LCAT Protein, Human (HEK293, His)

Cat. No.:	HY-P70252
Synonyms:	rHuPhosphatidylcholine-sterol acyltransferase/LCAT, His; Phosphatidylcholine-sterol acyltransferase; also named Lecithin-cholesterol acyltransferase; Phospholipid-cholesterol acyltransferase and LACT; is an extracellular cholesterol esterifying enzyme which belongs to the AB hydrolase superfamily
Species:	Human
Source:	HEK293
Accession:	P04180 (F25-E440)
Gene ID:	3931
Molecular Weight:	Approximately 71 kDa

PROPERTIES

AA Sequence	F W L L N V L F P P H T T P K A E L S N H T R P V I L V P G C L G N Q L E A K L D K P D V V N W M C Y R K T E D F F T I W L D L N M F L P L G V D C W I D N T R V V Y N R S S G L V S N A P G V Q I R V P G F G K T Y S V E Y L D S S K L A G Y L H T L V Q N L V N N G Y V R D E T V R A A P Y D W R L E P G Q Q E E Y Y R K L A G L V E E M H A A Y G K P V F L I G H S L G C L H L L Y F L L R Q P Q A W K D R F I D G F I S L G A P W G G S I K P M L V L A S G D N Q G I P I M S S I K L K E E Q R I T T T S P W M F P S R M A W P E D H V F I S T P S F N Y T G R D F Q R F F A D L H F E E G W Y M W L Q S R D L L A G L P A P G V E V Y C L Y G V G L P T P R T Y I Y D H G F P Y T D P V G V L Y E D G D D T V A T R S T E L C G L W Q G R Q P Q P V H L L P L H G I Q H L N M V F S N L T L E H I N A I L L G A Y R Q G P P A S P T A S P E P P P P E
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 filtered solution of 4 mM HCl.
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. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	LCAT, a pivotal enzyme in the extracellular metabolism of plasma lipoproteins, is primarily synthesized in the liver and secreted into the plasma. In this crucial role, LCAT converts cholesterol and phosphatidylcholines (lecithins) on the surface of both high and low-density lipoproteins (HDLs and LDLs) to cholesteryl esters and lysophosphatidylcholines. The resulting cholesteryl esters are transported back to the liver. LCAT exhibits a preference for plasma 16:0-18:2 or 18:O-18:2 phosphatidylcholines. Beyond its hepatic functions, LCAT is produced in the brain by primary astrocytes, where it esterifies free cholesterol on nascent APOE-containing lipoproteins secreted from glia, influencing cerebral spinal fluid (CSF) APOE- and APOA1 levels. In collaboration with APOE and the cholesterol transporter ABCA1, LCAT plays a pivotal role in the maturation of glial-derived, nascent lipoproteins. Additionally, LCAT is essential for remodeling high-density lipoprotein particles into their spherical forms and catalyzes the hydrolysis of platelet-activating factor (PAF) to lyso-PAF, as well as the esterification of (24S)-hydroxycholesterol (24(S)OH-C), known as cerebrosterol, to produce 24(S)OH-C monoesters.

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