

Rpp40 siRNA (h): sc-95630

BACKGROUND

Ribonuclease P (RNase P) removes the 5' leader sequences from precursor tRNA molecules. RNase P consists of an RNA species (H1 RNA), the POP1 protein, and at least seven proteins called RPPs. The RPPs have apparent molecular masses of 14 kD (Rpp14), 20 kD (Rpp20), 25 kD (Rpp25), 29 kD (Rpp29), 30 kD (Rpp30), 38 kD (Rpp38) and 40 kD (Rpp40). Rpp40 (ribonuclease P protein subunit p40), also known as RNASEP1, is a 363 amino acid protein that localizes to nucleolus. Existing as two alternatively spliced isoforms, the Rpp40 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 6p25.1. Making up nearly 6% of the human genome, chromosome 6 contains around 1,200 genes within 170 million base pairs of sequence. Notably, the PARK2 gene, which is associated with Parkinson's disease, and the genes encoding the major histocompatibility complex proteins, which are key molecular components of the immune system and determine predisposition to rheumatic diseases, are all located on chromosome 6.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: RPP40 (human) mapping to 6p25.1.

PRODUCT

Rpp40 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rpp40 shRNA Plasmid (h): sc-95630-SH and Rpp40 shRNA (h) Lentiviral Particles: sc-95630-V as alternate gene silencing products.

For independent verification of Rpp40 (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-95630A, sc-95630B and sc-95630C.

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

Rpp40 siRNA (h) is recommended for the inhibition of Rpp40 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

Rpp40 (G-4): sc-515079 is recommended as a control antibody for monitoring of Rpp40 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 Rpp40 gene expression knockdown using RT-PCR Primer: Rpp40 (h)-PR: sc-95630-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.