SANTA CRUZ BIOTECHNOLOGY, INC.

ACAA2 (192): sc-100847

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian tissues contain five types of thiolases, all of which participate in metabolism of various compounds throughout the body. ACAA2 (acetyl-coenzyme A acyltransferase 2), also known as DSAEC, is a 397 amino acid member of the thiolase family of enzymes and is involved in lipid metabolism. Localized to the mitochondrion, ACAA2 catalyzes the last step, namely the conversion of acetyl-CoA to 3-oxoacyl-CoA, in the fatty acid oxidation pathway. ACAA2 is highly expressed in liver, fibrofblasts and intercostal muscle and contains an N-terminal targeting signal that, unlike other mitochondrial proteins, is non-cleavable. Human ACAA2 shares 86.6% amino acid identity with its rat counterpart, suggesting a conserved function for ACAA2 among different species.

CHROMOSOMAL LOCATION

Genetic locus: ACAA2 (human) mapping to 18q21.1; Acaa2 (mouse) mapping to 18 E2.

SOURCE

ACAA2 (192) is a mouse monoclonal antibody raised against recombinant ACAA2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

ACAA2 (192) is recommended for detection of ACAA2 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).

Suitable for use as control antibody for ACAA2 siRNA (h): sc-72424, ACAA2 siRNA (m): sc-140789, ACAA2 shRNA Plasmid (h): sc-72424-SH, ACAA2 shRNA Plasmid (m): sc-140789-SH, ACAA2 shRNA (h) Lentiviral Particles: sc-72424-V and ACAA2 shRNA (m) Lentiviral Particles: sc-140789-V.

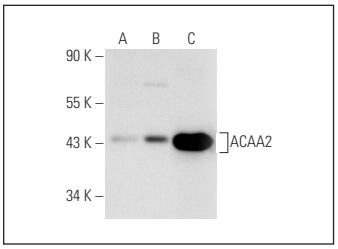
Molecular Weight of ACAA2: 42 kDa.

Positive Controls: ACAA2 (h): 293T Lysate: sc-172444, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

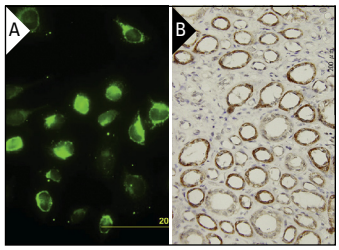
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ACAA2 (192): sc-100847. Western blot analysis of ACAA2 expression in non-transfected 293T: sc-117752 (**A**), human ACAA2 transfected 293T: sc-172444 (**B**) and HeLa (**C**) whole cell lysates.



ACAA2 (192): sc-100847. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Schwab, K., et al. 2011. Dietary phytoestrogen supplementation induces sex differences in the myocardial protein pattern of mice: a comparative proteomics study. Proteomics 11: 3887-3904.
2. Sodhi, S.S., et al. 2014. An approach to identify SNPs in the gene encoding acetyl-CoA acetyltransferase-2 (ACAT-2) and their proposed role in metabolic processes in pig. PLoS ONE 9: e102432.
3. Schubert, C., et al. 2016. Reduction of apoptosis and preservation of mitochondrial integrity under ischemia/reperfusion injury is mediated by estrogen receptor β. Biol. Sex Differ. 7: 53.
4. Herr, D.J., et al. 2018. HDAC1 localizes to the mitochondria of cardiac myocytes and contributes to early cardiac reperfusion injury. J. Mol. Cell. Cardiol. 114: 309-319.
5. Monsalves-Alvarez, M., et al. 2020. β-hydroxybutyrate increases exercise capacity associated with changes in mitochondrial function in skeletal muscle. Nutrients 12: 1930.
6. Tapia, P.J., et al. 2020. Absence of AGPAT2 impairs brown adipogenesis, increases IFN stimulated gene expression and alters mitochondrial morphology. Metab. Clin. Exp. 111: 154341.

RESEARCH USE

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