



Ribosomal Protein S18 siRNA (h): sc-95346

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 S18, also designated 40S ribosomal protein S18, RPS18, D6S218E, KE3 or HKE3, is a 152 amino acid cytoplasmic protein belonging to the ribosomal protein S13P family. A component of the 40S subunit, Ribosomal Protein S18 is a known binding partner of Cofilin and has been suggested to be a novel substrate for CaMKII. The gene encoding Ribosomal Protein S18 maps to human chromosome 6p21.32, and like most ribosomal proteins, Ribosomal Protein S18 exists as multiple processed pseudogenes that are scattered throughout the genome.

REFERENCES

1. Chan, Y.L., Paz, V. and Wool, I.G. 1991. The primary structure of rat ribosomal protein S18. *Biochem. Biophys. Res. Commun.* 178: 1212-1218.
2. Chassin, D., Bellet, D. and Koman, A. 1993. The human homolog of ribosomal protein S18. *Nucleic Acids Res.* 21: 745.
3. Wool, I.G., Chan, Y.L. and Glück, A. 1995. Structure and evolution of mammalian ribosomal proteins. *Biochem. Cell Biol.* 73: 933-947.
4. Kenmochi, N., Kawaguchi, T., Rozen, S., Davis, E., Goodman, N., Hudson, T.J., Tanaka, T. and Page, D.C. 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: 180473. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Mishra-Gorur, K., Singer, H.A. and Castellot, J.J. 2002. The S18 ribosomal protein is a putative substrate for Ca²⁺/calmodulin-activated protein kinase II. *J. Biol. Chem.* 277: 33537-33540.
7. Kusui, K., Sasaki, H., Adachi, R., Matsui, S., Yamamoto, K., Yamaguchi, T., Kasahara, T. and Suzuki, K. 2004. Ribosomal protein S18 identified as a cofilin-binding protein by using phage display library. *Mol. Cell. Biochem.* 262: 187-193.

CHROMOSOMAL LOCATION

Genetic locus: RPS18 (human) mapping to 6p21.32.

PRODUCT

Ribosomal Protein S18 siRNA (h) is a target-specific 19-25 nt siRNA 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 S18 shRNA Plasmid (h): sc-95346-SH and Ribosomal Protein S18 shRNA (h) Lentiviral Particles: sc-95346-V as alternate gene silencing 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 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 S18 siRNA (h) is recommended for the inhibition of Ribosomal Protein S18 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ribosomal Protein S18 gene expression knockdown using RT-PCR Primer: Ribosomal Protein S18 (h)-PR: sc-95346-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.

PROTOCOLS

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