SANTA CRUZ BIOTECHNOLOGY, INC.

# HADHSC (A-5): sc-376525

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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.


## CHROMOSOMAL LOCATION

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

## SOURCE

HADHSC (A-5) is a mouse monoclonal antibody raised against amino acids 151-314 mapping at the C-terminus of HADHSC of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HADHSC (A-5) is available conjugated to agarose (sc-376525 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376525 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376525 PE), fluorescein (sc-376525 FITC), Alexa Fluor® 488 (sc-376525 AF488), Alexa Fluor® 546 (sc-376525 AF546), Alexa Fluor® 594 (sc-376525 AF594) or Alexa Fluor® 647 (sc-376525 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376525 AF680) or Alexa Fluor® 790 (sc-376525 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## RESEARCH USE

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

## APPLICATIONS

HADHSC (A-5) is recommended for detection of HADHSC 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 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.

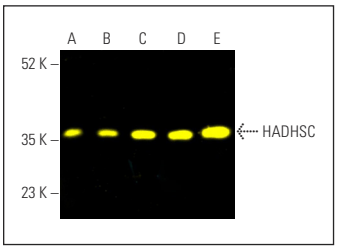
Molecular Weight of HADHSC isoforms 1/2: 34/42 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

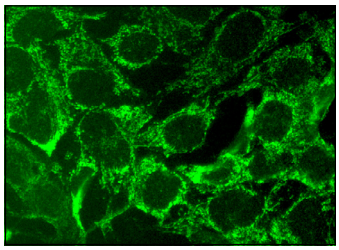
## RECOMMENDED SUPPORT REAGENTS

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




HADHSC (A-5): sc-376525. Fluorescent western blot analysis of HADHSC expression in Caki-1 (**A**), MCF7 (**B**), HEK293 (**C**), Hep G2 (**D**) and c4 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-$IgG_{2a}$ BP-CFL 488: sc-542735.



HADHSC (A-5): sc-376525. Immunofluorescence staining of formalin-fixed Hep G2 cells showing mitochondrial localization.

## SELECT PRODUCT CITATIONS


1. Kulkarni, C.A., et al. 2020. ALKBH7 mediates necrosis via rewiring of glyoxal metabolism. Elife 9: e58573.
2. Ogura, Y., et al. 2020. Ketogenic diet feeding improves aerobic metabolism property in extensor digitorum longus muscle of sedentary male rats. PLoS ONE 15: e0241382.


## STORAGE

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