



AHDC1 siRNA (h): sc-78730

BACKGROUND

AHDC1 (AT hook, DNA binding motif, containing 1) is a 1,603 amino acid protein that participates in DNA binding. Containing two AT hook DNA-binding domains, AHDC1 is phosphorylated upon DNA damage, likely by Atm or ATR. AHDC1 is encoded by a gene that maps to human chromosome 1. Consisting of 3,000 genes, chromosome 1 is the largest human chromosome, spanning about 260 million base pairs and making up 8% of the human genome. Numerous diseases are linked to chromosome 1, notably the rare aging disease Hutchinson-Gilford progeria, which is associated with Lamin A. When defective, Lamin A can accumulate in nucleus, causing characteristic nuclear blebs. The MUTYH gene is located on chromosome 1 and is partially responsible for familial adenomatous polyposis. Stickler syndrome, Parkinson's disease, Gaucher disease and Usher syndrome are also associated with chromosome 1. Aberrations in chromosome 1 exist in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Watson, M.L., et al. 1990. Genomic organization of the selectin family of leukocyte adhesion molecules on human and mouse chromosome 1. *J. Exp. Med.* 172: 263-272.
2. Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders— cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. *Am. J. Hum. Genet.* 69: 428-433.
3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
4. Loo, J.J., et al. 2005. Temporal gene expression profiling of liver from periparturient dairy cows reveals complex adaptive mechanisms in hepatic function. *Physiol. Genomics* 23: 217-226.
5. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.

CHROMOSOMAL LOCATION

Genetic locus: AHDC1 (human) mapping to 1p36.11.

PRODUCT

AHDC1 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 AHDC1 shRNA Plasmid (h): sc-78730-SH and AHDC1 shRNA (h) Lentiviral Particles: sc-78730-V as alternate gene silencing products.

For independent verification of AHDC1 (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-78730A, sc-78730B and sc-78730C.

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 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

AHDC1 siRNA (h) is recommended for the inhibition of AHDC1 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 AHDC1 gene expression knockdown using RT-PCR Primer: AHDC1 (h)-PR: sc-78730-PR (20 μ l). 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 for detailed protocols and support products.