

ACAA1 (N-14): sc-99258

BACKGROUND

Mammalian tissues contain five types of thiolases, all of which participate in the metabolism of various compounds throughout the body. ACAA1 (acetyl-Coenzyme A acyltransferase 1), also known as Peroxisomal 3-oxoacyl-CoA thiolase, is a 424 amino acid member of the thiolase family of enzymes and is involved in lipid metabolism. Localized to the peroxisome, ACAA1 catalyzes the conversion of acyl-CoA and acetyl-CoA to 3-oxoacyl-CoA in the fatty acid oxidation pathway. ACAA1 shows high enzymatic activity in liver, kidney, intestine and white adipose tissue in rats, where it exists as two types, namely type A and type B. Human ACAA1 shares 86% amino acid identity with its rat counterpart, suggesting a conserved function for ACAA1 among different species.

REFERENCES

- Miyazawa, S., et al. 1981. Properties of peroxisomal 3-ketoacyl-coA thiolase from rat liver. *J. Biochem.* 90: 511-519.
- Hijikata, M., et al. 1987. Structural analysis of cDNA for rat peroxisomal 3-ketoacyl-CoA thiolase. *J. Biol. Chem.* 262: 8151-8158.
- Bodnar, A.G. and Rachubinski, R.A. 1990. Cloning and sequence determination of cDNA encoding a second rat liver peroxisomal 3-ketoacyl-CoA thiolase. *Gene* 91: 193-199.
- Hijikata, M., et al. 1990. Rat peroxisomal 3-ketoacyl-CoA thiolase gene. Occurrence of two closely related but differentially regulated genes. *J. Biol. Chem.* 265: 4600-4606.
- Swinkels, B.W., et al. 1991. A novel, cleavable peroxisomal targeting signal at the amino-terminus of the rat 3-ketoacyl-CoA thiolase. *EMBO J.* 10: 3255-3262.
- Chevillard, G., et al. 2004. Molecular cloning, gene structure and expression profile of two mouse peroxisomal 3-ketoacyl-CoA thiolase genes. *BMC Biochem.* 5: 3.

CHROMOSOMAL LOCATION

Genetic locus: ACAA1 (human) mapping to 3p22.2.

SOURCE

ACAA1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ACAA1 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.

Blocking peptide available for competition studies, sc-99258 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.

APPLICATIONS

ACAA1 (N-14) is recommended for detection of ACAA1 of 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); non cross-reactive with ACAA2.

Suitable for use as control antibody for ACAA1 siRNA (h): sc-78077, ACAA1 shRNA Plasmid (h): sc-78077-SH and ACAA1 shRNA (h) Lentiviral Particles: sc-78077-V.

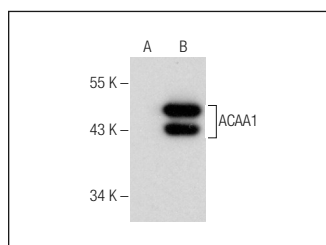
Molecular Weight of ACAA1: 44 kDa.

Positive Controls: ACAA1 (h2): 293T Lysate: sc-171640.

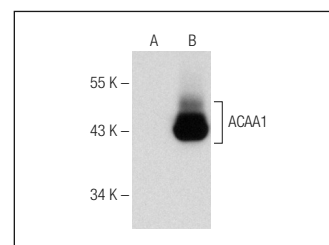
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ACAA1 (N-14): sc-99258. Western blot analysis of ACAA1 expression in non-transfected: sc-117752 (A) and human ACAA1 transfected: sc-171640 (B) 293T whole cell lysates.



ACAA1 (N-14): sc-99258. Western blot analysis of ACAA1 expression in non-transfected: sc-117752 (A) and human ACAA1 transfected: sc-112996 (B) 293T whole cell lysates.

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.