

EXOSC10 siRNA (h): sc-88207

BACKGROUND

The exosome is a multi-subunit complex composed of several highly conserved proteins, 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. EXOSC10, also known as PMSCL, PMSCL2, p2, p3, p4, RRP6, Rrp6p, PM-Scl or PM/Scl-100, is an 885 amino acid protein that contains one HRDC domain and one 3'-5' exonuclease domain. Localized to both the cytoplasm and the nucleus, EXOSC10 is part of the post-splicing exosome complex and is involved in mRNA surveillance, mRNA nuclear export and nonsense-mediated decay of mRNAs containing premature stop codons. Antibodies against EXOSC10 have been found in patients with scleroderma and/or polymyositis (chronic diseases of the skin and muscle, respectively), suggesting that EXOSC10 may be involved in the pathogenesis of these diseases. Two isoforms of EXOSC10 exist due to alternative splicing events.

REFERENCES

1. Blüthner, M. and Bautz, F.A. 1992. Cloning and characterization of the cDNA coding for a polymyositis-scleroderma overlap syndrome-related nucleolar 100 kDa protein. *J. Exp. Med.* 176: 973-980.
2. Brouwer, R., et al. 2001. The human exosome: an autoantigenic complex of exoribonucleases in myositis and scleroderma. *Arthritis Res.* 3: 102-106.
3. Brouwer, R., et al. 2002. Autoantibodies directed to novel components of the PM/Scl complex, the human exosome. *Arthritis Res.* 4: 134-138.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605960. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: EXOSC10 (human) mapping to 1p36.22.

PRODUCT

EXOSC10 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 EXOSC10 shRNA Plasmid (h): sc-88207-SH and EXOSC10 shRNA (h) Lentiviral Particles: sc-88207-V as alternate gene silencing products.

For independent verification of EXOSC10 (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-88207A, sc-88207B and sc-88207C.

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.

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

EXOSC10 siRNA (h) is recommended for the inhibition of EXOSC10 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

EXOSC10 (B-8): sc-374595 is recommended as a control antibody for monitoring of EXOSC10 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 EXOSC10 gene expression knockdown using RT-PCR Primer: EXOSC10 (h)-PR: sc-88207-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.