SANTA CRUZ BIOTECHNOLOGY, INC.

ACSS2 (A-9): sc-398559

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ACSS2 (acyl-CoA synthetase short-chain family member 2), also known as ACAS2, ACS, ACSA or AceCS, is a 701 amino acid cytoplasmic protein that belongs to the ATP-dependent AMP-binding enzyme family. Existing as a monomer, ACSS2 functions to catalyze the ATP-dependent activation of acetate, a reaction that yields acetyl-CoA for use in energy generation and lipid synthesis. ACSS2 expression, which is highest in liver and kidney tissue, is regulated by the presence of unsaturated fatty acids and sterol regulatory element-binding proteins (SREBPs). Human ACSS2 exists as two alternatively spliced isoforms and shares 93% sequence identity with its mouse counterpart, suggesting a conserved role between species.

CHROMOSOMAL LOCATION

Genetic locus: ACSS2 (human) mapping to 20q11.22; Acss2 (mouse) mapping to 2 H1.

SOURCE

ACSS2 (A-9) is a mouse monoclonal antibody raised against amino acids 1-160 mapping at the N-terminus of ACSS2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACSS2 (A-9) is available conjugated to agarose (sc-398559 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398559 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398559 PE), fluorescein (sc-398559 FITC), Alexa Fluor® 488 (sc-398559 AF488), Alexa Fluor® 546 (sc-398559 AF546), Alexa Fluor® 594 (sc-398559 AF594) or Alexa Fluor® 647 (sc-398559 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398559 AF680) or Alexa Fluor® 790 (sc-398559 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

ACSS2 (A-9) is recommended for detection of ACSS2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ACSS2 siRNA (h): sc-72440, ACSS2 siRNA (m): sc-140835, ACSS2 shRNA Plasmid (h): sc-72440-SH, ACSS2 shRNA Plasmid (m): sc-140835-SH, ACSS2 shRNA (h) Lentiviral Particles: sc-72440-V and ACSS2 shRNA (m) Lentiviral Particles: sc-140835-V.

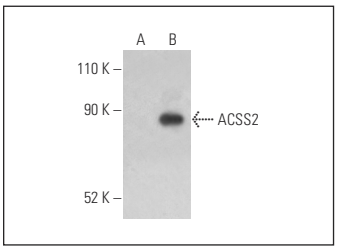
Molecular Weight of ACSS2: 78 kDa.

Positive Controls: ACSS2 (m): 293T Lysate: sc-126385.

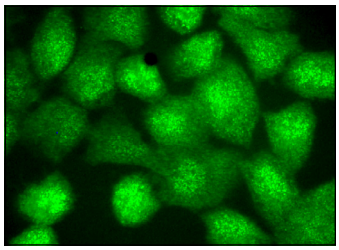
RECOMMENDED SUPPORT REAGENTS

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.

DATA



ACSS2 (A-9): sc-398559. Western blot analysis of ACSS2 expression in non-transfected: sc-117752 (**A**) and mouse ACSS2 transfected: sc-126385 (**B**) 293T whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



ACSS2 (A-9): sc-398559. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Sato, M., et al. 2018. Detachment from the primary site and suspension in ascites as the initial step in metabolic reprogramming and metastasis to the omentum in ovarian cancer. Oncol. Lett. 15: 1357-1361.
2. Mi, L., et al. 2019. ACSS2/AMPK/PCNA pathway-driven proliferation and chemoresistance of esophageal squamous carcinoma cells under nutrient stress. Mol. Med. Rep. 20: 5286-5296.
3. Dai, Z., et al. 2019. MicroRNA-22 regulates thyroid cell growth and lipid accumulation via IL6R. Front. Biosci. 24: 1350-1362.
4. Beck, A.C., et al. 2021. AP-2α regulates S-phase and is a marker for sensitivity to PI3K-inhibitor buparlisib in colon cancer. Mol. Cancer Res. 19: 1156-1167.
5. Cook, J.J., et al. 2022. Endurance exercise-mediated metabolic reshuffle attenuates high-caloric diet-induced non-alcoholic fatty liver disease. Ann. Hepatol. 27: 100709.
6. Salvi, A., et al. 2022. PHY34 inhibits autophagy through V-ATPase V0A2 subunit inhibition and CAS/CSE1L nuclear cargo trafficking in high grade serous ovarian cancer. Cell Death Dis. 13: 45.

STORAGE

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