SANTA CRUZ BIOTECHNOLOGY, INC.

# ACADS (G-10): sc-365953

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 flavoprotein 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 µg $IgG_{2b}$ 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 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365953 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## RESEARCH USE

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

## 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 µg per 100-500 µg 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).

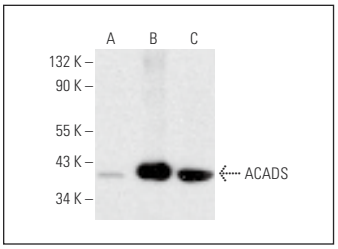
Suitable for use as control antibody for ACADS siRNA (h): sc-96082, ACADS siRNA (m): sc-140792, ACADS shRNA Plasmid (h): sc-96082-SH, ACADS shRNA Plasmid (m): sc-140792-SH, ACADS shRNA (h) Lentiviral Particles: sc-96082-V and ACADS shRNA (m) Lentiviral Particles: sc-140792-V.

Molecular Weight of ACADS: 42 kDa.

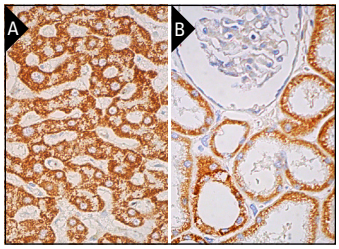
## RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA




ACADS (G-10): sc-365953. Western blot analysis of ACADS expression in non-transfected 293T: sc-117752 (**A**), mouse ACADS transfected 293T: sc-118186 (**B**) and L8 (**C**) whole cell lysates.




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-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

## SELECT PRODUCT CITATIONS

1. Bose, S.K., et al. 2014. Forkhead box transcription factor regulation and lipid accumulation by hepatitis C virus. J. Virol. 88: 4195-4203.
2. Becker, C., et al. 2018. CLPP deficiency protects against metabolic syndrome but hinders adaptive thermogenesis. EMBO Rep. 19: e45126.
3. 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.
4. Monsalves-Alvarez, M., et al. 2020. β-hydroxybutyrate increases exercise capacity associated with changes in mitochondrial function in skeletal muscle. Nutrients 12: 1930.
5. 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.
6. Li, P., et al. 2021. Gut inflammation exacerbates high-fat diet induced steatosis by suppressing VLDL-TG secretion through HNF4α pathway. Free Radic. Biol. Med. 172: 459-469.

## STORAGE

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