

Rpp25 siRNA (m): sc-153112

BACKGROUND

Ribonuclease P (RNase P) and Ribonuclease MRP (RNase MRP) are small nuclear ribonucleoproteins (snRNPs) that act on RNA substrates *in vitro*. RNase P and RNase MRP, which accumulate in the nucleolus, have a similar RNA component and also have several protein subunits in common. RNase P, which consists of a complex of an RNA species, POP1, POP5, and at least seven Rpps, removes the 5' leader sequences from precursor tRNA molecules. Rpp25 (ribonuclease P/MRP 25 kDa subunit) is a 199 amino acid nuclear protein that belongs to the histone-like Alba family and functions as a component of nuclear RNase P and RNase MRP ribonucleoproteins. Rpp25 is encoded by a gene that maps to human chromosome 15q24.2 and mouse chromosome 9 B.

REFERENCES

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- van Eenennaam, H., et al. 2001. Basic domains target protein subunits of the RNase MRP complex to the nucleolus independently of complex association. *Mol. Biol. Cell* 12: 3680-3689.
- Jiang, T., et al. 2001. Protein-RNA interactions in the subunits of human nuclear RNase P. *RNA* 7: 937-941.
- Guerrier-Takada, C., et al. 2002. Purification and characterization of Rpp25, an RNA-binding protein subunit of human ribonuclease P. *RNA* 8: 290-295.
- Welting, T.J., et al. 2004. Mutual interactions between subunits of the human RNase MRP ribonucleoprotein complex. *Nucleic Acids Res.* 32: 2138-2146.
- Roberts, J.D., et al. 2007. cGMP-dependent protein kinase I interacts with TRIM39R, a novel Rpp21 domain-containing TRIM protein. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 293: L903-L912.

CHROMOSOMAL LOCATION

Genetic locus: Rpp25 (mouse) mapping to 9 B.

PRODUCT

Rpp25 siRNA (m) 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 Rpp25 shRNA Plasmid (m): sc-153112-SH and Rpp25 shRNA (m) Lentiviral Particles: sc-153112-V as alternate gene silencing products.

For independent verification of Rpp25 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153112A and sc-153112B.

PROTOCOLS

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

Rpp25 siRNA (m) is recommended for the inhibition of Rpp25 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 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

Rpp25 (A-3): sc-514323 is recommended as a control antibody for monitoring of Rpp25 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 Rpp25 gene expression knockdown using RT-PCR Primer: Rpp25 (m)-PR: sc-153112-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.