SANTA CRUZ BIOTECHNOLOGY, INC.

# HMGCR (K-15): sc-27580

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 nonsterol 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. Viedt, C., et al. 2003. HMG-CoA reductase inhibition reduces the proinflammatory activation of human vascular smooth muscle cells by the terminal complement factor C5b-9. Basic Res. Cardiol. 98: 353-361.
3. Wassmann, S., et al. 2003. Rapid effect of 3-hydroxy-3-methylglutaryl coenzyme a reductase inhibition on coronary endothelial function. Circ. Res. 93: 98-103.
4. Singh, R.P., et al. 2003. Molecular regulation of cholesterol biosynthesis: implications in carcinogenesis. J. Environ. Pathol. Toxicol. Oncol. 22: 75-92.


## CHROMOSOMAL LOCATION

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

## SOURCE

HMGCR (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-27580 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-27580 X, 200 µg/0.1 ml.

## 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 or our catalog for detailed protocols and support products.

## APPLICATIONS

HMGCR (K-15) 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), 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 (K-15) is also recommended for detection of HMGCR in additional species, including equine, 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 (K-15) 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: TT whole cell lysate: sc-364195 or Hep G2 cell lysate: sc-2227.

## 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) 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.

## SELECT PRODUCT CITATIONS


1. Whitney, E.M., et al. 2006. Transcriptional profiling of the cell cycle checkpoint gene krüppel-like factor 4 reveals a global inhibitory function in macromolecular biosynthesis. Gene Expr. 13: 85-96.
2. Palozza, P., et al. 2010. Lycopene induces cell growth inhibition by altering mevalonate pathway and Ras signaling in cancer cell lines. Carcinogenesis 31: 1813-1821.
3. Palozza, P., et al. 2011. Lycopene regulation of cholesterol synthesis and efflux in human macrophages. J. Nutr. Biochem. 22: 971-978.


## RESEARCH USE

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