

ACOT7 (B-4): sc-376692

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. ACOT7 (acyl-CoA thioesterase 7), also known as BACH (brain acyl-CoA hydrolase), LACH or CTE-II, is a 380 amino acid protein that is expressed as six alternatively spliced isoforms which localize to either the cytoplasm or the mitochondria. Functioning as a homodimer that contains two acyl coenzyme A hydrolase domains, ACOT7 plays an important role in regulating acyl-CoA levels within the body and is thought to specifically participate in proper brain physiology and function. Decreased ACOT7 expression may be associated with mesial temporal lobe epilepsy, a form of focal epilepsy that is characterized by simple or complex seizures.

REFERENCES

1. Yamada, J., et al. 1999. Purification, molecular cloning, and genomic organization of human brain long-chain acyl-CoA hydrolase. *J. Biochem.* 126: 1013-1019.
2. Yamada, J., et al. 2002. Human brain acyl-CoA hydrolase isoforms encoded by a single gene. *Biochem. Biophys. Res. Commun.* 299: 49-56.
3. Kuramochi, Y., et al. 2002. Characterization of mouse homolog of brain acyl-CoA hydrolase: molecular cloning and neuronal localization. *Brain Res. Mol. Brain Res.* 98: 81-92.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602587. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Yang, J.W., et al. 2004. Aberrant cytosolic acyl-CoA thioester hydrolase in hippocampus of patients with mesial temporal lobe epilepsy. *Amino Acids* 27: 269-275.
6. Yamada, J. 2005. Long-chain acyl-CoA hydrolase in the brain. *Amino Acids* 28: 273-278.
7. Hunt, M.C., et al. 2005. A revised nomenclature for mammalian acyl-CoA thioesterases/hydrolases. *J. Lipid Res.* 46: 2029-2032.
8. Serek, R., et al. 2006. Crystallization of the C-terminal domain of the mouse brain cytosolic long-chain acyl-CoA thioesterase. *Acta Crystallogr. Sect. F, Struct. Biol. Cryst. Commun.* 62: 133-135.

CHROMOSOMAL LOCATION

Genetic locus: ACOT7 (human) mapping to 1p36.31; Acot7 (mouse) mapping to 4 E2.

SOURCE

ACOT7 (B-4) is a mouse monoclonal antibody raised against amino acids 81-380 mapping at the C-terminus of ACOT7 of human origin.

PRODUCT

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

APPLICATIONS

ACOT7 (B-4) is recommended for detection of ACOT7 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 ACOT7 siRNA (h): sc-88501, ACOT7 siRNA (m): sc-105035, ACOT7 shRNA Plasmid (h): sc-88501-SH, ACOT7 shRNA Plasmid (m): sc-105035-SH, ACOT7 shRNA (h) Lentiviral Particles: sc-88501-V and ACOT7 shRNA (m) Lentiviral Particles: sc-105035-V.

Molecular Weight of ACOT7 isoforms B/A-X/A-Xi: 42/27/31 kDa.

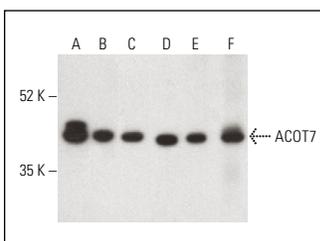
Molecular Weight of ACOT7 isoforms A/C/D: 37/39/37 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Neuro-2A whole cell lysate: sc-364185 or SK-MEL-28 cell lysate: sc-2236.

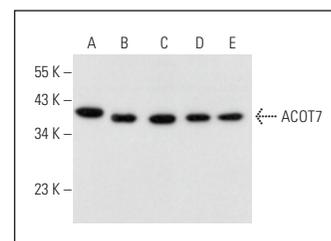
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



ACOT7 (B-4): sc-376692. Western blot analysis of ACOT7 expression in SK-MEL-28 (A), Jurkat (B), PC-3 (C) and Neuro-2A (D) whole cell lysates and mouse brain (E) and rat brain (F) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



ACOT7 (B-4): sc-376692. Western blot analysis of ACOT7 expression in Jurkat (A) and Neuro-2A (B) whole cell lysates and mouse brain (C), rat brain (D) and rat testis (E) tissue extracts.

STORAGE

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

RESEARCH USE

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