SANTA CRUZ BIOTECHNOLOGY, INC.

ACAD-9 (S-20): sc-66716

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., et al. 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., et al. 2004. Mitochondrial β-oxidation. Eur. J. Biochem. 271: 462-469.
3. Ghisla, S., et al. 2004. Acyl-CoA dehydrogenases. A mechanistic overview. Eur. J. Biochem. 271: 494-508.
4. Ye, X., et al. 2004. Cloning and characterization of a human cDNA ACAD-10 mapped to chromosome 12q24.1. Mol. Biol. Rep. 31: 191-195.
5. Ensenauer, R., et al. 2005. Human acyl-CoA dehydrogenase-9 plays a novel role in the mitochondrial β-oxidation of unsaturated fatty acids. J. Biol. Chem. 280: 32309-32316.
6. Oey, N.A., et al. 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.
7. He, M., et al. 2007. A new genetic disorder in mitochondrial fatty acid β-oxidation: ACAD-9 deficiency. Am. J. Hum. Genet. 81: 87-103.

CHROMOSOMAL LOCATION

Genetic locus: Acad9 (mouse) mapping to 3 B.

SOURCE

ACAD-9 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ACAD-9 of mouse origin.

STORAGE

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

PROTOCOLS

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

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-66716 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ACAD-9 (S-20) is recommended for detection of ACAD-9 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (S-20) is also recommended for detection of ACAD-9 in additional species, including canine.

Suitable for use as control antibody for ACAD-9 siRNA (m): sc-61934, ACAD-9 shRNA Plasmid (m): sc-61934-SH 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 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) 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.

RESEARCH USE

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