SANTA CRUZ BIOTECHNOLOGY, INC.

ACAD-8 (E-17): sc-66708

The Power to Question

BACKGROUND

ACAD-8 (acyl-CoA dehydrogenase family member 8), also known as isobutyryl-CoA dehydrogenase (IBD) or activator-recruited cofactor 42 kDa component (ARC42), consists of an N-terminal α-helical domain, a β-sheet domain and another α-helical domain at the C-terminal. The ACAD family of enzymes are involved in the catabolism of fatty acids and amino acids. They provide a major source of energy for the heart and skeletal muscle. ACAD-8 is a mitochondrial flavoprotein involved in valine degradation. It is responsible for converting isobutyryl-CoA to methacrylyl-CoA. ACAD-8 localizes to the mitochondrial matrix and exists as a homotetramer. Deficiency of ACAD-8 results in carnitine deficiency, dilated cardiomyopathy and formula feeding intolerance. The excretion of isobutyryl-glycine in urine is a sign of an ACAD-8 related defect.

REFERENCES

1. Roe, C.R., Cederbaum, S.D., Roe, D.S., Mardach, R., Galindo, A. and Sweetman, L. 1999. Isolated isobutyryl-CoA dehydrogenase deficiency: an unrecognized defect in human valine metabolism. Mol. Genet. Metab. 65: 264-271.
2. Näär, A.M., Beaurang, P.A., Zhou, S., Abraham, S., Solomon, W. and Tjian, R. 1999. Composite co-activator ARC mediates chromatin-directed transcriptional activation. Nature 398: 828-832.
3. Nguyen, T.V., Andresen, B.S., Corydon, T.J., Ghisla, S., Abd-El Razik, N., Mohsen, A.W., Cederbaum, S.D., Roe, D.S., Roe, C.R., Lench, N.J. and Vockley, J. 2002. Identification of isobutyryl-CoA dehydrogenase and its deficiency in humans. Mol. Genet. Metab. 77: 68-79.
4. Zhang, J., Zhang, W., Zou, D., Chen, G., Wan, T., Zhang, M. and Cao, X. 2002. Cloning and functional characterization of ACAD-9, a novel member of human acyl-CoA dehydrogenase family. Biochem. Biophys. Res. Commun. 297: 1033-1042.

CHROMOSOMAL LOCATION

Genetic locus: ACAD8 (human) mapping to 11q25; Acad8 (mouse) mapping to 9 A4.

SOURCE

ACAD-8 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACAD-8 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-66708 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

ACAD-8 (E-17) is recommended for detection of ACAD-8 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).

ACAD-8 (E-17) is also recommended for detection of ACAD-8 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ACAD-8 siRNA (h): sc-61932, ACAD-8 siRNA (m): sc-61933, ACAD-8 shRNA Plasmid (h): sc-61932-SH, ACAD-8 shRNA Plasmid (m): sc-61933-SH, ACAD-8 shRNA (h) Lentiviral Particles: sc-61932-V and ACAD-8 shRNA (m) Lentiviral Particles: sc-61933-V.

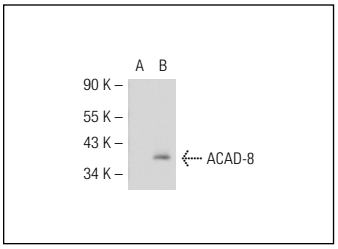
Molecular Weight of ACAD-8: 43 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, ACAD-8 (m): 293T Lysate: sc-118182 or ACAD-8 (h): 293 Lysate: sc-110621.

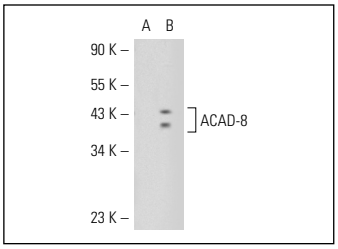
RECOMMENDED SECONDARY REAGENTS

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



ACAD-8 (E-17): sc-66708. Western blot analysis of ACAD-8 expression in non-transfected: sc-117752 (**A**) and mouse ACAD-8 transfected: sc-118182 (**B**) 293T whole cell lysates.



ACAD-8 (E-17): sc-66708. Western blot analysis of ACAD-8 expression in non-transfected: sc-110760 (**A**) and human ACAD-8 transfected: sc-110621 (**B**) 293 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.