertase, PACE4. *Biochem. J.* 396: 51-59.

CHROMOSOMAL LOCATION

Genetic locus: RCN3 (human) mapping to 19q13.33.

PRODUCT

reticulocalbin-3 siRNA (h) is a pool of 2 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 reticulocalbin-3 shRNA Plasmid (h): sc-97652-SH and reticulocalbin-3 shRNA (h) Lentiviral Particles: sc-97652-V as alternate gene silencing products.

For independent verification of reticulocalbin-3 (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-97652A and sc-97652B.

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

reticulocalbin-3 siRNA (h) is recommended for the inhibition of reticulocalbin-3 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 reticulocalbin-3 gene expression knockdown using RT-PCR Primer: reticulocalbin-3 (h)-PR: sc-97652-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.

PROTOCOLS

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