



Ribosomal Protein L15 siRNA (h): sc-78295

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 L15, also known as RPL15, EC45 or RPLY10, is a 204 amino acid protein that localizes to the cytoplasm and functions as a component of the 60S subunit, playing a role in protein translation. Existing as multiple alternatively spliced isoforms, Ribosomal Protein L15 is overexpressed in esophageal and gastric tumors, suggesting a role in carcinogenesis. Like most ribosomal proteins, Ribosomal Protein L9 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

1. Wool, I.G., Chan, Y.L. and Glück, A. 1995. Structure and evolution of mammalian ribosomal proteins. *Biochem. Cell Biol.* 73: 933-947.
2. Kenmochi, N., Kawaguchi, T., Rozen, S., Davis, E., Goodman, N., Hudson, T.J., Tanaka, T. and Page, D.C. 1998. A map of 75 human ribosomal protein genes. *Genome Res.* 8: 509-523.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604174. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Wang, Q., Yang, C., Zhou, J., Wang, X., Wu, M. and Liu, Z. 2001. Cloning and characterization of full-length human Ribosomal Protein L15 cDNA which was overexpressed in esophageal cancer. *Gene* 263: 205-209.
5. Yoshihama, M., Uechi, T., Asakawa, S., Kawasaki, K., Kato, S., Higa, S., Maeda, N., Minoshima, S., Tanaka, T., Shimizu, N. and Kenmochi, N. 2002. The human ribosomal protein genes: sequencing and comparative analysis of 73 genes. *Genome Res.* 12: 379-390.
6. Mazumder, B., Sampath, P., Seshadri, V., Maitra, R.K., DiCorleto, P.E. and Fox, P.L. 2003. Regulated release of L13a from the 60S ribosomal subunit as a mechanism of transcript-specific translational control. *Cell* 115: 187-198.
7. Kapp, L.D. and Lorsch, J.R. 2004. The molecular mechanics of eukaryotic translation. *Annu. Rev. Biochem.* 73: 657-704.
8. Wang, H., Zhao, L.N., Li, K.Z., Ling, R., Li, X.J. and Wang, L. 2006. Over-expression of Ribosomal Protein L15 is associated with cell proliferation in gastric cancer. *BMC Cancer* 6: 91.

CHROMOSOMAL LOCATION

Genetic locus: RPL15 (human) mapping to 3p24.2.

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

Ribosomal Protein L15 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 Ribosomal Protein L15 shRNA Plasmid (h): sc-78295-SH and Ribosomal Protein L15 shRNA (h) Lentiviral Particles: sc-78295-V as alternate gene silencing products.

For independent verification of Ribosomal Protein L15 (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-78295A, sc-78295B and sc-78295C.

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

Ribosomal Protein L15 siRNA (h) is recommended for the inhibition of Ribosomal Protein L15 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 Ribosomal Protein L15 gene expression knockdown using RT-PCR Primer: Ribosomal Protein L15 (h)-PR: sc-78295-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.