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# Ribosomal Protein L13A siRNA (m): sc-152895

## 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 L13A, also known as RPL13A or 23 kDa highly basic protein, is a 203 amino acid cytoplasmic protein that belongs to the Ribosomal Protein L13P family. A component of the 60S subunit, Ribosomal Protein L13A exists as multiple processed pseudogenes that are scattered throughout the genome. The gene encoding Ribosomal Protein L13A maps to human chromosome 19q13.42.

## REFERENCES

1. Wool, I.G., et al. 1995. Structure and evolution of mammalian Ribosomal Proteins. *Biochem. Cell Biol.* 73: 933-947.
2. Kenmochi, N., et al. 1998. A map of 75 human Ribosomal Protein genes. *Genome Res.* 8: 509-523.
3. Higa, S., et al. 1999. Gene organization and sequence of the region containing the Ribosomal Protein genes RPL13A and RPS11 in the human genome and conserved features in the mouse genome. *Gene* 240: 371-377.
4. Mazumder, B., et al. 2003. Regulated release of L13a from the 60S Ribosomal subunit as a mechanism of transcript-specific translational control. *Cell* 115: 187-198.
5. Kapp, L.D., et al. 2004. The molecular mechanics of eukaryotic translation. *Annu. Rev. Biochem.* 73: 657-704.
6. Chaudhuri, S., et al. 2007. Human Ribosomal Protein L13a is dispensable for canonical ribosome function but indispensable for efficient rRNA methylation. *RNA* 13: 2224-2237.

## CHROMOSOMAL LOCATION

Genetic locus: Rpl13a (mouse) mapping to 7 B4.

## PRODUCT

Ribosomal Protein L13A siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ribosomal Protein L13A shRNA Plasmid (m): sc-152895-SH and Ribosomal Protein L13A shRNA (m) Lentiviral Particles: sc-152895-V as alternate gene silencing products.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}$  C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}$  C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Ribosomal Protein L13A siRNA (m) is recommended for the inhibition of Ribosomal Protein L13A expression in mouse 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  $\mu$ M in 66  $\mu$ 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 L13A (C-11): sc-390131 is recommended as a control antibody for monitoring of Ribosomal Protein L13A gene expression knock-down 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 L13A gene expression knockdown using RT-PCR Primer: Ribosomal Protein L13A (m)-PR: sc-152895-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.