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# EXOSC3 siRNA (m): sc-144976

## BACKGROUND

The exosome is a multisubunit complex of 3' to 5' exoribonucleases. It is involved in a variety of cellular processes and is responsible for degrading unstable mRNAs that contain AU-rich elements in their untranslated 3' region. EXOSC3 (exosome component 3), also known as p10, CGI-102, RRP40 (Ribosomal RNA-processing protein 40), Rrp40p or hRrp40p, is a component of the exosome multienzyme ribonuclease complex. Localizing to the cytoplasm and nucleolus, EXOSC3 contains a putative S1 RNA-binding domain and is capable of binding RNA. EXOSC3 is a component of the top cap of the exosome and is essential for exosome stability. In addition, EXOSC3 is required for the processing of the 7S pre-rRNA to the mature 5.8S rRNA.

## REFERENCES

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2. Brouwer, R., et al. 2001. Three novel components of the human exosome. *J. Biol. Chem.* 276: 6177-6184.
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4. Brouwer, R., et al. 2002. Autoantibodies directed to novel components of the PM/Scl complex, the human exosome. *Arthritis Res.* 4: 134-138.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606489. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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7. Wang, H.W., et al. 2007. Architecture of the yeast Rrp44 exosome complex suggests routes of RNA recruitment for 3' end processing. *Proc. Natl. Acad. Sci. USA* 104: 16844-16849.
8. Lin, W.J., et al. 2007. Localization of AU-rich element-containing mRNA in cytoplasmic granules containing exosome subunits. *J. Biol. Chem.* 282: 19958-19968.

## CHROMOSOMAL LOCATION

Genetic locus: Exosc3 (mouse) mapping to 4 B1.

## PRODUCT

EXOSC3 siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EXOSC3 shRNA Plasmid (m): sc-144976-SH and EXOSC3 shRNA (m) Lentiviral Particles: sc-144976-V as alternate gene silencing products.

For independent verification of EXOSC3 (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-144976A, sc-144976B and sc-144976C.

## 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  $\mu$ 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

EXOSC3 siRNA (m) is recommended for the inhibition of EXOSC3 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

EXOSC3 (B-8): sc-166568 is recommended as a control antibody for monitoring of EXOSC3 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EXOSC3 gene expression knockdown using RT-PCR Primer: EXOSC3 (m)-PR: sc-144976-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.