

Ribosomal Protein L19 siRNA (h): sc-93859

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 L19 is a 196 amino acid protein that is a component of the 60S subunit. Localized to the cytoplasm, Ribosomal Protein L19 belongs to the L19e family of ribosomal proteins and functions in protein synthesis. The expression of Ribosomal Protein L19 is upregulated in breast cancers and its overexpression is used as a prognostic marker for prostate cancer. Like most ribosomal proteins, Ribosomal Protein L19 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

1. Nakamichi, N.N., Kao, F.T., Wasmuth, J. and Roufa, D.J. 1986. Ribosomal protein gene sequences map to human chromosomes 5, 8, and 17. *Somat. Cell Mol. Genet.* 12: 225-236.
2. Davies, B., Feo, S., Heard, E. and Fried, M. 1989. A strategy to detect and isolate an intron-containing gene in the presence of multiple processed pseudogenes. *Proc. Natl. Acad. Sci. USA* 86: 6691-6695.
3. Feo, S., Davies, B. and Fried, M. 1992. The mapping of seven intron-containing ribosomal protein genes shows they are unlinked in the human genome. *Genomics* 13: 201-207.
4. Davies, B. and Fried, M. 1995. The L19 Ribosomal Protein gene (RPL19): gene organization, chromosomal mapping, and novel promoter region. *Genomics* 25: 372-380.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 180466. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Leirdal, M., Shadidy, M., Røsok, Ø and Sioud, M. 2004. Identification of genes differentially expressed in breast cancer cell line SKBR3: potential identification of new prognostic biomarkers. *Int. J. Mol. Med.* 14: 217-222.

CHROMOSOMAL LOCATION

Genetic locus: RPL19 (human) mapping to 17q12.

PRODUCT

Ribosomal Protein L19 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 L19 shRNA Plasmid (h): sc-93859-SH and Ribosomal Protein L19 shRNA (h) Lentiviral Particles: sc-93859-V as alternate gene silencing products.

For independent verification of Ribosomal Protein L19 (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-93859A, sc-93859B and sc-93859C.

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 L19 siRNA (h) is recommended for the inhibition of Ribosomal Protein L19 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 L19 (K-12): sc-100830 is recommended as a control antibody for monitoring of Ribosomal Protein L19 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 λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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 λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (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 L19 gene expression knockdown using RT-PCR Primer: Ribosomal Protein L19 (h)-PR: sc-93859-PR (20 μ l, 468 bp). 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.