SANTA CRUZ BIOTECHNOLOGY, INC.

Ribosomal Protein S21 siRNA (h): sc-76401

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 S21 (RPS21), which is also known as 40S ribosomal protein S21 or 8.2 kDa differentiation factor, is an 83 amino acid protein which belongs to the ribosomal protein S21e family. Ribosomal Protein S21 is part of the 40S subunit and localizes to cytoplasm. Alternative Ribosomal Protein S21 splice variants have been described, although none have been verified. Like most ribosomal proteins, Ribosomal Protein S21 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

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2. Bhat, K.S. and Morrison, S.G. 1993. Primary structure of human ribosomal protein S21. Nucleic Acids Res. 21: 2939.
3. Kostanyan, I.A., et al. 1994. A new human leukemia cell 8.2 kDa differentiation factor: isolation and primary structure. FEBS Lett. 356: 327-329.
4. Kenmochi, N., et al. 1998. A map of 75 human ribosomal protein genes. Genome Res. 8: 509-523.
5. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 180477. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Smirnova, E.V., et al. 2000. Cloning and characterization of the human ribosomal protein S21 gene. Bioorg. Khim. 26: 392-396.
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CHROMOSOMAL LOCATION

Genetic locus: RPS21 (human) mapping to 20q13.33.

PRODUCT

Ribosomal Protein S21 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ribosomal Protein S21 shRNA Plasmid (h): sc-76401-SH and Ribosomal Protein S21 shRNA (h) Lentiviral Particles: sc-76401-V as alternate gene silencing products.

For independent verification of Ribosomal Protein S21 (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-76401A and sc-76401B.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Ribosomal Protein S21 siRNA (h) is recommended for the inhibition of Ribosomal Protein S21 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 µM in 66 µl. 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 S21 (G-11): sc-514411 is recommended as a control antibody for monitoring of Ribosomal Protein S21 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RESEARCH USE

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