



# Ribosomal Protein L7A siRNA (h): sc-76433

## BACKGROUND

Ribosomes, the organelles that catalyze protein synthesis, are composed of a small subunit (40S) and a large subunit (60S) that consist of over 80 distinct ribosomal proteins. Mammalian ribosomal proteins are encoded by multigene families that contain processed pseudogenes and one functional intron-containing gene within their coding regions. Ribosomal Protein L7A, also known as RPL7A or SURF-3, is a 266 amino acid protein that interacts with select nuclear hormone receptors, such as TR (thyroid hormone receptor), and, via this interaction, is able to inhibit receptor function. The gene encoding Ribosomal Protein L7A maps to chromosome 9q34.2 and is subject to a recombination event which activates the Trk (tyrosine kinase receptor) oncogene and may play a role in oncogenesis. Like most ribosomal proteins, Ribosomal Protein L7A exists as multiple processed pseudogenes that are scattered throughout the genome.

## REFERENCES

1. Giallongo, A., et al. 1989. Ribosomal Protein L7A is encoded by a gene (Surf-3) within the tightly clustered mouse surfet locus. *Mol. Cell. Biol.* 9: 224-231.
2. Yon, J., et al. 1993. The organization and conservation of the human Surfet gene cluster and its localization telomeric to the c-Abl and can proto-oncogenes at chromosome band 9q34.1. *Hum. Mol. Genet.* 2: 237-240.
3. Mor, O., et al. 1996. A high frequency polymorphism in the candidate region for tuberous sclerosis 1 (TSC1) at 9q34. *Ann. Hum. Genet.* 60: 259-260.
4. Kenmochi, N., et al. 1998. A map of 75 human ribosomal protein genes. *Genome Res.* 8: 509-523.
5. Zhu, Y., et al. 2001. Modulation of expression of Ribosomal Protein L7A (rpl7a) by ethanol in human breast cancer cells. *Breast Cancer Res. Treat.* 69: 29-38.
6. Angiolillo, A., et al. 2002. The human homologue of the mouse Surf5 gene encodes multiple alternatively spliced transcripts. *Gene* 284: 169-178.

## CHROMOSOMAL LOCATION

Genetic locus: RPL7A (human) mapping to 9q34.2.

## PRODUCT

Ribosomal Protein L7A 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ribosomal Protein L7A shRNA Plasmid (h): sc-76433-SH and Ribosomal Protein L7A shRNA (h) Lentiviral Particles: sc-76433-V as alternate gene silencing products.

For independent verification of Ribosomal Protein L7A (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-76433A, sc-76433B and sc-76433C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Ribosomal Protein L7A siRNA (h) is recommended for the inhibition of Ribosomal Protein L7A 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  $\mu$ M in 66  $\mu$ 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 Ribosomal Protein L7A gene expression knockdown using RT-PCR Primer: Ribosomal Protein L7A (h)-PR: sc-76433-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.