

mHMGCS (G-11): sc-376092

BACKGROUND

HMG-CoA synthase exists as both a mitochondrial (mHMGCS) and cytoplasmic (cHMGCS) enzyme that condenses acetyl-CoA with acetoacetyl-CoA to form HMG-CoA. The HMG-CoA produced by cHMGCS is transformed into mevalonate by HMG-CoA reductase, which starts isoprenoid biosynthesis. End products of the isoprenoid pathway include cholesterol, ubiquinone, dolichol, isopentenyl adenosine and farnesyl groups. mHMGCS, together with HMG-CoA lyase, is responsible for ketone body biosynthesis. mHMGCS is expressed in liver and kidney. Fasting, cAMP and fatty acids increase the level of transcription of mHMGCS, while feeding and Insulin repress it. A regulatory element within the mHMGCS promoter confers transcriptional regulation by PPAR, RXR, COUP-TF and HNF-4.6.

CHROMOSOMAL LOCATION

Genetic locus: HMGCS2 (human) mapping to 1p12; Hmgcs2 (mouse) mapping to 3 F2.2.

SOURCE

mHMGCS (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 425-461 near the C-terminus of mHMGCS of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-376092 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

mHMGCS (G-11) is recommended for detection of mHMGCS 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), immunohistochemistry (including paraffin-embedded sections) (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 mHMGCS siRNA (h): sc-44503, mHMGCS siRNA (m): sc-44502, mHMGCS shRNA Plasmid (h): sc-44503-SH, mHMGCS shRNA Plasmid (m): sc-44502-SH, mHMGCS shRNA (h) Lentiviral Particles: sc-44503-V and mHMGCS shRNA (m) Lentiviral Particles: sc-44502-V.

Molecular Weight (predicted) of mHMGCS: 57 kDa.

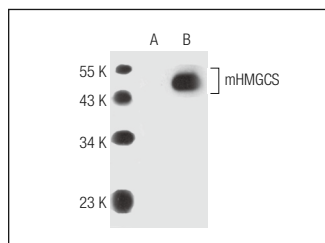
Molecular Weight (observed) of mHMGCS: 47-67 kDa.

Positive Controls: mHMGCS (m2): 293T Lysate: sc-121641, mouse placenta extract: sc-364247 or mouse liver extract: sc-2256.

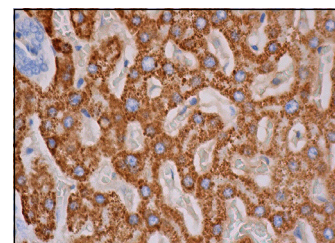
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



mHMGCS (G-11): sc-376092. Western blot analysis of mHMGCS expression in non-transfected: sc-117752 (A) and mouse mHMGCS transfected: sc-121641 (B) 293T whole cell lysates.



mHMGCS (G-11): sc-376092. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

- Schatton, D., et al. 2017. CLUH regulates mitochondrial metabolism by controlling translation and decay of target mRNAs. *J. Cell Biol.* 216: 675-693.
- Pla-Martín, D., et al. 2020. CLUH granules coordinate translation of mitochondrial proteins with mTORC1 signaling and mitophagy. *EMBO J.* 39: e102731.
- Selmi-Ruby, S., et al. 2020. *In vivo* characterization of the toxicological properties of DPhP, one of the main degradation products of aryl phosphate esters. *Environ. Health Perspect.* 128: 127006.
- Lee, D., et al. 2020. Dietary schizophyllan reduces mitochondrial damage by activating SIRT3 in mice. *Arch. Pharm. Res.* 43: 449-461.

STORAGE

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

PROTOCOLS

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