SANTA CRUZ BIOTECHNOLOGY, INC.

ACSVL5 (M-100): sc-25541

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 amongst 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC27A1 (human) mapping to 19p13.11; Slc27a1 (mouse) mapping to 8 B3.3.

SOURCE

ACSVL5 (M-100) is a rabbit polyclonal antibody raised against amino acids 41-140 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.

APPLICATIONS

ACSVL5 (M-100) is recommended for detection of ACSVL5 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).

ACSVL5 (M-100) 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.

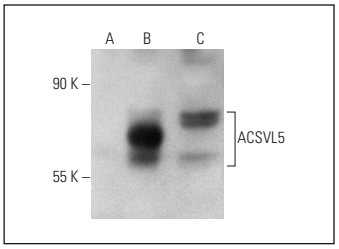
Molecular Weight of ACSVL5: 63 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, L8 cell lysate: sc-3807 or mouse ACSVL5 transfected CHO whole cell lysate.

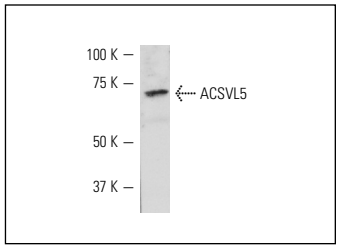
STORAGE

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

DATA



ACSVL5 (M-100): sc-25541. Western blot analysis of ACSVL5 expression in non-transfected CHO (**A**), mouse ACSVL5 transfected CHO (**B**) and L8 (**C**) whole cell lysates.



ACSVL5 (M-100): sc-25541. Western blot analysis of ACSVL5 expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Jain, S.S., et al. 2009. Additive effects of Insulin and muscle contraction on fatty acid transport and fatty acid transporters, FAT/CD36, FABPpm, FATP1, 4 and 6. FEBS Lett. 583: 2294-2300.
2. Zhu, M.J., et al. 2010. Maternal obesity markedly increases placental fatty acid transporter expression and fetal blood triglycerides at midgestation in the ewe. Am. J. Physiol. Regul. Integr. Comp. Physiol. 299: R1224-R1231.
3. Yan, X., et al. 2011. Maternal obesity-impaired Insulin signaling in sheep and induced lipid accumulation and fibrosis in skeletal muscle of offspring. Biol. Reprod. 85: 172-178.
4. Ma, Y., et al. 2011. Upregulation of growth signaling and nutrient transporters in cotyledons of early to mid-gestational nutrient restricted ewes. Placenta 32: 255-263.
5. Constantinescu, S., et al. 2012. Genetic downregulation of receptor-interacting protein 140 uncovers the central role of Akt signalling in the regulation of fatty acid oxidation in skeletal muscle cells. Exp. Physiol. 98: 514-525
6. Stanford, K.I., et al. 2013. Brown adipose tissue regulates glucose homeostasis and Insulin sensitivity. J. Clin. Invest. 123: 215-223.
7. Maher, A.C., et al. 2014. TBC1D1 reduces palmitate oxidation by inhibiting β-HAD activity in skeletal muscle. Am. J. Physiol. Regul. Integr. Comp. Physiol. 307: R1115-R1123.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.