

# ACOT12 (P-13): sc-107130

## BACKGROUND

Acyl-CoA thioesterases (ACOTs) are a group of enzymes that catalyze the hydrolysis of acyl-CoA to form coenzyme A (CoA) and a free fatty acid. Through their catalytic activity, ACOTs are able to regulate the level of fatty acids and acyl-CoAs within the cell. ACOT12 (acyl-CoA thioesterase 12), also known as CACH, CACH1 or STARD12, is a 555 amino acid protein that localizes to the cytoplasm and contains one START domain and 2 acyl coenzyme A hydrolase domains. Existing as either a homodimer or a homotetramer, ACOT12 plays a role in pyruvate metabolism, specifically by catalyzing the hydrolysis of acetyl-CoA to acetate and CoA. The gene encoding ACOT12 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to cri du chat syndrome, while deletion of the q arm of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

## REFERENCES

1. Suematsu, N., Okamoto, K., Shibata, K., Nakanishi, Y. and Isohashi, F. 2001. Molecular cloning and functional expression of rat liver cytosolic acetyl-CoA hydrolase. *Eur. J. Biochem.* 268: 2700-2709.
2. Hunt, M.C. and Alexson, S.E. 2002. The role Acyl-CoA thioesterases play in mediating intracellular lipid metabolism. *Prog. Lipid Res.* 41: 99-130.
3. Suematsu, N., Okamoto, K. and Isohashi, F. 2003. Simple and unique purification by size-exclusion chromatography for an oligomeric enzyme, rat liver cytosolic acetyl-coenzyme A hydrolase. *J. Chromatogr. B Analyt. Technol. Biomed. Life Sci.* 790: 239-244.
4. Mashek, D.G., Bornfeldt, K.E., Coleman, R.A., Berger, J., Bernlohr, D.A., Black, P., DiRusso, C.C., Farber, S.A., Guo, W., Hashimoto, N., Khodiyar, V., Kuypers, F.A., Maltais, L.J., Nebert, D.W., Renieri, A., Schaffer, J.E., Stahl, A., Watkins, P.A., Vasiliou, V. and Yamamoto, T.T. 2004. Revised nomenclature for the mammalian long-chain acyl-CoA synthetase gene family. *J. Lipid Res.* 45: 1958-1961.

## CHROMOSOMAL LOCATION

Genetic locus: ACOT12 (human) mapping to 5q14.1; Acot12 (mouse) mapping to 13 C3.

## SOURCE

ACOT12 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACOT12 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-107130 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

ACOT12 (P-13) is recommended for detection of ACOT12 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); non cross-reactive with other ACOT family members.

ACOT12 (P-13) is also recommended for detection of ACOT12 in additional species, including equine and canine.

Suitable for use as control antibody for ACOT12 siRNA (h): sc-91923, ACOT12 siRNA (m): sc-140812, ACOT12 shRNA Plasmid (h): sc-91923-SH, ACOT12 shRNA Plasmid (m): sc-140812-SH, ACOT12 shRNA (h) Lentiviral Particles: sc-91923-V and ACOT12 shRNA (m) Lentiviral Particles: sc-140812-V.

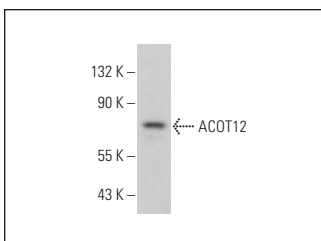
Molecular Weight of ACOT12: 62 kDa.

Positive Controls: JEG-3 whole cell lysate: sc-364255.

## 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



ACOT12 (P-13): sc-107130. Western blot analysis of ACOT12 expression in JEG-3 whole cell lysate.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.