

DDX60 siRNA (h): sc-89167

BACKGROUND

DDX60 [DEAD (Asp-Glu-Ala-Asp) box polypeptide 60], also known as DEAD box protein 60, probable ATP-dependent RNA helicase DDX60, FLJ10787 or FLJ20035, is a 1,712 amino acid protein belonging to the helicase family. DDX60 contains one helicase ATP-binding domain and one helicase C-terminal domain. The gene encoding DDX60 maps to human chromosome 4, which represents approximately 6% of the human genome and contains nearly 900 genes. Notably, the Huntington gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is on chromosome 4. FGFR-3 is also encoded on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease. Chromosome 4 reportedly contains the largest gene deserts (regions of the genome with no protein encoding genes) and has one of the two lowest recombination frequencies of the human chromosomes.

REFERENCES

1. Suzuki, Y., et al. 1997. Construction and characterization of a full length-enriched and a 5'-end-enriched cDNA library. *Gene* 200: 149-156.
2. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
3. Cowan, C.M., et al. 2006. Selective neuronal degeneration in Huntington's disease. *Curr. Top. Dev. Biol.* 75: 25-71.
4. Doherty, E.S., et al. 2007. Muenke syndrome (FGFR3-related craniosynostosis): expansion of the phenotype and review of the literature. *Am. J. Med. Genet. A* 143A: 3204-3215.
5. Chandler, R.J., et al. 2007. Metabolic phenotype of methylmalonic acidemia in mice and humans: the role of skeletal muscle. *BMC Med. Genet.* 8: 64.
6. de Frutos, C.A., et al. 2007. SNAIL1 is a transcriptional effector of FGFR3 signaling during chondrogenesis and achondroplasias. *Dev. Cell* 13: 872-883.
7. Ruiz-Perez, V.L., et al. 2007. EVC is a positive mediator of Ihh-regulated bone growth that localises at the base of chondrocyte cilia. *Development* 134: 2903-2912.

CHROMOSOMAL LOCATION

Genetic locus: DDX60 (human) mapping to 4q32.3.

PRODUCT

DDX60 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DDX60 shRNA Plasmid (h): sc-89167-SH and DDX60 shRNA (h) Lentiviral Particles: sc-89167-V as alternate gene silencing products.

For independent verification of DDX60 (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-89167A, sc-89167B and sc-89167C.

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

DDX60 siRNA (h) is recommended for the inhibition of DDX60 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DDX60 gene expression knockdown using RT-PCR Primer: DDX60 (h)-PR: sc-89167-PR (20 μ l, 461 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.

PROTOCOLS

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