

HADHSC (E-14): sc-74651

BACKGROUND

HADHSC (hydroxyacyl-coenzyme A (CoA) dehydrogenase, short chain), also known as HAD, HHF4, HADH1, SCHAD or M/SCHAD (medium and short chain L-3-hydroxyacyl-CoA dehydrogenase), is a mitochondrial matrix protein expressed in pancreas, liver, heart, kidney and skeletal muscle. HADHSC exists as a homodimer that participates in lipid metabolism and is essential for the β -oxidation of medium and short chain fatty acids. More specifically, HADHSC catalyzes the dehydrogenation of 3-hydroxyacyl-CoAs to their corresponding 3-ketoacyl-CoAs while NAD⁺ is simultaneously reduced to NADH. Defects in HADHSC can lead to HADH (3- α -hydroxyacyl-CoA dehydrogenase) deficiency and familial hyperinsulinemic hypoglycemia 4 (HHF4). HADH deficiency is characterized as a metabolic disorder with patients exhibiting hepatoencephalopathy, hypoglycemia, myopathy or cardiomyopathy and sometimes experiencing sudden death. HHF4 is a disorder characterized by elevated Insulin secretion that, if left untreated, can cause brain damage from recurrent hypoglycemia episodes.

REFERENCES

1. He, X.Y., et al. 1989. Assay of L-3-hydroxyacyl-coenzyme A dehydrogenase with substrates of different chain lengths. *Anal. Biochem.* 180: 105-109.
2. Vredendaal, P.J., et al. 1996. Human short-chain L-3-hydroxyacyl-CoA dehydrogenase: cloning and characterization of the coding sequence. *Biochem. Biophys. Res. Commun.* 223: 718-723.
3. Bennett, M.J., et al. 1996. Mitochondrial short-chain L-3-hydroxyacyl-coenzyme A dehydrogenase deficiency: a new defect of fatty acid oxidation. *Pediatr. Res.* 39: 185-188.
4. He, X.Y., et al. 1999. Identity of heart and liver L-3-hydroxyacyl coenzyme A dehydrogenase. *Biochim. Biophys. Acta* 1437: 119-123.
5. Treacy, E.P., et al. 2000. Short-chain hydroxyacyl-coenzyme A dehydrogenase deficiency presenting as unexpected infant death: A family study. *J. Pediatr.* 137: 257-259.

CHROMOSOMAL LOCATION

Genetic locus: HADH (human) mapping to 4q25; Hadh (mouse) mapping to 3 G3.

SOURCE

HADHSC (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HADHSC of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74651 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

HADHSC (E-14) is recommended for detection of HADHSC of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

HADHSC (E-14) is also recommended for detection of HADHSC in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HADHSC siRNA (h): sc-75222, HADHSC siRNA (m): sc-75223, HADHSC shRNA Plasmid (h): sc-75222-SH, HADHSC shRNA Plasmid (m): sc-75223-SH, HADHSC shRNA (h) Lentiviral Particles: sc-75222-V and HADHSC shRNA (m) Lentiviral Particles: sc-75223-V.

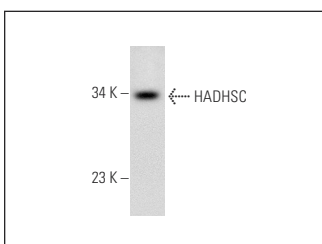
Molecular Weight of HADHSC isoforms 1/2: 34/42 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

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



HADHSC (E-14): sc-74651. Western blot analysis of HADHSC expression in Hep G2 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.