SANTA CRUZ BIOTECHNOLOGY, INC.

# LEO1 siRNA (h): sc-90032

## BACKGROUND

Leo1 is a member of the RNA polymerase II-associated Paf1 complex, which is involved in transcription elongation in *S. cerevisiae*. The mammalian homolog of Leo1 is known as LEO1 or RDL (replicative senescence down-regulated leo1-like protein) and is a 666 amino acid protein that localizes to the nucleus and exists as multiple alternatively spliced isoforms. Highly expressed in heart and skeletal muscle with weaker expression in liver and placenta, LEO1 functions as a component of the multi-protein Paf1 complex and is thought to be involved in initiation and elongation, as well as in RNA processing and histone methylation. The gene encoding LEO1 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

## REFERENCES


1. Squazzo, S.L., Costa, P.J., Lindstrom, D.L., Kumer, K.E., Simic, R., Jennings, J.L., Link, A.J., Arndt, K.M. and Hartzog, G.A. 2002. The Paf1 complex physically and functionally associates with transcription elongation factors *in vivo*. EMBO J. 21: 1764-1774.
2. Zhao, L., Tong, T. and Zhang, Z. 2005. Expression of the LEO1-like domain of replicative senescence down-regulated LEO1-like (RDL) protein promotes senescence of 2BS fibroblasts. FASEB J. 19: 521-532.
3. Rozenblatt-Rosen, O., Hughes, C.M., Nannepaga, S.J., Shanmugam, K.S., Copeland, T.D., Guszczynski, T., Resau, J.H. and Meyerson, M. 2005. The parafibromin tumor suppressor protein is part of a human Paf1 complex. Mol. Cell. Biol. 25: 612-620.
4. Yart, A., Gstaiger, M., Wirbelauer, C., Pecnik, M., Anastasiou, D., Hess, D. and Krek, W. 2005. The HRPT2 tumor suppressor gene product parafibromin associates with human Paf1 and RNA polymerase II. Mol. Cell. Biol. 25: 5052-5060.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610507. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Chaudhary, K., Deb, S., Moniaux, N., Ponnusamy, M.P. and Batra, S.K. 2007. Human RNA polymerase II-associated factor complex: dysregulation in cancer. Oncogene 26: 7499-7507.
7. Nordick, K., Hoffman, M.G., Betz, J.L. and Jaehning, J.A. 2008. Direct interactions between the Paf1 complex and a cleavage and polyadenylation factor are revealed by dissociation of Paf1 from RNA polymerase II. Eukaryotic Cell 7: 1158-1167.


## CHROMOSOMAL LOCATION

Genetic locus: LEO1 (human) mapping to 15q21.2.

## 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.

## PRODUCT

LEO1 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 LEO1 shRNA Plasmid (h): sc-90032-SH and LEO1 shRNA (h) Lentiviral Particles: sc-90032-V as alternate gene silencing products.

For independent verification of LEO1 (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-90032A, sc-90032B and sc-90032C.

## 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

LEO1 siRNA (h) is recommended for the inhibition of LEO1 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 LEO1 gene expression knockdown using RT-PCR Primer: LEO1 (h)-PR: sc-90032-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.