SANTA CRUZ BIOTECHNOLOGY, INC.

# DDX23 siRNA (h): sc-62200

## 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 such as translation initiation, nuclear and mitochondrial splicing, and ribosome and spliceosome assembly. Based on their distribution patterns, some members of this family may be involved in embryogenesis, spermatogenesis, and cellular growth and division. DDX23 (DEAD box protein 23), also known as 100 kDa U5 snRNP-specific protein (U5 100 kD) or PRP28 homolog, is a 820 amino acid member of the DEAD box helicase protein family. Localized to the nucleus, DDX23 contains one helicase ATP-binding domain and one helicase C-terminal domain. DDX23 is a component of the U5 snRNP complexes, indicating a role in pre-mRNA splicing.

## REFERENCES


1. Teigelkamp, S., et al. 1997. The human U5 snRNP-specific 100-kD protein is an RS domain-containing, putative RNA helicase with significant homology to the yeast splicing factor Prp28p. RNA 3: 1313-1326.
2. Achsel, T., et al. 1998. The human U5-220kD protein (hPrp8) forms a stable RNA-free complex with several U5-specific proteins, including an RNA unwindase, a homologue of ribosomal elongation factor EF-2, and a novel WD-40 protein. Mol. Cell. Biol. 18: 6756-6766.
3. Laggerbauer, B., et al. 1998. The human U5-200kD DEXH-box protein unwinds U4/U6 RNA duplices *in vitro*. Proc. Natl. Acad. Sci. USA 95: 4188-4192.
4. Zhou, Z., et al. 2002. Comprehensive proteomic analysis of the human spliceosome. Nature 419: 182-185.
5. Jurica, M.S., et al. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. RNA 8: 426-439.
6. Mathew, R., et al. 2008. Phosphorylation of human PRP28 by SRPK2 is required for integration of the U4/U6-U5 tri-snRNP into the spliceosome. Nat. Struct. Mol. Biol. 15: 435-443.


## CHROMOSOMAL LOCATION

Genetic locus: DDX23 (human) mapping to 12q13.12.

## PRODUCT

DDX23 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 DDX23 shRNA Plasmid (h): sc-62200-SH and DDX23 shRNA (h) Lentiviral Particles: sc-62200-V as alternate gene silencing products.

For independent verification of DDX23 (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-62200A, sc-62200B and sc-62200C.

## 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 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

DDX23 siRNA (h) is recommended for the inhibition of DDX23 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 DDX23 gene expression knockdown using RT-PCR Primer: DDX23 (h)-PR: sc-62200-PR (20 µl, 583 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Sridhara, S.C., et al. 2017. Transcription dynamics prevent RNA-mediated genomic instability through SRPK2-dependent DDX23 phosphorylation. Cell Rep. 18: 334-343.


## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.