



Ribosomal Protein S17 siRNA (h): sc-90116

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 S17, also known as RPS17, RPS17L1 or RPS17L2, is a 135 amino acid protein that is a component of the 40S subunit. Localized to the cytoplasm and expressed ubiquitously, Ribosomal Protein S17 belongs to the S17E family of ribosomal proteins and functions in protein synthesis. Mutations in the gene encoding Ribosomal Protein S17 are associated with Diamond-Blackfan anemia (DBA), a rare congenital disorder characterized by defective differentiation of pro-erythroblasts. Like most ribosomal proteins, Ribosomal Protein S17 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

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2. Maki, C., et al. 1989. The *Drosophila melanogaster* RPS17 gene encoding Ribosomal Protein S17. *Gene* 79: 289-298.
3. Thompson, M.D., et al. 1992. Characterization of RPS17, RP19 and RPL15: three nucleus-encoded plastid ribosomal protein genes. *Plant Mol. Biol.* 18: 931-944.
4. Schultes, N.P., et al. 2000. Maize high chlorophyll fluorescent 60 mutation is caused by an Ac disruption of the gene encoding the chloroplast ribosomal small subunit protein 17. *Plant J.* 21: 317-327.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 180472. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Cmejla, R., et al. 2007. Ribosomal Protein S17 gene (RPS17) is mutated in Diamond-Blackfan anemia. *Hum. Mutat.* 28: 1178-1182.

CHROMOSOMAL LOCATION

Genetic locus: RPS17 (human) mapping to 15q25.2.

PRODUCT

Ribosomal Protein S17 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 S17 shRNA Plasmid (h): sc-90116-SH and Ribosomal Protein S17 shRNA (h) Lentiviral Particles: sc-90116-V as alternate gene silencing products.

For independent verification of Ribosomal Protein S17 (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-90116A and sc-90116B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 S17 siRNA (h) is recommended for the inhibition of Ribosomal Protein S17 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 S17 (40-K): sc-100835 is recommended as a control antibody for monitoring of Ribosomal Protein S17 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 S17 gene expression knockdown using RT-PCR Primer: Ribosomal Protein S17 (h)-PR: sc-90116-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.