SANTA CRUZ BIOTECHNOLOGY, INC.

Ribosomal Protein S13 siRNA (h): sc-96869

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 S13 (RPS13), also known as 40S ribosomal protein S13, is a 151 amino acid cytoplasmic protein belonging to the Ribosomal Protein S15P family. The gene encoding Ribosomal Protein S13 maps to human chromosome 11p15.1 and mouse chromosome 7 F1 and contains multiple phosphorylated residues. Like most ribosomal proteins, Ribosomal Protein S13 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

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2. Chadeneau, C., et al. 1993. Cloning and analysis of the human S13 ribosomal protein cDNA. Nucleic Acids Res. 21: 2945.
3. Kenmochi, N., et al. 1998. A map of 75 human Ribosomal Protein genes. Genome Res. 8: 509-523.
4. Caldwell, G.M., et al. 2001. Mapping of genes and transcribed sequences in a gene rich 400-kb region on human chromosome 11p15.1→p14. Cytogenet. Cell Genet. 92: 103-107.
5. Shi, Y., et al. 2004. Ribosomal Proteins S13 and L23 promote multidrug resistance in gastric cancer cells by suppressing drug-induced apoptosis. Exp. Cell Res. 296: 337-346.
6. Malygin, A., et al. 2005. Human Ribosomal Protein S13: cloning, expression, refolding, and structural stability. Biochim. Biophys. Acta 1747: 93-97.
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CHROMOSOMAL LOCATION

Genetic locus: RPS13 (human) mapping to 11p15.1.

PRODUCT

Ribosomal Protein S13 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ribosomal Protein S13 shRNA Plasmid (h): sc-96869-SH and Ribosomal Protein S13 shRNA (h) Lentiviral Particles: sc-96869-V as alternate gene silencing products.

For independent verification of Ribosomal Protein S13 (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-96869A, sc-96869B and sc-96869C.

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 S13 siRNA (h) is recommended for the inhibition of Ribosomal Protein S13 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 S13 (C-3): sc-398690 is recommended as a control antibody for monitoring of Ribosomal Protein S13 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ribosomal Protein S13 gene expression knockdown using RT-PCR Primer: Ribosomal Protein S13 (h)-PR: sc-96869-PR (20 µl). 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.