

ACAD-10 (Y-14): sc-161305

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 4 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., Brothman, A.R., Carey, J.C. and Chance, P.F. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
2. Roe, C.R., Cederbaum, S.D., Roe, D.S., Mardach, R., Galindo, A. and Sweetman, L. 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., Lee, E., Miller, A., Lau, S., Shim, C., Decker, J., Chiu, D., Emerling, S., Sekhon, M., Kim, R., Lenz, J., Han, J., Ioshikhes, I., Renault, B., Marondel, I., Yoon, S.J., Song, K., Murty, V.V., Scherer, S., et al. 2001. A high-resolution map of human chromosome 12. *Nature* 409: 945-946.
5. Battaile, K.P., Nguyen, T.V., Vockley, J. and Kim, J.J. 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., Ji, C., Zhou, C., Zeng, L., Gu, S., Ying, K., Xie, Y. and Mao, Y. 2004. Cloning and characterization of a human cDNA ACAD-10 mapped to chromosome 12q24.1. *Mol. Biol. Rep.* 31: 191-195.
7. Swigonová, Z., Mohsen, A.W. and Vockley, J. 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 (Y-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ACAD-10 of human origin.

STORAGE

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

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-161305 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ACAD-10 (Y-14) is recommended for detection of ACAD-10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 (Y-14) is also recommended for detection of ACAD-10 in additional species, including equine, canine, bovine and porcine.

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.

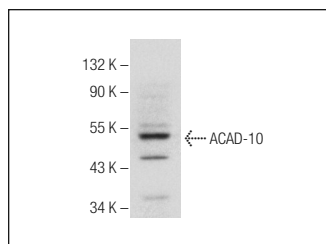
Molecular Weight of ACAD-10: 119/100/56/32 kDa.

Positive Controls: NCI-H460 whole cell lysate.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ACAD-10 (Y-14): sc-161305. Western blot analysis of ACAD-10 expression in NCI-H460 whole cell lysate.

RESEARCH USE

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