SANTA CRUZ BIOTECHNOLOGY, INC.

DDX28 siRNA (m): sc-142928

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. DDX28 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 28), also known as DHX28, is a nuclear protein belonging to the DEAD box helicase family. Localized to the mitochondria, DDX28 is expressed in brain, placenta, lung, liver, skeletal muscle, kidney, pancreas, leukocytes, colon, small intestine, ovary and prostate. DDX28 has RNA and Mg^{2+}-dependent ATPase activity and may be involved in RNA processing or transport.

REFERENCES

1. Schmid, S.R. and Linder, P. 1992. D-E-A-D protein family of putative RNA helicases. Mol. Microbiol. 6: 283-291.
2. Valgardsdottir, R., et al. 2001. Cloning and characterization of MDDX28, a putative dead-box helicase with mitochondrial and nuclear localization. J. Biol. Chem. 276: 32056-32063.
3. 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.
4. Abdelhaleem, M., et al. 2003. The human DDX and DHX gene families of putative RNA helicases. Genomics 81: 618-622.
5. Valgardsdottir, R. and Prydz, H. 2003. Transport signals and transcription-dependent nuclear localization of the putative DEAD-box helicase MDDX28. J. Biol. Chem. 278: 21146-21154.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: Ddx28 (mouse) mapping to 8 D3.

PRODUCT

DDX28 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 DDX28 shRNA Plasmid (m): sc-142928-SH and DDX28 shRNA (m) Lentiviral Particles: sc-142928-V as alternate gene silencing products.

For independent verification of DDX28 (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-142928A, sc-142928B and sc-142928C.

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

DDX28 siRNA (m) is recommended for the inhibition of DDX28 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 DDX28 gene expression knockdown using RT-PCR Primer: DDX28 (m)-PR: sc-142928-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.