

# ACSF2 siRNA (h): sc-93920

## BACKGROUND

ACSF2 (acyl-CoA synthetase family member 2), also known as PPAR $\gamma$  binding, long chain fatty acid acyl Co-A ligase like, is a 615 amino acid protein belonging to the ATP-dependent AMP-binding enzyme family. Encoded by a gene that maps to human chromosome 17q21.33, ACSF2 contains a PPAR $\gamma$ -recognition element in its promoter sequence. Exhibiting mitochondrial sub-cellular localization, ACSF2 forms a thioester with CoA, thereby catalyzing the initial reaction in fatty acid metabolism. ACSF2 participates in ATP binding, ligase activity and adipocyte differentiation, and displays a preference for medium-chain substrates. ACSF2 may be a potential prognostic molecular marker for breast cancer.

## REFERENCES

1. Grützmann, R., et al. 2003. Systematic isolation of genes differentially expressed in normal and cancerous tissue of the pancreas. *Pancreatology* 3: 169-178.
2. Yang, X.J., et al. 2004. Gene expression profiling of renal medullary carcinoma: potential clinical relevance. *Cancer* 100: 976-985.
3. Kim, J.M., et al. 2005. Identification of gastric cancer-related genes using a cDNA microarray containing novel expressed sequence tags expressed in gastric cancer cells. *Clin. Cancer Res.* 11: 473-482.
4. Sørli, T., et al. 2006. Distinct molecular mechanisms underlying clinically relevant subtypes of breast cancer: gene expression analyses across three different platforms. *BMC Genomics* 7: 127.
5. Yao, J., et al. 2006. Combined cDNA array comparative genomic hybridization and serial analysis of gene expression analysis of breast tumor progression. *Cancer Res.* 66: 4065-4078.
6. Gianazza, E., et al. 2006. Coordinated and reversible reduction of enzymes involved in terminal oxidative metabolism in skeletal muscle mitochondria from a riboflavin-responsive, multiple acyl-CoA dehydrogenase deficiency patient. *Electrophoresis* 27: 1182-1198.

## CHROMOSOMAL LOCATION

Genetic locus: ACSF2 (human) mapping to 17q21.33.

## PRODUCT

ACSF2 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 ACSF2 shRNA Plasmid (h): sc-93920-SH and ACSF2 shRNA (h) Lentiviral Particles: sc-93920-V as alternate gene silencing products.

For independent verification of ACSF2 (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-93920A, sc-93920B and sc-93920C.

## PROTOCOLS

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

## 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

ACSF2 siRNA (h) is recommended for the inhibition of ACSF2 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 ACSF2 gene expression knockdown using RT-PCR Primer: ACSF2 (h)-PR: sc-93920-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.