SANTA CRUZ BIOTECHNOLOGY, INC.

DDX15 siRNA (m): sc-62199

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. DDX15 (DEAH-box protein 15), also known as DHX15, DBP1 or HRH2, is a nuclear ATP-dependent RNA helicase that is involved in pre-mRNA splicing and is a member of the DEAH-box subfamily of DEAD-box proteins. Expressed throughout the body, DDX15 is a pre-mRNA processing factor that plays a role in spliceosome disassembly after the release of mature mRNA. When localized to the nucleoli, DDX15 is thought to interact with the La/SSB autoantigen, an RNA chaperone that functions in various intracellular processes. DDX15 is 795 amino acids in length and is the human ortholog of the *S. cerevisiae* protein Prp43.

REFERENCES

1. Imamura, O., et al. 1997. Cloning and characterization of a putative human RNA helicase gene of the DEAH-box protein family. Biochem. Biophys. Res. Commun. 240: 335-340.
2. Ji, W., et al. 2001. DQX1, an RNA-dependent ATPase homolog with a novel DEAQ box: expression pattern and genomic sequence comparison of the human and mouse genes. Mamm. Genome 12: 456-461.
3. Abdelhaleem, M. 2002. The novel helicase homologue DDX32 is down-regulated in acute lymphoblastic leukemia. Leuk. Res. 26: 945-954.
4. Fouraux, M.A., et al. 2002. The human La (SS-B) autoantigen interacts with DDX15/hPrp43, a putative DEAH-box RNA helicase. RNA 8: 1428-1443.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603403. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Dhx15 (mouse) mapping to 5 C1.

PRODUCT

DDX15 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 DDX15 shRNA Plasmid (m): sc-62199-SH and DDX15 shRNA (m) Lentiviral Particles: sc-62199-V as alternate gene silencing products.

For independent verification of DDX15 (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-62199A, sc-62199B and sc-62199C.

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

DDX15 siRNA (m) is recommended for the inhibition of DDX15 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

DDX15 (E-6): sc-271686 is recommended as a control antibody for monitoring of DDX15 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 DDX15 gene expression knockdown using RT-PCR Primer: DDX15 (m)-PR: sc-62199-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.