SANTA CRUZ BIOTECHNOLOGY, INC.

HMGCR (H-300): sc-33827

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.

REFERENCES

1. Luskey, K.L., et al. 1985. Human 3-hydroxy-methylglutaryl coenzyme A reductase. J. Biol. Chem. 260: 10271-10277.
2. Duhamel-Clerin, E., et al. 1994. Cellular expression of an HMGCR promoter-CAT fusion gene in transgenic mouse brain: evidence for a developmental regulation in oligodendrocytes. Glia 11: 35-46.

CHROMOSOMAL LOCATION

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

SOURCE

HMGCR (H-300) is a rabbit polyclonal antibody raised against amino acids 589-888 mapping at the C-terminus of HMGCR 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.

APPLICATIONS

HMGCR (H-300) 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 (H-300) is also recommended for detection of HMGCR in additional species, including equine, canine, bovine 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.

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

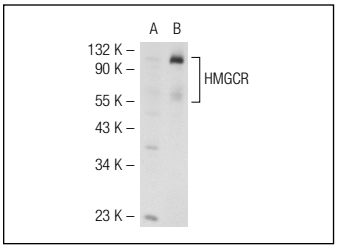
Molecular Weight of HMGCR C-terminal cleavage products: 40/55 kDa.

Positive Controls: TT whole cell lysate: sc-36419, HMGCR (m): 293T Lysate: sc-120842 or Hep G2 cell lysate: sc-2227.

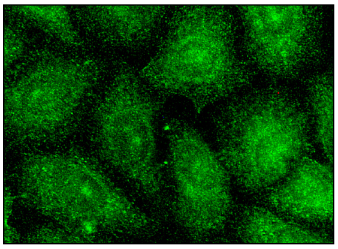
STORAGE

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

DATA



HMGCR (H-300): sc-33827. Western blot analysis of HMGCR expression in non-transfected: sc-117752 (**A**) and mouse HMGCR transfected: sc-120842 (**B**) 293T whole cell lysates.



HMGCR (H-300): sc-33827. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Niessen, J., et al. 2009. Human platelets express organic anion-transporting peptide 2B1, an uptake transporter for atorvastatin. Drug Metab. Dispos. 37: 1129-1137.
2. Harding, S.V., et al. 2010. Hepatic nuclear sterol regulatory binding element protein 2 abundance is decreased and that of ABCG5 increased in male hamsters fed plant sterols. J. Nutr. 140: 1249-1254.
3. Rideout, T.C., et al. 2010. High basal fractional cholesterol synthesis is associated with nonresponse of plasma LDL cholesterol to plant sterol therapy. Am. J. Clin. Nutr. 92: 41-46.
4. Lu, K.Y., et al. 2010. Erythropoietin suppresses the formation of macrophage foam cells: role of liver X receptor α. Circulation 121: 1828-1837.
5. Cheng, L.C., et al. 2011. α-Lipoic acid ameliorates foam cell formation via liver X receptor α-dependent upregulation of ATP-binding cassette transporters A1 and G_1. Free Radic. Biol. Med. 50: 47-54.
6. Fidaleo, M., et al. 2011. A role for the peroxisomal 3-ketoacyl-CoA thiolase B enzyme in the control of PPARα-mediated upregulation of SREBP-2 target genes in the liver. Biochimie 93: 876-891.
7. Fukushima, M., et al. 2011. Gonadotropin-regulated testicular RNA helicase (GRTH/DDX25), a negative regulator of LH/hCG-induced steroidogenesis in Leydig cells: A central role of steroidogenic acute regulatory protein (StAR). J. Biol. Chem. 286: 29932-29940.
8. Ji, G., et al. 2011. Comparison of dietary control and atorvastatin on high fat diet induced hepatic steatosis and hyperlipidemia in rats. Lipids Health Dis. 10: 23.
9. Füchsl, A.M., et al. 2013. Chronic psychosocial stress in male mice causes an up-regulation of scavenger receptor class B type 1 protein in the adrenal glands. Stress 16: 461-468.

RESEARCH USE

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