

ACSVL5 (I-20): sc-14497

BACKGROUND

Acyl-coenzyme A synthetases (ACSSs) 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. and Lodish, H.F. 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: SLC27A1 (human) mapping to 19p13.11; Slc27a1 (mouse) mapping to 8 B3.3.

SOURCE

ACSVL5 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACSVL5 of mouse 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-14497 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

ACSVL5 (I-20) is recommended for detection of ACSVL5 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ACSVL5 (I-20) is also recommended for detection of ACSVL5 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for ACSVL5 siRNA (h): sc-44585, ACSVL5 siRNA (m): sc-37093, ACSVL5 shRNA Plasmid (h): sc-44585-SH, ACSVL5 shRNA Plasmid (m): sc-37093-SH, ACSVL5 shRNA (h) Lentiviral Particles: sc-44585-V and ACSVL5 shRNA (m) Lentiviral Particles: sc-37093-V.

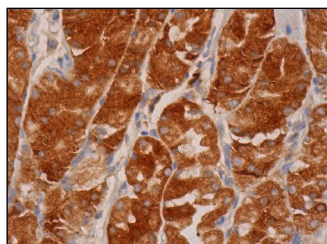
Molecular Weight of ACSVL5: 63 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ACSVL5 Antibody (I-20): sc-14497. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Bogazzi, F., et al. 2009. Regulation of cardiac fatty acids metabolism in transgenic mice overexpressing bovine GH. *J. Endocrinol.* 201: 419-427.
- Sebastián, D., et al. 2009. Novel role of FATP-1 in mitochondrial fatty acid oxidation in skeletal muscle cells. *J. Lipid Res.* 50: 1789-1799.
- Guitart, M., et al. 2014. Fatty acid transport protein 1 (FATP1) localizes in mitochondria in mouse skeletal muscle and regulates lipid and ketone body disposal. *PLoS ONE* 9: e98109.