

ACSVL1 (N-14): sc-161311

BACKGROUND

Acyl-coenzyme A synthetases (ACSs) are a large family of related enzymes known to catalyze the fundamental initial reaction in fatty acid metabolism. The ACS family is roughly characterized based on fatty acid chain length preference among different members. The nomenclature in the ACS family reflects this relationship and includes short-chain ACS (ACSS), medium-chain ACS (ACSM), long-chain ACS (ACSL) and very long-chain ACS (ACSVL). ACSVL family members are capable of activating both long-chain fatty acids (LCFAs) and very long-chain (VLCFAs) fatty acids. There are six members of the human ACSVL subfamily which have been described as solute carrier family 27A (SLC27A) gene products. They represent a group of evolutionarily conserved fatty acid transport proteins (FATPs) recognized for their role in facilitating translocation of long-chain fatty acids across the plasma membrane. The family nomenclature has recently been unified with their respective acyl-CoA synthetase family designations: ACSVL1 (FATP2), ACSVL2 (FATP6), ACSVL3 (FATP3), ACSVL4 (FATP4), ACSVL5 (FATP1) and ACSVL6 (FATP5). ACSVLs have unique expression patterns and are found in major organs of fatty acid metabolism, such as adipose tissue, liver, heart and kidney.

REFERENCES

- Schaffer, J.E., et al. 1994. Expression cloning and characterization of a novel adipocyte long chain fatty acid transport protein. *Cell* 79: 427-436.
- Hirsch, D., et al. 1998. A family of fatty acid transporters conserved from mycobacterium to man. *Proc. Natl. Acad. Sci. USA* 95: 8625-8629.
- Abumrad, N., et al. 1999. Membrane proteins implicated in long-chain fatty acid uptake by mammalian cells: CD36, FATP, FABPm. *Biochim. Biophys. Acta* 1441: 4-13.

CHROMOSOMAL LOCATION

Genetic locus: SLC27A2 (human) mapping to 15q21.2; Slc27a2 (mouse) mapping to 2 F1.

SOURCE

ACSVL1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of ACSVL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161311 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

ACSVL1 (N-14) is recommended for detection of ACSVL1 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), 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); non cross-reactive with other ACSVL family members.

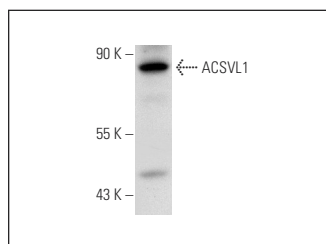
ACAT-1 (G-15) is also recommended for detection of ACAT-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ACSVL1 siRNA (h): sc-90127, ACSVL1 siRNA (m): sc-140837, ACSVL1 shRNA Plasmid (h): sc-90127-SH, ACSVL1 shRNA Plasmid (m): sc-140837-SH, ACSVL1 shRNA (h) Lentiviral Particles: sc-90127-V and ACSVL1 shRNA (m) Lentiviral Particles: sc-140837-V.

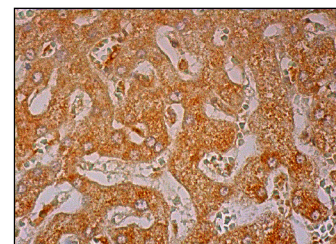
Molecular Weight of ACSVL1: 70 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

DATA



ACSVL1 (N-14): sc-161311. Western blot analysis of ACSVL1 expression in KNRK whole cell lysate.



ACSVL1 (N-14): sc-161311. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

- Konstantynowicz-Nowicka, K., et al. 2015. New evidence for the role of ceramide in the development of hepatic insulin resistance. *PLoS ONE* 10: e0116858.

PROTOCOLS

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