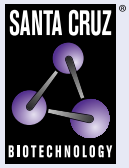
SANTA CRUZ BIOTECHNOLOGY, INC.

EHHADH (D-2): sc-393123



The Power to Question

BACKGROUND

Peroxisomes play an important role in the oxidation of fatty acids via β-oxidation, which is carried out by two distinct pathways; the L-hydroxy-specific classical β-oxidation for very long straight-chain fatty acids and the D-hydroxy-specific β-oxidation for branched-chain fatty acids. A defect in either pathway can result in elevated serum levels of fatty-acids, leading to severe mental retardation and early death. As an L-hydroxy-specific enzyme, EHHADH (enoyl-CoA-hydratase:3-hydroxyacyl-CoA dehydrogenase), also known as peroxisomal L-bifunctional enzyme, is a 723 amino acid protein has an essential tripeptide sequence on its carboxyl-terminus that is required for peroxisomal transport. EHHADH-null mice only exhibit a blunted peroxisome proliferative response when challenged with a peroxisome proliferator. Since there were no observed changes in lipid metabolism, this evidence suggests that enoyl-CoAs were diverted to the D-hydroxy-specific β-oxidation system for metabolism.

CHROMOSOMAL LOCATION

Genetic locus: EHHADH (human) mapping to 3q27.2; Ehhadh (mouse) mapping to 16 B1.

SOURCE

EHHADH (D-2) is a mouse monoclonal antibody raised against amino acids 424-723 mapping at the C-terminus of EHHADH of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EHHADH (D-2) is available conjugated to agarose (sc-393123 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393123 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393123 PE), fluorescein (sc-393123 FITC), Alexa Fluor® 488 (sc-393123 AF488), Alexa Fluor® 546 (sc-393123 AF546), Alexa Fluor® 594 (sc-393123 AF594) or Alexa Fluor® 647 (sc-393123 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393123 AF680) or Alexa Fluor® 790 (sc-393123 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EHHADH (D-2) is recommended for detection of EHHADH 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).

Suitable for use as control antibody for EHHADH siRNA (h): sc-78261, EHHADH siRNA (m): sc-144604, EHHADH shRNA Plasmid (h): sc-78261-SH, EHHADH shRNA Plasmid (m): sc-144604-SH, EHHADH shRNA (h) Lentiviral Particles: sc-78261-V and EHHADH shRNA (m) Lentiviral Particles: sc-144604-V.

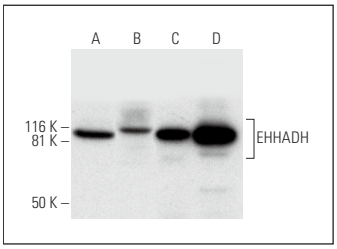
Molecular Weight of EHHADH: 79 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human kidney extract: sc-363764 or human liver extract: sc-363766.

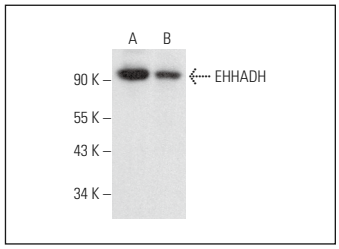
RECOMMENDED SUPPORT REAGENTS

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.

DATA



EHHADH (D-2): sc-393123. Western blot analysis of EHHADH expression in Hep G2 (**A**) and Caki-1 (**B**) whole cell lysates and human kidney (**C**) and human liver (**D**) tissue extracts.



EHHADH (D-2): sc-393123. Western blot analysis of EHHADH expression in Hep G2 (**A**) and ACHN (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, Y.K., et al. 2017. Enoyl-CoA hydratase-1 regulates mTOR signaling and apoptosis by sensing nutrients. Nat. Commun. 8: 464.
2. Sato, M., et al. 2018. Detachment from the primary site and suspension in ascites as the initial step in metabolic reprogramming and metastasis to the omentum in ovarian cancer. Oncol. Lett. 15: 1357-1361.
3. Li, H., et al. 2020. Tandem Mass Tag-based quantitative proteomics analysis of metabolic associated fatty liver disease induced by high fat diet in mice. Nutr. Metab. 17: 97.
4. Hidalgo-Gutiérrez, A., et al. 2021. β-RA targets mitochondrial metabolism and adipogenesis, leading to therapeutic benefits against CoQ deficiency and age-related overweight. Biomedicines 9: 1457.
5. Zhang, Y., et al. 2022. Acox2 is a regulator of lysine crotonylation that mediates hepatic metabolic homeostasis in mice. Cell Death Dis. 13: 279.
6. Kan, S., et al. 2024. EHHADH deficiency regulates pexophagy and accelerates tubulointerstitial injury in diabetic kidney disease. Cell Death Discov. 10: 289.

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.

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