SANTA CRUZ BIOTECHNOLOGY, INC.

DDX16 siRNA (m): sc-142921

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. DDX16 (DEAD-box protein 16), also known as DHX16, DBP2, PRP8 or PRO2014, is a 1,041 amino acid protein that contains one helicase ATP-binding domain and one helicase C-terminal domain. One of several members of the DEAD-box protein family, DDX16 localizes to the nucleus and is thought to function as an RNA helicase that is involved in pre-mRNA splicing events, playing an important role in cell cycle progression. The gene encoding DDX16 is located on a region of chromosome 6 that is associated with a variety of diseases, including malignancies and genetic mutations, suggesting a possible role for DDX16 in the pathogenesis of certain disorders.

REFERENCES

1. Barta, I., et al. 1995. Autoregulation of expression of the yeast Dbp2p "DEAD-box" protein is mediated by sequences in the conserved DBP2 intron. EMBO J. 14: 3800-3808.
2. Imamura, O., et al. 1998. Cloning and characterization of a human DEAH-box RNA helicase, a functional homolog of fission yeast Cdc28/Prp8. Nucleic Acids Res. 26: 2063-2068.
3. Suk, K., et al. 2000. Identification of a novel human member of the DEAD box protein family. Biochim. Biophys. Acta 1501: 63-69.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603405. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/.
5. Shigenari, A., et al. 2004. Nucleotide sequencing analysis of the swine 433-kb genomic segment located between the non-classical and classical SLA class I gene clusters. Immunogenetics 55: 695-705.

CHROMOSOMAL LOCATION

Genetic locus: Dhx16 (mouse) mapping to 17 B1.

PRODUCT

DDX16 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 DDX16 shRNA Plasmid (m): sc-142921-SH and DDX16 shRNA (m) Lentiviral Particles: sc-142921-V as alternate gene silencing products.

For independent verification of DDX16 (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-142921A, sc-142921B and sc-142921C.

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

DDX16 siRNA (m) is recommended for the inhibition of DDX16 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

DDX16 (24): sc-135879 is recommended as a control antibody for monitoring of DDX16 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DDX16 gene expression knockdown using RT-PCR Primer: DDX16 (m)-PR: sc-142921-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.