SANTA CRUZ BIOTECHNOLOGY, INC.

DIS3L2 siRNA (m): sc-143047

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. DIS3L2 (DIS3-like exonuclease 2) is an 885 amino acid protein that is thought to function as an exonuclease and may be required for the 3' processing of pre-mRNA into mature mRNA. Defects or chromosomal translocations involving the gene encoding DIS3L2 may be associated with Marfanoid habitus, a genetic disorder characterized by abnormalities in the skeleton, eyes and cardiovascular system. DIS3L2 is expressed as five isoforms due to alternative splicing events.

REFERENCES

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2. Mukherjee, D., et al. 2002. The mammalian exosome mediates the efficient degradation of mRNAs that contain AU-rich elements. EMBO J. 21: 165-174.
3. 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.
4. Raijmakers, R., et al. 2003. The association of the human PM/Scl-75 autoantigen with the exosome is dependent on a newly identified N terminus. J. Biol. Chem. 278: 30698-30704.
5. Schilders, G., et al. 2007. Caspase-mediated cleavage of the exosome subunit PM/Scl-75 during apoptosis. Arthritis Res. Ther. 9: R12.
6. van Dijk, E.L., et al. 2007. Human cell growth requires a functional cytoplasmic exosome, which is involved in various mRNA decay pathways. RNA 13: 1027-1035.
7. Bocciardi, R., et al. 2007. Overexpression of the C-type natriuretic peptide (CNP) is associated with overgrowth and bone anomalies in an individual with balanced t(2;7) translocation. Hum. Mutat. 28: 724-731.

CHROMOSOMAL LOCATION

Genetic locus: Dis3l2 (mouse) mapping to 1 D.

PRODUCT

DIS3L2 siRNA (m) is a target-specific 19-25 nt siRNA 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 DIS3L2 shRNA Plasmid (m): sc-143047-SH and DIS3L2 shRNA (m) Lentiviral Particles: sc-143047-V as alternate gene silencing products.

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 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

DIS3L2 siRNA (m) is recommended for the inhibition of DIS3L2 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DIS3L2 gene expression knockdown using RT-PCR Primer: DIS3L2 (m)-PR: sc-143047-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.