SANTA CRUZ BIOTECHNOLOGY, INC.

HMGCR (C-1): sc-271595

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The human enzyme hydroxy-3-methylglutaryl coenzyme A reductase (HMGCR) limits the rate of cholesterol synthesis, a necessary process for cellular growth, in liver tissue. Phosphorylation of HMGCR inactivates the enzyme, which occurs via a negative feedback mechanism mediated by sterols and non-sterol metabolites derived from the product of the reductase reaction. Inhibitors of HMGCR (statins) exert anti-inflammatory effects and decrease the frequency of cardiovascular events by lowering plasma cholesterol. Additionally, intermediate products along the pathway catalyzed by HMGCR, which modulate signal transducing proteins such as Ras, provide possible ties between HMGCR regulation and new chemotherapeutic methods.

CHROMOSOMAL LOCATION

Genetic locus: HMGCR (human) mapping to 5q13.3; Hmgcr (mouse) mapping to 13 D1.

SOURCE

HMGCR (C-1) is a mouse monoclonal antibody raised against amino acids 589-888 mapping at the C-terminus of HMGCR 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.

HMGCR (C-1) is available conjugated to agarose (sc-271595 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271595 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271595 PE), fluorescein (sc-271595 FITC), Alexa Fluor® 488 (sc-271595 AF488), Alexa Fluor® 546 (sc-271595 AF546), Alexa Fluor® 594 (sc-271595 AF594) or Alexa Fluor® 647 (sc-271595 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271595 AF680) or Alexa Fluor® 790 (sc-271595 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

HMGCR (C-1) is recommended for detection of HMGCR 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 HMGCR siRNA (h): sc-43838, HMGCR siRNA (m): sc-44851, HMGCR shRNA Plasmid (h): sc-43838-SH, HMGCR shRNA Plasmid (m): sc-44851-SH, HMGCR shRNA (h) Lentiviral Particles: sc-43838-V and HMGCR shRNA (m) Lentiviral Particles: sc-44851-V.

Molecular Weight of HMGCR membrane-bound glycoprotein: 80-97 kDa.

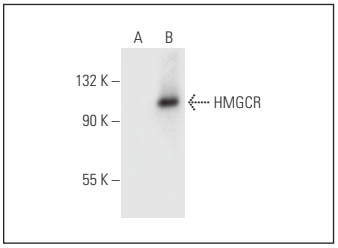
Molecular Weight of HMGCR C-terminal cleavage products: 40/55 kDa.

Positive Controls: HMGCR (m2): 293T Lysate: sc-120842, TT whole cell lysate: sc-364195 or Hep G2 cell lysate: sc-2227.

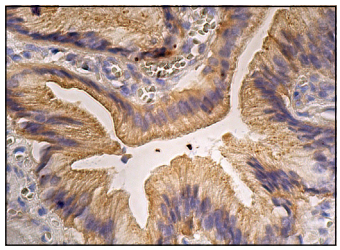
STORAGE

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

DATA



HMGCR (C-1): sc-271595. Western blot analysis of HMGCR expression in non-transfected: sc-117752 (**A**) and mouse HMGCR transfected: sc-120842 (**B**) 293T whole cell lysates.



HMGCR (C-1): sc-271595. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Murtola, T.J., et al. 2012. The importance of LDL and cholesterol metabolism for prostate epithelial cell growth. PLoS ONE 7: e39445.
2. Liao, C.C., et al. 2013. Prevention of diet-induced hyperlipidemia and obesity by caffeic acid in C57BL/6 mice through regulation of hepatic lipogenesis gene expression. J. Agric. Food Chem. 61: 11082-11088.
3. Laezza, C., et al. 2015. p53 regulates the mevalonate pathway in human glioblastoma multiforme. Cell Death Dis. 6: e1909.
4. Lu, H., et al. 2015. Rapid proteasomal elimination of 3-hydroxy-3-methylglutaryl-CoA reductase by interferon-γ in primary macrophages requires endogenous 25-hydroxycholesterol synthesis. Steroids 99: 219-229.
5. Sharon, C., et al. 2015. Inhibition of Insulin-like growth factor receptor/Akt/mammalian target of rapamycin axis targets colorectal cancer stem cells by attenuating mevalonate-isoprenoid pathway *in vitro* and *in vivo*. Oncotarget 6: 15332-15347.
6. Sun, C., et al. 2015. miR-21 regulates triglyceride and cholesterol metabolism in non-alcoholic fatty liver disease by targeting HMGCR. Int. J. Mol. Med. 35: 847-853.
7. Abu-Saleh, N., et al. 2016. Aqueous or lipid components of atherosclerotic lesion increase macrophage oxidation and lipid accumulation. Life Sci. 154: 1-14.
8. Pennanen, P., et al. 2016. The effects of metformin and simvastatin on the growth of LNCaP and RWPE-1 prostate epithelial cell lines. Eur. J. Pharmacol. 788: 160-167.
9. Lee, K.S., et al. 2017. Regulatory mechanism of mineral-balanced deep sea water on hypocholesterolemic effects in Hep G2 hepatic cells. Biomed. Pharmacother. 86: 405-413.

RESEARCH USE

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