

ACADS (G-10): sc-365953

BACKGROUND

ACADS (acyl-Coenzyme A dehydrogenase, C-2 to C-3 short chain), also known as SCAD or ACAD3, is a 412 amino acid homotetrameric mitochondrial flavo-protein that belongs to the acyl-CoA dehydrogenase family. ACADS catalyzes the rate-limiting step of the mitochondrial fatty acid β -oxidation pathway. Mutations of ACADS have been associated with fatty acid oxidation defects and metabolic diseases such as short-chain acyl-CoA dehydrogenase deficiency (SCAD deficiency), an autosomal recessive disorder resulting in acute acidosis and muscle weakness in infants and lipid-storage myopathy in adults. SCADS leads to the accumulation of butyrylcarnitine and ethylmalonic acid in blood and urine. ACADS contains four FAD domains.

CHROMOSOMAL LOCATION

Genetic locus: ACADS (human) mapping to 12q24.31; Acads (mouse) mapping to 5 F.

SOURCE

ACADS (G-10) is a mouse monoclonal antibody raised against amino acids 104-244 mapping within an internal region of ACADS of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACADS (G-10) is available conjugated to agarose (sc-365953 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365953 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365953 PE), fluorescein (sc-365953 FITC), Alexa Fluor[®] 488 (sc-365953 AF488), Alexa Fluor[®] 546 (sc-365953 AF546), Alexa Fluor[®] 594 (sc-365953 AF594) or Alexa Fluor[®] 647 (sc-365953 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365953 AF680) or Alexa Fluor[®] 790 (sc-365953 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ACADS (G-10) is recommended for detection of ACADS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 ACADS siRNA (h): sc-96082, ACADS siRNA (m): sc-140792, ACADS shRNA Plasmid (h): sc-96082-SH, ACADS shRNA Plasmid (m): sc-140792-SH, ACADS shRNA (h) Lentiviral Particles: sc-96082-V and ACADS shRNA (m) Lentiviral Particles: sc-140792-V.

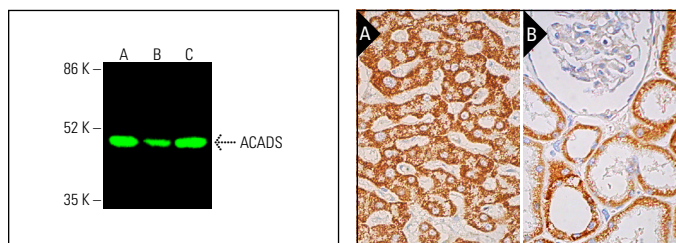
Molecular Weight of ACADS: 42 kDa.

Positive Controls: COLO 205 whole cell lysate: sc-364177, L6 whole cell lysate: sc-364196 or C4 whole cell lysate: sc-364186.

STORAGE

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

DATA



ACADS (G-10): sc-365953. Near-Infrared western blot analysis of ACADS expression in COLO 205 (A), L6 (B) and C4 (C) whole cell lysates. Detection reagent used: m-IgG_{2b} BP-CFL 680: sc-542749. Blocked with UltraCruz[®] Blocking Reagent: sc-516214.

ACADS (G-10): sc-365953. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (A) and human kidney tissue showing cytoplasmic staining of cells in tubules (B). Blocked with 0.25X UltraCruz[®] Blocking Reagent: sc-516214. Detection reagents used: m-IgG_κ BP-B: sc-516142 and ImmunoCruz[®] ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

- Bose, S.K., et al. 2014. Forkhead box transcription factor regulation and lipid accumulation by hepatitis C virus. *J. Virol.* 88: 4195-4203.
- Becker, C., et al. 2018. CLPP deficiency protects against metabolic syndrome but hinders adaptive thermogenesis. *EMBO Rep.* 19: e45126.
- Tapia, P.J., et al. 2020. Absence of AGPAT2 impairs brown adipogenesis, increases IFN stimulated gene expression and alters mitochondrial morphology. *Metab. Clin. Exp.* 111: 154341.
- Monsalves-Alvarez, M., et al. 2020. β -hydroxybutyrate increases exercise capacity associated with changes in mitochondrial function in skeletal muscle. *Nutrients* 12: 1930.
- Lepczynski, A., et al. 2021. Effects of three-month feeding high fat diets with different fatty acid composition on myocardial proteome in mice. *Nutrients* 13: 330.
- Li, P., et al. 2021. Gut inflammation exacerbates high-fat diet induced steatosis by suppressing VLDL-TG secretion through HNF4 α pathway. *Free Radic. Biol. Med.* 172: 459-469.

RESEARCH USE

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

PROTOCOLS

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