

# ACSS1 (N-20): sc-85255



The Power to Question

## BACKGROUND

ACSS1 (acyl-CoA synthetase short-chain family member 1), also known as ACAS2L or AceCS2L, is a 689 amino acid protein that localizes to the mitochondrial matrix and belongs to the ATP-dependent AMP-binding enzyme family. Functioning primarily as a cardiac enzyme, ACSS1 catalyzes the ATP-dependent conversion of acetate and CoA (coenzyme A) to acetyl-CoA, which is then utilized for the oxidation of acetate within the tricarboxylic acid cycle. ACSS1 is expressed as two alternatively spliced isoforms and is encoded by a gene which maps to chromosome 20. Comprising approximately 2% of the human genome, chromosome 20 contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome.

## REFERENCES

1. Prusiner, S.B. 1998. The prion diseases. *Brain Pathol.* 8: 499-513.
2. Collins, S., McLean, C.A. and Masters, C.L. 2001. Gerstmann-Sträussler-Scheinker syndrome, fatal familial insomnia and kuru: a review of these less common human transmissible spongiform encephalopathies. *J. Clin. Neurosci.* 8: 387-397.
3. Masullo, C. and Macchi, G. 2001. Does PRNP gene control the clinical and pathological phenotype of human spongiform transmissible encephalopathies? *Clin. Neuropathol.* 20: 19-25.
4. Fujino, T., Kondo, J., Ishikawa, M., Morikawa, K. and Yamamoto, T.T. 2001. Acetyl-CoA synthetase 2, a mitochondrial matrix enzyme involved in the oxidation of acetate. *J. Biol. Chem.* 276: 11420-11426.
5. Nakajima, D., Okazaki, N., Yamakawa, H., Kikuno, R., Ohara, O. and Nagase, T. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. *DNA Res.* 9: 99-106.
6. Joó, J.G., Beke, A., Tóth-Pál, E., Hargitai, B., Szigeti, Z., Papp, C. and Papp, Z. 2006. Trisomy 20 mosaicism and nonmosaic trisomy 20: a report of 2 cases. *J. Reprod. Med.* 51: 209-212.
7. Ville, D., Kaminska, A., Bahi-Buisson, N., Biraben, A., Plouin, P., Telvi, L., Dulac, O. and Chiron, C. 2006. Early pattern of epilepsy in the ring chromosome 20 syndrome. *Epilepsia* 47: 543-549.
8. Elghezal, H., Hannachi, H., Mougou, S., Kammoun, H., Triki, C. and Saad, A. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. *Eur. J. Med. Genet.* 50: 441-445.
9. Lundwall, A. 2007. A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis. *Asian J. Androl.* 9: 540-544.

## CHROMOSOMAL LOCATION

Genetic locus: ACSS1 (human) mapping to 20p11.21; Acss1 (mouse) mapping to 2 G3.

## SOURCE

ACSS1 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of ACSS1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85255 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ACSS1 (N-20) is recommended for detection of ACSS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with ACSS2.

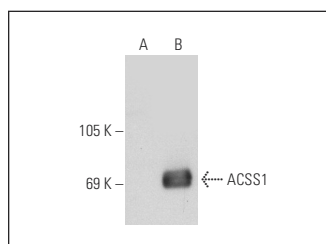
ACSS1 (N-20) is also recommended for detection of ACSS1 in additional species, including canine and porcine.

Suitable for use as control antibody for ACSS1 siRNA (h): sc-72439, ACSS1 siRNA (m): sc-140834, ACSS1 shRNA Plasmid (h): sc-72439-SH, ACSS1 shRNA Plasmid (m): sc-140834-SH, ACSS1 shRNA (h) Lentiviral Particles: sc-72439-V and ACSS1 shRNA (m) Lentiviral Particles: sc-140834-V.

Molecular Weight of ACSS1: 75 kDa.

Positive Controls: ACSS1 (m2): 293T Lysate: sc-126384 or NIH/3T3 whole cell lysate: sc-2210.

## DATA



ACSS1 (N-20): sc-85255. Western blot analysis of ACSS1 expression in non-transfected: sc-117752 (A) and mouse ACSS1 transfected: sc-126384 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **ACSS1 (D-7): sc-377149** or **ACSS1 (A-10): sc-373847**, our highly recommended monoclonal alternatives to ACSS1 (N-20).