SANTA CRUZ BIOTECHNOLOGY, INC.

DDX55 siRNA (m): sc-142946

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 spermatogenesis, embryogenesis and cellular growth and division. DDX55 (DEAD box protein 55) is a 600 amino acid protein that contains one helicase C-terminal domain and one helicase ATP-binding domain and is a member of the DEAD-box helicase family. Like other members of the DEAD-box family, DDX55 is thought to function as an ATP-binding RNA helicase that may play a role in RNA-related cellular processes. Multiple isoforms of DDX55 are expressed due to alternative splicing events.

REFERENCES

1. Schmid, S.R., et al. 1992. D-E-A-D protein family of putative RNA helicases. Mol. Microbiol. 6: 283-291.
2. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XVIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 273-281.
3. Cordin, O., et al. 2004. The newly discovered Q motif of DEAD-box RNA helicases regulates RNA-binding and helicase activity. EMBO J. 23: 2478-2487.
4. Andersen, J.S., et al. 2005. Nucleolar proteome dynamics. Nature 433: 77-83.
5. Linder, P. 2006. Dead-box proteins: a family affair—active and passive players in RNP-remodeling. Nucleic Acids Res. 34: 4168-4180.
6. Chinnusamy, V., et al. 2008. Nuclear RNA export and its importance in abiotic stress responses of plants. Curr. Top. Microbiol. Immunol. 326: 235-255.
7. Tseng, C.K., et al. 2008. Both catalytic steps of nuclear pre-mRNA splicing are reversible. Science 320: 1782-1784.

CHROMOSOMAL LOCATION

Genetic locus: Ddx55 (mouse) mapping to 5 F.

PRODUCT

DDX55 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 DDX55 shRNA Plasmid (m): sc-142946-SH and DDX55 shRNA (m) Lentiviral Particles: sc-142946-V as alternate gene silencing products.

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 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

DDX55 siRNA (m) is recommended for the inhibition of DDX55 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 DDX55 gene expression knockdown using RT-PCR Primer: DDX55 (m)-PR: sc-142946-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.