

ACAD-10 (F-11): sc-393248

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-10 (acyl-coenzyme A dehydrogenase family member 10) is a 1,059 amino acid member of the ACAD family that is expressed as four alternatively spliced isoforms and is widely expressed with highest expression in liver, kidney, pancreas and spleen. The gene encoding ACAD-10 maps to chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Allen, T.L., et al. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
2. Roe, C.R., et al. 1998. Isolated isobutyryl-CoA dehydrogenase deficiency: an unrecognized defect in human valine metabolism. *Mol. Genet. Metab.* 65: 264-271.
3. Gilbert, F. and Kauff, N. 2000. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 12. Genet. Test.* 4: 319-333.
4. Montgomery, K.T., et al. 2001. A high-resolution map of human chromosome 12. *Nature* 409: 945-946.
5. Battaile, K.P., et al. 2004. Structures of isobutyryl-CoA dehydrogenase and enzyme-product complex: comparison with isovaleryl- and short-chain acyl-CoA dehydrogenases. *J. Biol. Chem.* 279: 16526-16534.
6. Ye, X., et al. 2004. Cloning and characterization of a human cDNA ACAD10 mapped to chromosome 12q24.1. *Mol. Biol. Rep.* 31: 191-195.
7. Swigonová, Z., et al. 2009. Acyl-CoA dehydrogenases: dynamic history of protein family evolution. *J. Mol. Evol.* 69: 176-193.

CHROMOSOMAL LOCATION

Genetic locus: ACAD10 (human) mapping to 12q24.12; Acad10 (mouse) mapping to 5 F.

SOURCE

ACAD-10 (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 409-439 within an internal region of ACAD-10 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393248 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ACAD-10 (F-11) is recommended for detection of ACAD-10 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ACAD-10 (F-11) is also recommended for detection of ACAD-10 in additional species, including equine and bovine.

Suitable for use as control antibody for ACAD-10 siRNA (h): sc-95938, ACAD-10 siRNA (m): sc-140790, ACAD-10 shRNA Plasmid (h): sc-95938-SH, ACAD-10 shRNA Plasmid (m): sc-140790-SH, ACAD-10 shRNA (h) Lentiviral Particles: sc-95938-V and ACAD-10 shRNA (m) Lentiviral Particles: sc-140790-V.

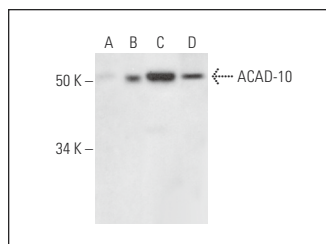
Molecular Weight of ACAD-10: 119/100/56/32 kDa.

Positive Controls: ACAD-10 (m): 293T Lysate: sc-118180, NCI-H460 whole cell lysate: sc-364235 or human spleen extract: sc-363779.

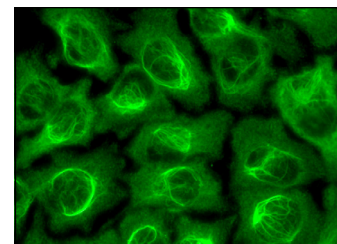
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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.

DATA



ACAD-10 (F-11): sc-393248. Western blot analysis of ACAD-10 expression in non-transfected 293T: sc-117752 (A), mouse ACAD-10 transfected 293T: sc-118180 (B) and NCI-H460 (C) whole cell lysates and human spleen tissue extract (D).



ACAD-10 (F-11): sc-393248. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.