SANTA CRUZ BIOTECHNOLOGY, INC.

ACSVL4 (H-100): sc-25670

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 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC27A4 (human) mapping to 9q34.11; Slc27a4 (mouse) mapping to 2 B.

SOURCE

ACSVL4 (H-100) is a rabbit polyclonal antibody raised against amino acids 41-140 of ACSVL4 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.

RESEARCH USE

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

APPLICATIONS

ACSVL4 (H-100) is recommended for detection of ACSVL4 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).

ACSVL4 (H-100) is also recommended for detection of ACSVL4 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ACSVL4 siRNA (h): sc-37094, ACSVL4 siRNA (m): sc-37095, ACSVL4 shRNA Plasmid (h): sc-37094-SH, ACSVL4 shRNA Plasmid (m): sc-37095-SH, ACSVL4 shRNA (h) Lentiviral Particles: sc-37094-V and ACSVL4 shRNA (m) Lentiviral Particles: sc-37095-V.

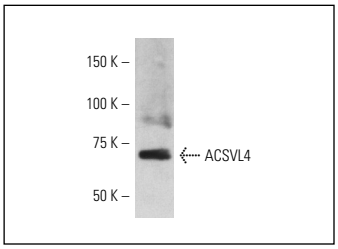
Molecular Weight of ACSVL4: 70 kDa.

Positive Controls: rat liver extract: sc-2395 or HeLa whole cell lysate: sc-2200.

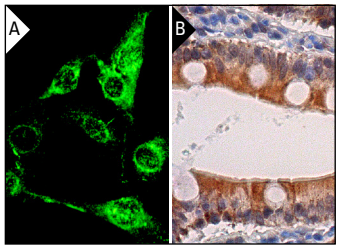
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



ACSVL4 (H-100): sc-25670. Western blot analysis of ACSVL4 expression in rat liver tissue extract.



ACSVL4 (H-100): sc-25670. Immunofluorescence staining of methanol-fixed Sol8 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. 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.
2. Long, N.M., et al. 2012. Maternal obesity upregulates fatty acid and glucose transporters and increases expression of enzymes mediating fatty acid biosynthesis in fetal adipose tissue depots. J. Anim. Sci. 90: 2201-2210.
3. McIntosh, A.L., et al. 2013. Liver fatty acid binding protein gene-ablation exacerbates weight gain in high-fat fed female mice. Lipids 48: 435-448.

STORAGE

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