SANTA CRUZ BIOTECHNOLOGY, INC.

ACAD-9 (H-40): sc-135148

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The acyl-CoA dehydrogenase (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-9 is highly homologous to the VLCAD (very long chain acyl-CoA dehydrogenase) protein and plays a key role in the β-oxidation of long-chain unsaturated fatty acids. ACAD-9 substrates include palmitoyl-CoA and stearoyl-CoA. ACAD-9 is ubquitously expressed but is most abundant in brain, kidney, heart, liver and skeletal muscle. Similar to VLCAD, ACAD-9 is a long-chain ACAD that localizes to the mitochondrial membrane and exists as a dimer. It may be an important contributor to maintaining membrane structure and integrity. Despite the high similarity between ACAD-9 and VLCAD, the two enzymes are not able to compensate in each others absence, suggesting that they play roles in different physiological functions.

REFERENCES

1. 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.
2. Bartlett, K. and Eaton, S. 2004. Mitochondrial β-oxidation. Eur. J. Biochem. 271: 462-469.
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6. Oey, N.A., Ruiter, J.P., Ijlst, L., Attie-Bitach, T., Vekemans, M., Wanders, R.J. and Wijburg, F.A. 2006. Acyl-CoA dehydrogenase 9 (ACAD-9) is the long-chain acyl-CoA dehydrogenase in human embryonic and fetal brain. Biochem. Biophys. Res. Commun. 346: 33-37.
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CHROMOSOMAL LOCATION

Genetic locus: ACAD9 (human) mapping to 3q21.3; Acad9 (mouse) mapping to 3 B.

SOURCE

ACAD-9 (H-40) is a rabbit polyclonal antibody raised against amino acids 118-157 mapping within an internal region of ACAD-9 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.

APPLICATIONS

ACAD-9 (H-40) is recommended for detection of ACAD-9 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-9 (H-40) is also recommended for detection of ACAD-9 in additional species, including equine and canine.

Suitable for use as control antibody for ACAD-9 siRNA (h): sc-61935, ACAD-9 siRNA (m): sc-61934, ACAD-9 shRNA Plasmid (h): sc-61935-SH, ACAD-9 shRNA Plasmid (m): sc-61934-SH, ACAD-9 shRNA (h) Lentiviral Particles: sc-61935-V and ACAD-9 shRNA (m) Lentiviral Particles: sc-61934-V.

Molecular Weight of ACAD-9: 65 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Lagoutte-Renosi, J., Ségalas-Milazzo, I., Crahes, M., Renosi, F., Menu-Bouaouiche, L., Torre, S., Lardennois, C., Rio, M., Marret, S., Brasse-Lagnel, C., Laquerrière, A. and Bekri, S. 2015. Lethal neonatal progression of fetal cardiomegaly associated to ACAD9 deficiency. JIMD Rep. E-published.

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.

PROTOCOLS

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