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Product Information

Anti-HMGCR
produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200528**

Product Description

Anti-HMGCR is produced in rabbit using as immunogen a synthetic peptide corresponding to an internal sequence of human HMGCR (GeneID: 3156), conjugated to KLH. The corresponding sequence is identical in human HMGCR isoform 2 and has 87% sequence identity in mouse HMGCR and 81% identity in rat HMGCR. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-HMGCR specifically recognizes human HMGCR. The antibody may be used in several immunochemical techniques including immunoblotting (~100 kDa) and immunofluorescence. Detection of the HMGCR band by immunoblotting is specifically inhibited by the HMGCR immunizing peptide.

The enzyme HMGCR (3-hydroxy-3-methylglutaryl-coenzyme A reductase) is a key regulatory enzyme in the biosynthesis of cholesterol and is the target of the lipid-lowering drugs statins.[1-3] HMGCR catalyzes the reduction in HMG-CoA to mevalonate, a rate-limiting step in the synthesis of cholesterol and non-sterol isoprenoids. HMGCR is an endoplasmic reticulum (ER) membrane protein with eight transmembrane domains.[2] The membrane domain of HMGCR is dispensable for the enzymatic activity, but plays a critical role in the sterol-regulated degradation of HMGCR, by acting as a sensor of sterols in a negative-feedback mechanism. The degradation of HMGCR proceeds through the ubiquitin-proteasome pathway and is synergistically regulated by sterol and non-sterol isoprenoids.[3] Accumulation of sterols in membranes of the ER lead to accelerated ubiquitination and proteasomal degradation of HMGCR. Sterols promote the degradation of HMGCR by triggering the binding of the HMGCR membrane domain to Insig-1 or -2, which constitutively interact with the membrane-bound RING-finger ubiquitin E3 ligases, gp78 and TRC8.[4-6] Gp78 has been shown to catalyze the ubiquitination of HMGCR at two specific lysine residues Lys^{89} and Lys^{248}.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1.5-3 µg/mL is recommended using extracts of mevastatin-treated HepG2 cells.

Immunofluorescence: a working concentration of 1-2 µg/mL is recommended using mevastatin-treated HepG2 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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4. Sever, N., et al., *J. Biol. Chem.,* **278**, 52479-52490 (2003).
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ER,KCP,PHC 11/12-1