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DDX41 siRNA (m): sc-142938

BACKGROUND

DDX41 (Probable ATP-dependent RNA helicase DDX41, DEAD box protein abstract homolog) is a 622 amino acid protein encoded by the human gene DDX41. DDX41 belongs to the DEAD box helicase family (DDX41 subfamily) and contains one CCHC-type zinc finger, one helicase ATP-binding domain and one helicase C-terminal domain. DDX41 is required during post-transcriptional gene expression and is thought to be involved in pre-mRNA splicing. DDX41 is believed to be a probable ATP-dependent RNA helicase. RNA helicases are highly conserved enzymes that utilize the energy derived from NTP hydrolysis to modulate the structure of RNA. RNA helicases participate in all biological processes that involve RNA, including transcription, splicing and translation.

REFERENCES

1. Irion, U. and Leptin, M. 2000. Developmental and cell biological functions of the *Drosophila* DEAD-box protein abstract. *Curr. Biol.* 9: 1373-1381.
2. Abdul-Ghani, M., et al. 2005. Abstract interacts with and regulates the expression of sorting nexin-2. *J. Cell. Physiol.* 204: 210-218.
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4. Abdelhaleem, M. 2005. RNA helicases: regulators of differentiation. *Clin. Biochem.* 38: 499-503.
5. Nousiainen, M., et al. 2006. Phosphoproteome analysis of the human mitotic spindle. *Proc. Natl. Acad. Sci. USA* 103: 5391-5396.
6. Savitsky, M., et al. 2006. Telomere elongation is under the control of the RNAi-based mechanism in the *Drosophila* germline. *Genes Dev.* 20: 345-354.
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CHROMOSOMAL LOCATION

Genetic locus: Ddx41 (mouse) mapping to 13 B1.

PRODUCT

DDX41 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DDX41 shRNA Plasmid (m): sc-142938-SH and DDX41 shRNA (m) Lentiviral Particles: sc-142938-V as alternate gene silencing products.

For independent verification of DDX41 (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-142938A, sc-142938B and sc-142938C.

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

APPLICATIONS

DDX41 siRNA (m) is recommended for the inhibition of DDX41 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

DDX41 (C-3): sc-166225 is recommended as a control antibody for monitoring of DDX41 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DDX41 gene expression knockdown using RT-PCR Primer: DDX41 (m)-PR: sc-142938-PR (20 μ l). 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.