

cHMGCS (D-20): sc-32422

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.

CHROMOSOMAL LOCATION

Genetic locus: HMGCS1 (human) mapping to 5p12; Hmgcs1 (mouse) mapping to 13.

SOURCE

cHMGCS (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of cHMGCS of human origin.

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-32422 P, (100 µg 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

cHMGCS (D-20) is recommended for detection of cytoplasmic HMG-CoA synthase 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).

cHMGCS (D-20) is also recommended for detection of cytoplasmic HMG-CoA synthase in additional species, including equine and porcine.

Suitable for use as control antibody for cHMGCS siRNA (h): sc-44506, cHMGCS siRNA (m): sc-44507, cHMGCS shRNA Plasmid (h): sc-44506-SH, cHMGCS shRNA Plasmid (m): sc-44507-SH, cHMGCS shRNA (h) Lentiviral Particles: sc-44506-V and cHMGCS shRNA (m) Lentiviral Particles: sc-44507-V.

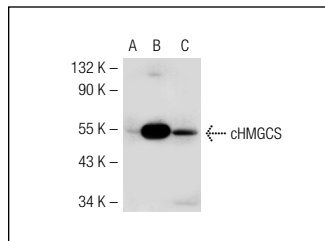
Molecular Weight of cHMGCS: 65 kDa.

Positive Controls: cHMGCS (m4): 293T Lysate: sc-119234, Hep G2 cell lysate: sc-2227 or rat liver extract: sc-2395.

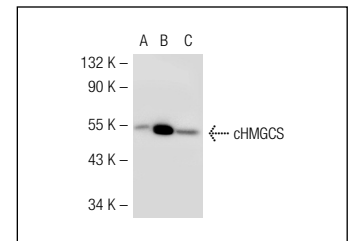
RECOMMENDED SECONDARY REAGENTS

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



cHMGCS (D-20): sc-32422. Western blot analysis of cHMGCS expression in non-transfected 293T: sc-117752 (A), mouse cHMGCS transfected 293T: sc-119234 (B) and Hep G2 (C) whole cell lysates.



cHMGCS (D-20): sc-32422. Western blot analysis of cHMGCS expression in non-transfected 293T: sc-117752 (A), mouse cHMGCS transfected 293T: sc-119231 (B) and Hep G2 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Petrak, J., et al. 2007. Proteomic analysis of hepatic iron overload in mice suggests dysregulation of urea cycle, impairment of fatty acid oxidation, and changes in the methylation cycle. *Am. J. Physiol. Gastrointest. Liver Physiol.* 292: G1490-G1498.
- Blanc, M., et al. 2011. Host defense against viral infection involves interferon mediated down-regulation of sterol biosynthesis. *PLoS Biol.* 9: e1000598.
- Rodríguez-Penas, D., et al. 2011. Aliskiren affects fatty-acid uptake and lipid-related genes in rodent and human cardiomyocytes. *Biochem. Pharmacol.* 82: 491-504.

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.



Try **cHMGCS (A-6): sc-166763** or **cHMGCS (C-8): sc-271543**, our highly recommended monoclonal alternatives to cHMGCS (D-20).