

Ribosomal Protein L18 siRNA (h): sc-97249

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 L18, also known as RPL18, is a 188 amino acid protein that localizes to the cytoplasm and exists as a component of the 60S ribosomal subunit, playing a role in protein translation. Like most ribosomal proteins, Ribosomal Protein L18 exists as multiple processed pseudogenes that are scattered throughout the genome. The gene encoding Ribosomal Protein L18 maps to human chromosome 19, which is the genetic home for a number of immunoglobulin superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

1. Puder, M., Barnard, G.F., Staniunas, R.J., Steele, G.D. and Chen, L.B. 1993. Nucleotide and deduced amino acid sequence of human ribosomal protein L18. *Biochim. Biophys. Acta* 1216: 134-136.
2. Wool, I.G., Chan, Y.L. and Glück, A. 1995. Structure and evolution of mammalian ribosomal proteins. *Biochem. Cell Biol.* 73: 933-947.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: RPL18 (human) mapping to 19q13.33.

PRODUCT

Ribosomal Protein L18 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 L18 shRNA Plasmid (h): sc-97249-SH and Ribosomal Protein L18 shRNA (h) Lentiviral Particles: sc-97249-V as alternate gene silencing products.

For independent verification of Ribosomal Protein L18 (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-97249A and sc-97249B.

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 L18 siRNA (h) is recommended for the inhibition of Ribosomal Protein L18 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 L18 (3D5): sc-293359 is recommended as a control antibody for monitoring of Ribosomal Protein L18 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 L18 gene expression knockdown using RT-PCR Primer: Ribosomal Protein L18 (h)-PR: sc-97249-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cervantes-Salazar, M., Angel-Ambrocio, A.H., Soto-Acosta, R., Bautista-Carbajal, P., Hurtado-Monzon, A.M., Alcaraz-Estrada, S.L., Ludert, J.E. and Del Angel, R.M. 2015. Dengue virus NS1 protein interacts with the ribosomal protein RPL18: this interaction is required for viral translation and replication in Huh-7 cells. *Virology* 484: 113-26.

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.