

# ACSF4 siRNA (h): sc-89172

## BACKGROUND

ACSF4 (aminoadipate-semialdehyde dehydrogenase), also known as AASDH, U26, LYS2, NRPS998, NRPS1098 or acyl-CoA synthetase family member 4, is a 1,098 amino acid protein belonging to the ATP-dependent AMP-binding enzyme family. Encoded by a gene that maps to human chromosome 4q12, ACSF4 is ubiquitously expressed in adult tissues and exists as five alternatively spliced isoforms. ACSF4 is homologous to AASDHPT, a yeast enzyme necessary for lysine biosynthesis in lower eukaryotes. ACSF4 contains one acyl carrier domain and participates in ATP binding, ligase activity, acid-thiol ligase activity, acyl carrier activity and cofactor and nucleotide binding. ACSF4 catalyzes the initial reaction in fatty acid metabolism by forming a thioester with CoA. Conserved motifs in ACSF4 may engage in functions other than fatty acid activation.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: AASDH (human) mapping to 4q12.

## PRODUCT

ACSF4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ACSF4 shRNA Plasmid (h): sc-89172-SH and ACSF4 shRNA (h) Lentiviral Particles: sc-89172-V as alternate gene silencing products.

For independent verification of ACSF4 (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-89172A, sc-89172B and sc-89172C.

## 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

ACSF4 siRNA (h) is recommended for the inhibition of ACSF4 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 ACSF4 gene expression knockdown using RT-PCR Primer: ACSF4 (h)-PR: sc-89172-PR (20  $\mu$ 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.

## PROTOCOLS

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