

## DDX28 siRNA (h): sc-93209

### 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<sup>2+</sup>-dependent ATPase activity and may be involved in RNA processing or transport.

### REFERENCES

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2. Valgardsdottir, R., Brede, G., Eide, L.G., Frengen, E. and Prydz, H. 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., Urlaub, H., Achsel, T., Gentzel, M., Wilm, M. and Lührmann, R. 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., Maltais, L. and Wain, H. 2003. The human DDX and DHX gene families of putative RNA helicases. *Genomics* 81: 618-622.
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6. Cordin, O., Tanner, N.K., Doère, M., Linder, P. and Banroques, J. 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 (human) mapping to 16q22.1.

### PRODUCT

DDX28 siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DDX28 shRNA Plasmid (h): sc-93209-SH and DDX28 shRNA (h) Lentiviral Particles: sc-93209-V as alternate gene silencing products.

For independent verification of DDX28 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-93209A, sc-93209B and sc-93209C.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

DDX28 siRNA (h) is recommended for the inhibition of DDX28 expression in human 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  $\mu$ M in 66  $\mu$ l. 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 (h)-PR: sc-93209-PR (20  $\mu$ l, 558 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.