

Ribosomal Protein L10a siRNA (h): sc-95362

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 multi-gene families that contain processed pseudogenes and one functional intron-containing gene within their coding regions. Ribosomal Protein L10a, also known as RPL10A, NEDD6 (neural precursor cell expressed, developmentally downregulated 6) or Csa-19, is a 217 amino acid protein that is a component of the 60S subunit. Localized to the cytoplasm and expressed ubiquitously in malignant cells and normal tissues, Ribosomal Protein L10a belongs to the L1P family of ribosomal proteins and functions in protein synthesis. The expression of Ribosomal Protein L10a is downregulated by the immunosuppressive drug Cyclosporin-A (Csa). Like most ribosomal proteins, Ribosomal Protein L10a exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

1. Fiscarò, N., Katerelos, M., Williams, J., Power, D., D'Apice, A. and Pearse, M. 1995. Identification of genes downregulated in the thymus by cyclosporin-A: preliminary characterization of clone CSA-19. *Mol. Immunol.* 32: 565-572.
2. Olvera, J. and Wool, I.G. 1996. The primary structure of rat ribosomal protein L10a. *Biochem. Biophys. Res. Commun.* 220: 954-957.
3. Balcer-Kubiczek, E.K., Meltzer, S.J., Han, L.H., Zhang, X.F., Shi, Z.M., Harrison, G.H. and Abraham, J.M. 1997. Csa-19, a radiation-responsive human gene, identified by an unbiased two-gel cDNA library screening method in human cancer cells. *Oncogene* 14: 3051-3057.
4. Wu, G. and Hashimoto, T. 1999. Sequence analysis of genes encoding ribosomal proteins of amitochondriate protists: L1 of *Trichomonas vaginalis* and L29 of *Giardia lamblia*. *Parasitol. Int.* 48: 135-144.
5. Mendez-Alvarez, S., Rüfenacht, K. and Eggen, R.I. 2000. The oxidative stress-sensitive yap1 null strain of *Saccharomyces cerevisiae* becomes resistant due to increased carotenoid levels upon the introduction of the *Chlamydomonas reinhardtii* cDNA, coding for the 60S Ribosomal Protein L10a. *Biochem. Biophys. Res. Commun.* 267: 953-959.
6. Tripodis, N., Palmer, S., Phillips, S., Milne, S., Beck, S. and Ragoussis, J. 2000. Construction of a high-resolution 2.5-Mb transcript map of the human 6p21.2-6p21.3 region immediately centromeric of the major histocompatibility complex. *Genome Res.* 10: 454-472.
7. Koga, M., Shichijo, S., Yamada, A., Ashihara, J., Sawamizu, H., Kusakawa, J. and Itoh, K. 2003. Identification of Ribosomal Proteins S2 and L10a as tumor antigens recognized by HLA-A26-restricted CTL. *Tissue Antigens* 61: 136-145.
8. Lü, B., Xu, J., Zhu, Y., Zhang, H. and Lai, M. 2007. Systemic analysis of the differential gene expression profile in a colonic adenoma-normal SSH library. *Clin. Chim. Acta* 378: 42-47.

CHROMOSOMAL LOCATION

Genetic locus: RPL10A (human) mapping to 6p21.31.

PRODUCT

Ribosomal Protein L10a siRNA (h) is a target-specific 19-25 nt siRNA 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 L10a shRNA Plasmid (h): sc-95362-SH and Ribosomal Protein L10a shRNA (h) Lentiviral Particles: sc-95362-V as alternate gene silencing 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

Ribosomal Protein L10a siRNA (h) is recommended for the inhibition of Ribosomal Protein L10a 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 L10a gene expression knockdown using RT-PCR Primer: Ribosomal Protein L10a (h)-PR: sc-95362-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.