SANTA CRUZ BIOTECHNOLOGY, INC.

DDX10 siRNA (m): sc-142920

BACKGROUND

DEAD-box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp, are putative RNA helicases implicated in several cellular processes involving modifications of RNA secondary structure and ribosome/spliceosome assembly. Based on their distribution patterns, some members of this family may be involved in embryogenesis, spermatogenesis and cellular growth and division. DDX10 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 10), also known as HRH-J8, is an 875 amino acid ATP-dependent RNA helicase that is widely expressed and belongs to the DEAD box helicase family. Highly expressed in testis, DDX10 may be involved in ribosome assembly. It is suggested that defects in the gene encoding DDX10 may be a cause of breast cancer. DDX10 contains a helicase ATP-binding domain and a helicase C-terminal domain.

REFERENCES

1. Savitsky, K., et al. 1996. A human gene (DDX10) encoding a putative DEAD-box RNA helicase at 11q22-q23. Genomics 33: 199-206.
2. Arai, Y., et al. 1997. The inv(11)(p15q22) chromosome translocation of *de novo* and therapy-related myeloid malignancies results in fusion of the nucleoporin gene, Nup98, with the putative RNA helicase gene, DDX10. Blood 89: 3936-3944.
3. Ikeda, T., et al. 1999. The inv(11)(p15q22) chromosome translocation of therapy-related myelodysplasia with Nup98-DDX10 and DDX10-Nup98 fusion transcripts. Int. J. Hematol. 69: 160-164.
4. Nakao, K., et al. 2000. Fusion of the nucleoporin gene, Nup98, and the putative RNA helicase gene, DDX10, by inversion 11 (p15q22) chromosome translocation in a patient with etoposide-related myelodysplastic syndrome. Intern. Med. 39: 412-415.
5. Will, C.L., et al. 2002. Characterization of novel SF3b and 17S U2 snRNP proteins, including a human Prp5p homologue and an SF3b DEAD-box protein. EMBO J. 21: 4978-4988.

CHROMOSOMAL LOCATION

Genetic locus: Ddx10 (mouse) mapping to 9 A5.3.

PRODUCT

DDX10 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DDX10 shRNA Plasmid (m): sc-142920-SH and DDX10 shRNA (m) Lentiviral Particles: sc-142920-V as alternate gene silencing products.

For independent verification of DDX10 (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-142920A, sc-142920B and sc-142920C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

DDX10 siRNA (m) is recommended for the inhibition of DDX10 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.

GENE EXPRESSION MONITORING

DDX10 (N-13): sc-132643 is recommended as a control antibody for monitoring of DDX10 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DDX10 gene expression knockdown using RT-PCR Primer: DDX10 (m)-PR: sc-142920-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.