ACAT1 Protein, Human (His)

Cat. No.:	HY-P78986
Synonyms:	Acetyl-CoA Acetyltransferase; THIL; ACAT; Acetyl-CoA Acetyltransferase, Mitochondrial; Acetyl-Coenzyme A Acetyltransferase; Acetoacetyl Coenzyme A Thiolase; Acetoacetyl-CoA Thiolase; EC 2.3.1.9; MAT; T2; Mitochondrial Acetoacetyl-CoA Thiolase; Testicular
Species:	Human
Source:	E. coli
Accession:	P24752-1 (V34-L427)
Gene ID:	38
Molecular Weight:	45.0kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of Tris-based buffer, 50% glycerol.
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	The ACAT1 protein is a pivotal enzyme in the mitochondrial beta-oxidation pathway, a vital aerobic process responsible for breaking down fatty acids into acetyl-CoA. Operating in the last step of this pathway, ACAT1 utilizes free coenzyme A (CoA) to catalyze the thiolytic cleavage of medium- to long-chain 3-oxoacyl-CoAs, generating acetyl-CoA and a fatty acyl-CoA shortened by two carbon atoms. This reversible enzymatic activity extends to the condensation of two acetyl-CoA molecules into acetoacetyl-CoA, underscoring ACAT1's essential role in ketone body metabolism. The multifaceted functions of ACAT1 illuminate its significance in regulating key metabolic processes, shedding light on its integral role in maintaining cellular energy balance and homeostasis.

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