SANTA CRUZ BIOTECHNOLOGY, INC.

DDX18 siRNA (h): sc-95038

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. DDX18 (DEAD (Asp-Glu-Ala-Asp) box polypeptide 18), also known as MrDb (Myc-regulated DEAD box protein), is a 670 amino acid protein that contains one helicase ATP-binding domain and one helicase C-terminal doman and functions as an RNA-dependent helicase that is activated by c-Myc. The gene encoding DDX18 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606355. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Abdelhaleem, M., et al. 2003. The human DDX and DHX gene families of putative RNA helicases. Genomics 81: 618-622.
5. 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.
6. Linder, P. 2006. Dead-box proteins: a family affair—active and passive players in RNP-remodeling. Nucleic Acids Res. 34: 4168-4180.
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CHROMOSOMAL LOCATION

Genetic locus: DDX18 (human) mapping to 2q14.1.

PRODUCT

DDX18 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DDX18 shRNA Plasmid (h): sc-95038-SH and DDX18 shRNA (h) Lentiviral Particles: sc-95038-V as alternate gene silencing products.

For independent verification of DDX18 (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-95038A, sc-95038B and sc-95038C.

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

DDX18 siRNA (h) is recommended for the inhibition of DDX18 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 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 DDX18 gene expression knockdown using RT-PCR Primer: DDX18 (h)-PR: sc-95038-PR (20 µl, 497 bp). 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.