

# ACSS1 (D-7): sc-377149



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., et al. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

ACSS1 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-99 within an internal region of ACSS1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACSS1 (D-7) is available conjugated to agarose (sc-377149 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377149 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377149 PE), fluorescein (sc-377149 FITC), Alexa Fluor® 488 (sc-377149 AF488), Alexa Fluor® 546 (sc-377149 AF546), Alexa Fluor® 594 (sc-377149 AF594) or Alexa Fluor® 647 (sc-377149 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377149 AF680) or Alexa Fluor® 790 (sc-377149 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377149 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

ACSS1 (D-7) is recommended for detection of ACSS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

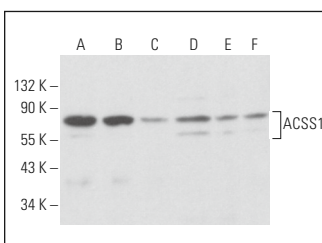
Molecular Weight of ACSS1: 75 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, TF-1 cell lysate: sc-2412 or F9 cell lysate: sc-2245.

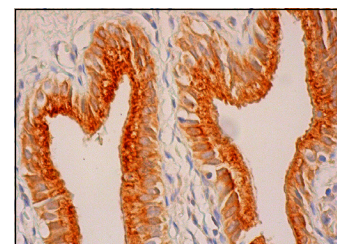
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



ACSS1 (D-7): sc-377149. Western blot analysis of ACSS1 expression in Jurkat (A), TF-1 (B), HL-60 (C), F9 (D), KNRK (E) and A-10 (F) whole cell lysates.



ACSS1 (D-7): sc-377149. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Cho, Y., et al. 2023. SPC-180002, a SIRT1/3 dual inhibitor, impairs mitochondrial function and redox homeostasis and represents an antitumor activity. *Free Radic. Biol. Med.* 208: 73-87.

## RESEARCH USE

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