

HMGCR (C-18): sc-27578

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-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of HMGCR of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27578 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-27578 X, 200 µg/0.1 ml.

APPLICATIONS

HMGCR (C-18) is recommended for detection of HMGCR 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).

HMGCR (C-18) is also recommended for detection of HMGCR in additional species, including canine, bovine, porcine and avian.

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.

HMGCR (C-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

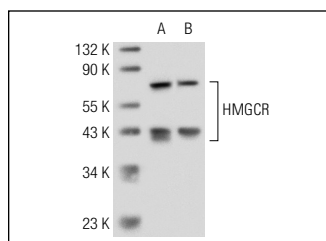
Molecular Weight of HMGCR C-terminal cleavage products: 40/55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or TT whole cell lysate: sc-364195.

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



HMGCR (C-18): sc-27578. Western blot analysis of HMGCR membrane-bound glycoprotein expression and HMGCR C-terminal cleavage product expression in Hep G2 (A) and TT (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fuhrman, B., et al. 2007. Urokinase plasminogen activator (uPA) stimulates cholesterol biosynthesis in macrophages through activation of SREBP-1 in a PI 3-kinase and MEK-dependent manner. *Atherosclerosis* 195: e108-e116.
2. Kaplan, M., et al. 2008. High glucose concentration increases macrophage cholesterol biosynthesis in diabetes through activation of the sterol regulatory element binding protein 1 (SREBP-1): inhibitory effect of Insulin. *J. Cardiovasc. Pharmacol.* 52: 324-332.
3. Shen, K.P., et al. 2009. Eugenosedin-A prevents hyperglycaemia, hyperlipidaemia and lipid peroxidation in C57BL/6J mice fed a high-fat diet. *J. Pharm. Pharmacol.* 61: 517-525.
4. Blanc, M., et al. 2011. Host defense against viral infection involves interferon mediated down-regulation of sterol biosynthesis. *PLoS Biol.* 9: e1000598.
5. Neess, D., et al. 2011. Disruption of the acyl-CoA-binding protein gene delays hepatic adaptation to metabolic changes at weaning. *J. Biol. Chem.* 286: 3460-3347.

STORAGE

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

RESEARCH USE

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