

# ATHL1 siRNA (h): sc-96851

## BACKGROUND

ATHL1 (ATH1, acid trehalase-like 1) is a 737 amino acid protein that belongs to the glycosyl hydrolase 65 family and participates in hydrolase activity, acting on glycosyl bonds. Conserved in chimpanzee, canine, bovine, mouse, chicken, zebrafish, fruit fly and mosquito, ATHL1 exists as two alternatively spliced isoforms. ATHL1 is encoded by a gene that maps to human chromosome 11p15.5. With approximately 135 million base pairs and 1,400 genes, chromosome 11 makes up approximately 4% of human genomic DNA. Ataxia-telangiectasia, the blood disorders Sickle cell anemia and  $\beta$  thalassemia, Wilms' tumors, WAGR syndrome, Denys-Drash syndrome, Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are all associated with defects in chromosome 11.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: PGGHG (human) mapping to 11p15.5.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

ATHL1 siRNA (h) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ATHL1 shRNA Plasmid (h): sc-96851-SH and ATHL1 shRNA (h) Lentiviral Particles: sc-96851-V as alternate gene silencing products.

For independent verification of ATHL1 (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-96851A and sc-96851B.

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

## APPLICATIONS

ATHL1 siRNA (h) is recommended for the inhibition of ATHL1 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  $\mu$ M in 66  $\mu$ 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 ATHL1 gene expression knockdown using RT-PCR Primer: ATHL1 (h)-PR: sc-96851-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.