SANTA CRUZ BIOTECHNOLOGY, INC.

DDX54 siRNA (m): sc-142945

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. DDX54 (DEAD polypeptide 54), also known as DP97, is an 881 amino acid protein that contains 2 bipartite nuclear localization signals, 3 nuclear receptor boxes (LXXLL motifs), a potential CoRNR box, and several stretches of glutamate and lysine residues. DDX54 is ubiquitously expressed, with highest expression in pancreas and lung. DDX54 colocalizes with ERα to structures in the nucleoplasm. DDX54 represses ERα transcriptional activity and acts as a nuclear receptor corepressor against ERβ, progesterone, glucocorticoid and RARα.

REFERENCES

1. Py, B., et al. 1996. A DEAD-box RNA helicase in the *Escherichia coli* RNA degradosome. Nature 381: 169-172.
2. 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.
3. Eisen, A., et al. 1998. A novel DEAD-box RNA helicase exhibits high sequence conservation from yeast to humans. Biochim. Biophys. Acta 1397: 131-136.
4. Rajendran, R.R., et al. 2003. Regulation of nuclear receptor transcriptional activity by a novel DEAD box RNA helicase (DP97). J. Biol. Chem. 278: 4628-4638.
5. Zhang, D.Y., et al. 2006. Molecular cloning and characterization of a putative nuclear DEAD box RNA helicase in the spruce budworm, *Choristoneura fumiferana*. Arch. Insect Biochem. Physiol. 61: 209-219.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611665. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Ddx54 (mouse) mapping to 5 F.

PRODUCT

DDX54 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 DDX54 shRNA Plasmid (m): sc-142945-SH and DDX54 shRNA (m) Lentiviral Particles: sc-142945-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

DDX54 siRNA (m) is recommended for the inhibition of DDX54 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 DDX54 gene expression knockdown using RT-PCR Primer: DDX54 (m)-PR: sc-142945-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.