



Ribosomal Protein L14 siRNA (h): sc-78387

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 L14, also known as L14, RPL14, RL14, CTG-B33 or CAG-ISL-7, is a 213 amino acid protein that is a component of the 60S subunit. Localized to the cytoplasm, Ribosomal Protein L14 belongs to the L14e family of ribosomal proteins and functions in protein synthesis. Ribosomal Protein L14 contains a basic region-leucine zipper (bZIP)-like domain and a polymorphic polyalanine tract. The polyalanine tract is believed to participate in transcription regulation. Like most ribosomal proteins, Ribosomal Protein L14 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

1. Aoki, M., et al. 1996. Identification of trinucleotide repeat-containing genes in human pancreatic islets. *Diabetes* 45: 157-164.
2. De Rinaldis, E., et al. 1998. The binding sites for *Xenopus laevis* FIII/YY1 in the first exon of L1 and L14 ribosomal protein genes are dispensable for promoter expression. *Eur. J. Biochem.* 255: 563-569.
3. Shriver, S.P., et al. 1998. Trinucleotide repeat length variation in the human Ribosomal Protein L14 gene (RPL14): localization to 3p21.3 and loss of heterozygosity in lung and oral cancers. *Mutat. Res.* 406: 9-23.
4. Bengel, D., et al. 1998. Distribution of the B33 CTG repeat polymorphism in a subtype of schizophrenia. *Eur. Arch. Psychiatry Clin. Neurosci.* 248: 78-81.
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.
6. Hasegawa, H., et al. 2002. Autoantibody against Ribosomal Protein L14 in patients with systemic lupus erythematosus. *Clin. Exp. Rheumatol.* 20: 139-144.

CHROMOSOMAL LOCATION

Genetic locus: RPL14 (human) mapping to 3p22.1.

PRODUCT

Ribosomal Protein L14 siRNA (h) is a pool of 2 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 L14 shRNA Plasmid (h): sc-78387-SH and Ribosomal Protein L14 shRNA (h) Lentiviral Particles: sc-78387-V as alternate gene silencing products.

For independent verification of Ribosomal Protein L14 (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-78387A and sc-78387B.

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 L14 siRNA (h) is recommended for the inhibition of Ribosomal Protein L14 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 L14 (A-10): sc-518234 is recommended as a control antibody for monitoring of Ribosomal Protein L14 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 L14 gene expression knockdown using RT-PCR Primer: Ribosomal Protein L14 (h)-PR: sc-78387-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.