

LCLAT1 Protein, Human (Cell-Free, His)

Cat. No.:	HY-P702357
Synonyms:	Lysocardiolipin acyltransferase 1; 1-acylglycerol-3-phosphate O-acyltransferase 8; 1-AGP acyltransferase 8; 1-AGPAT 8; 2.3.1.51; Acyl-CoA:lysocardiolipin acyltransferase 1
Species:	Human
Source:	E. coli Cell-free
Accession:	Q6UWP7 (M1-E414)
Gene ID:	253558
Molecular Weight:	55.0 kDa

PROPERTIES

AA Sequence	<pre> M H S R G R E I V V L L N P W S I N E A V S S Y C T Y F I K Q D S K S F G I M V S W K G I Y F I L T L F W G S F F G S I F M L S P F L P L M F V N P S W Y R W I N N R L V A T W L T L P V A L L E T M F G V K V I I T G D A F V P G E R S V I I M N H R T R M D W M F L W N C L M R Y S Y L R L E K I C L K A S L K G V P G F G W A M Q A A A Y I F I H R K W K D D K S H F E D M I D Y F C D I H E P L Q L L I F P E G T D L T E N S K S R S N A F A E K N G L Q K Y E Y V L H P R T T G F T F V V D R L R E G K N L D A V H D I T V A Y P H N I P Q S E K H L L Q G D F P R E I H F H V H R Y P I D T L P T S K E D L Q L W C H K R W E E K E E R L R S F Y Q G E K N F Y F T G Q S V I P P C K S E L R V L V V K L L S I L Y W T L F S P A M C L L I Y L Y S L V K W Y F I I T I V I F V L Q E R I F G G L E I I E L A C Y R L L H K Q P H L N S K K N E </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.
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

LCLAT1 protein functions as an acyl-CoA:lysocardiolipin acyltransferase (ALCAT), playing a crucial role in catalyzing the reacylation of lyso-cardiolipin to cardiolipin (CL), a pivotal step in CL remodeling. This enzyme exhibits substrate flexibility, recognizing both monolysocardiolipin and dilysocardiolipin, with a preference for linoleoyl-CoA and oleoyl-CoA as acyl donors. Additionally, LCLAT1 demonstrates 1-acyl-sn-glycerol-3-phosphate acyltransferase activity (AGPAT), converting 1-acyl-sn-glycerol-3-phosphate (lysophosphatidic acid or LPA) into 1,2-diacyl-sn-glycerol-3-phosphate (phosphatidic acid or PA) by incorporating an acyl moiety at the sn-2 position of the glycerol backbone. Furthermore, it possesses lysophosphatidylinositol acyltransferase (LPIAT) and lysophosphatidylglycerol acyltransferase (LPGAT) activities. Beyond its enzymatic functions, LCLAT1 is essential for the establishment of hematopoietic and endothelial lineages, highlighting its critical role in developmental processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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