



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# ACADS (m): 293T Lysate: sc-118186

## 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 beta-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.

## REFERENCES

1. Corydon, M.J., et al. 1997. Structural organization of the human short-chain acyl-CoA dehydrogenase gene. *Mamm. Genome* 8: 922-926.
2. Tafti, M., et al. 2003. Deficiency in short-chain fatty acid  $\beta$ -oxidation affects  $\theta$  oscillations during sleep. *Nat. Genet.* 34: 320-325.
3. Nasser, I., et al. 2004. Thermal unfolding of medium-chain acyl-CoA dehydrogenase and iso(3)valeryl-CoA dehydrogenase: study of the effect of genetic defects on enzyme stability. *Biochim. Biophys. Acta* 1690: 22-32.
4. Ensenauer, R., et al. 2005. Human acyl-CoA dehydrogenase-9 plays a novel role in the mitochondrial  $\beta$ -oxidation of unsaturated fatty acids. *J. Biol. Chem.* 280: 32309-32316.
5. Nagpal, A., et al. 2006. Crystal structures of nitroalkane oxidase: insights into the reaction mechanism from a covalent complex of the flavoenzyme trapped during turnover. *Biochemistry* 45: 1138-1150.
6. van Maldegem, B.T., et al. 2006. Clinical, biochemical, and genetic heterogeneity in short-chain acyl-coenzyme A dehydrogenase deficiency. *JAMA* 296: 943-952.
7. McAndrew, R.P., et al. 2008. Structural basis for substrate fatty acyl chain specificity: crystal structure of human very-long-chain acyl-CoA dehydrogenase. *J. Biol. Chem.* 283: 9435-9443.
8. Tein, I., et al. 2008. Short-chain acyl-CoA dehydrogenase gene mutation (c.319C>T) presents with clinical heterogeneity and is candidate founder mutation in individuals of Ashkenazi Jewish origin. *Mol. Genet. Metab.* 93: 179-189.
9. Goetzman, E.S. 2009. The regulation of acyl-CoA dehydrogenases in adipose tissue by rosiglitazone. *Obesity* 17: 196-198.

## CHROMOSOMAL LOCATION

Genetic locus: *Acads* (mouse) mapping to 5 F.

## PRODUCT

ACADS (m): 293T Lysate represents a lysate of mouse ACADS transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## RESEARCH USE

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

## APPLICATIONS

ACADS (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ACADS antibodies.

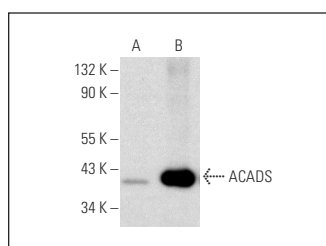
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ACADS (G-10): sc-365953 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ACADS expression in ACADS transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

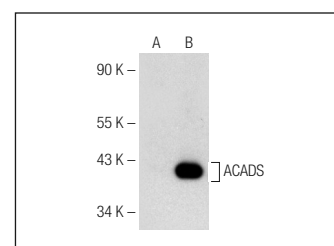
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



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



ACADS (H-141): sc-135342. Western blot analysis of ACADS expression in non-transfected: sc-117752 (A) and mouse ACADS transfected: sc-118186 (B) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.