HMGCR Protein, Human (His)

Cat. No.:	HY-P72228
Synonyms:	3 hydroxy 3 methylglutaryl CoA reductase; 3 hydroxy 3 methylglutaryl Coenzyme A reductase; 3 hydroxymethylglutaryl CoA reductase; 3-hydroxy-3-methylglutaryl CoA reductase NADPH; ; 3-hydroxy-3-methylglutaryl-coenzyme A reductase; 3H3M; HMDH_HUMAN; HMG CoA reductase; HMG CoAR; HMG-CoA reductase; Hmgcr; Hydroxymethylglutaryl CoA reductase; LDLCQ3; MGC103269; Red
Species:	Human
Source:	E. coli
Accession:	P04035 (M588-T887)
Gene ID:	3156
Molecular Weight:	Approximately 38 kDa

PROPERTIES

AA Sequence	M T R G P V V R L P R A C D S A E V K A W L E T S E G F A V I K E A F D S T S R F A R L Q K L H T S I A G R N L Y I R F Q S R S G D A M G M N M I S K G T E K A L S K L H E Y F P E M Q I L A V S G N Y C T D K K P A A I N W I E G R G K S V V C E A V I P A K V V R E V L K T T T E A M I E V N I N K N L V G S A M A G S I G G Y N A H A A N I V T A I Y I A C G Q D A A Q N V G S S N C I T L M E A S G P T N E D L Y I S C T M P S I E I G T V G G G T N L L P Q Q A C L Q M L G V Q G A C K D N P G E N A R Q L A R I V C G T V M A G E L S L M A A L A A G H L V K S H M I H N R S K I N L Q D L Q G A C T K K T
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm sterile filtered PBS, 6% Trehalose, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US;may vary elsewhere.

DESCRIPTION

Background	Cyclophilin A protein serves as a catalyst for the cis-trans isomerization of proline imidic peptide bonds within

oligopeptides. Beyond its enzymatic role, it exerts diverse cellular effects, including a potent chemotactic influence on leukocytes, mediated in part through the activation of its membrane receptor BSG/CD147, initiating a signaling cascade leading to MAPK/ERK activation. The protein also activates endothelial cells (ECs) in a pro-inflammatory manner, inducing NF-kappa-B and MAP-kinase pathways and promoting the expression of adhesion molecules. Furthermore, Cyclophilin A induces apoptosis in ECs by modulating the expression of key factors involved in chemotaxis and apoptosis. In response to oxidative stress, it initiates both proapoptotic and antiapoptotic signaling in ECs, highlighting its multifaceted role. The protein negatively regulates MAP3K5/ASK1 kinase activity and is crucial for the assembly of TARDBP in heterogeneous nuclear ribonucleoprotein complexes, influencing TARDBP binding to RNA and regulating the expression of associated genes. Additionally, Cyclophilin A plays a significant role in platelet activation and aggregation, as well as in the regulation of calcium mobilization and integrin ITGA2B:ITGB3 bidirectional signaling through increased ROS production and facilitation of integrin-cytoskeleton interaction. It also exhibits binding affinity for heparan sulfate glycosaminoglycans.

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