SANTA CRUZ BIOTECHNOLOGY, INC.

Ribosomal Protein L13 siRNA (h): sc-92988

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 L13, also known as RPL13 or BBC1 (breast basic conserved protein 1), is a 211 amino acid protein that is a component of the 60S subunit. Localized to the cytoplasm and expressed ubiquitously, Ribosomal Protein L13 belongs to the L13E family of ribosomal proteins and functions in protein synthesis. In addition, the gene encoding Ribosomal Protein L13 is expressed at high levels in benign breast lesions. Like most ribosomal proteins, Ribosomal Protein L13 exists as multiple processed pseudogenes that are scattered throughout the genome. Due to alternative splicing events and/or alternative polyadenylation, various isoforms exist for Ribosomal Protein L13.

REFERENCES

1. Adams, S.M., et al. 1992. Isolation and characterization of a novel gene with differential expression in benign and malignant human breast tumours. Hum. Mol. Genet. 1: 91-96.
2. Bertauche, N., et al. 1994. Conservation of the human breast basic conserved 1 gene in the plant kingdom: characterization of a cDNA clone from *Arabidopsis thaliana*. Gene 141: 211-214.
3. Moerland, E., et al. 1997. Exclusion of BBC1 and CMAR as candidate breast tumour-suppressor genes. Br. J. Cancer 76: 1550-1553.
4. Kenmochi, N., et al. 1998. A map of 75 human ribosomal protein genes. Genome Res. 8: 509-523.
5. Stubbs, A.P., et al. 1999. Differentially expressed genes in hormone refractory prostate cancer: association with chromosomal regions involved with genetic aberrations. Am. J. Pathol. 154: 1335-1343.

CHROMOSOMAL LOCATION

Genetic locus: RPL13 (human) mapping to 16q24.3.

PRODUCT

Ribosomal Protein L13 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ribosomal Protein L13 shRNA Plasmid (h): sc-92988-SH and Ribosomal Protein L13 shRNA (h) Lentiviral Particles: sc-92988-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 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 L13 siRNA (h) is recommended for the inhibition of Ribosomal Protein L13 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 L13 (SS-09): sc-100829 is recommended as a control antibody for monitoring of Ribosomal Protein L13 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 L13 gene expression knockdown using RT-PCR Primer: Ribosomal Protein L13 (h)-PR: sc-92988-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Park, Y.J., et al. 2020. Ribosomal Protein S3 is a novel negative regulator of non-homologous end joining repair of DNA double-strand breaks. FASEB J. 34: 8102-8113.

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.