SANTA CRUZ BIOTECHNOLOGY, INC.

EXOSC6 siRNA (h): sc-93448

BACKGROUND

The exosome is a multisubunit complex composed of several highly conserved subunits, some of which are 3' to 5' exoribonucleases. The complex is involved in a variety of cellular processes and is responsible for degrading unstable mRNAs that contain AU-rich (ARE) elements in their untranslated 3' region. EXOSC6 (exosome component 6), also known as MTR3 (mRNA transport regulator 3 homolog) is a 272 amino acid exonuclease that is a component of the exosome complex and is required for processing of 7S pre-RNA to mature 5.8S rRNA. EXOSC6 belongs to the RNase PH family and localizes to the nucleolus. EXOSC1, EXOSC7 and EXOSC8 interact directly with EXOSC6 in the exosome multienzyme ribonuclease complex.

REFERENCES

1. Chen, C.Y., et al. 2001. AU binding proteins recruit the exosome to degrade ARE-containing mRNAs. Cell 107: 451-464.
2. Raijmakers, R., et al. 2002. Protein-protein interactions between human exosome components support the assembly of RNase PH-type subunits into a six-membered PNPase-like RING. J. Mol. Biol. 323: 653-663.
3. Lehner, B. and Sanderson, C.M. 2004. A protein interaction framework for human mRNA degradation. Genome Res. 14: 1315-1323.
4. Milligan, L., et al. 2005. A nuclear surveillance pathway for mRNAs with defective polyadenylation. Mol. Cell. Biol. 25: 9996-10004.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 606490. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Liu, Q., et al. 2006. Reconstitution, activities, and structure of the eukaryotic RNA exosome. Cell 127: 1223-1237.
7. Houseley, J., et al. 2007. Trf4 targets ncRNAs from telomeric and rDNA spacer regions and functions in rDNA copy number control. EMBO J. 26: 4996-5006.
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CHROMOSOMAL LOCATION

Genetic locus: EXOSC6 (human) mapping to 16q22.1.

PRODUCT

EXOSC6 siRNA (h) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EXOSC6 shRNA Plasmid (h): sc-93448-SH and EXOSC6 shRNA (h) Lentiviral Particles: sc-93448-V as alternate gene silencing products.

For independent verification of EXOSC6 (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-93448A and sc-93448B.

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

EXOSC6 siRNA (h) is recommended for the inhibition of EXOSC6 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

EXOSC6 (D-10): sc-398277 is recommended as a control antibody for monitoring of EXOSC6 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 EXOSC6 gene expression knockdown using RT-PCR Primer: EXOSC6 (h)-PR: sc-93448-PR (20 µl). 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.