

Ribosomal Protein L23a siRNA (h): sc-94170

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 L23a, also known as RPL23A or MDA20, is a 156 amino acid protein that exists as part of the 60S ribosomal subunit and is expressed at high levels in heart, pancreas and skeletal muscle. Localized to the cytoplasm, Ribosomal Protein L23a is thought to be involved in the mediation of growth inhibition, possibly functioning as a target molecule for interferons (IFNs). Like most ribosomal proteins, Ribosomal Protein L23a exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

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2. Fan, W., et al. 1997. Cloning, sequencing, gene organization, and localization of the human ribosomal protein RPL23A gene. *Genomics* 46: 234-239.
3. Jiang, H., et al. 1997. Suppression of human ribosomal protein L23A expression during cell growth inhibition by interferon- β . *Oncogene* 14: 473-480.
4. Jäkel, S. and Görlich, D. 1998. Importin beta, transportin, RanBP5 and RanBP7 mediate nuclear import of ribosomal proteins in mammalian cells. *EMBO J.* 17: 4491-4502.
5. Uechi, T., et al. 2001. A complete map of the human ribosomal protein genes: assignment of 80 genes to the cytogenetic map and implications for human disorders. *Genomics* 72: 223-230.
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CHROMOSOMAL LOCATION

Genetic locus: RPL23A (human) mapping to 17q11.2.

PRODUCT

Ribosomal Protein L23a 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 L23a shRNA Plasmid (h): sc-94170-SH and Ribosomal Protein L23a shRNA (h) Lentiviral Particles: sc-94170-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 L23a siRNA (h) is recommended for the inhibition of Ribosomal Protein L23a 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.

GENE EXPRESSION MONITORING

Ribosomal Protein L23a (3E11): sc-517097 is recommended as a control antibody for monitoring of Ribosomal Protein L23a gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ribosomal Protein L23a gene expression knockdown using RT-PCR Primer: Ribosomal Protein L23a (h)-PR: sc-94170-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.