PLA2G7 Protein, Mouse (Baculovirus, N-His, C-Myc)

Cat. No.:	HY-P700567
Synonyms:	PLA2G7; phospholipase A2, group VII (platelet-activating factor acetylhydrolase, plasma); platelet-activating factor acetylhydrolase; LDL PLA2; PAFAH; LDL-PLA(2); gVIIA-PLA2; PAF 2-acylhydrolase; PAF acetylhydrolase; group-VIIA phospholipase A2; LDL-associated phospholipase A2; lipoprotein-associated phospholipase A2; 1-alkyl-2-acetylglycerophosphocholine esterase; 2-acetyl-1-alkylglycerophosphocholine esterase; PAFAD; LP-PLA2; LDL-PLA2;
Species:	Mouse
Source:	Sf9 insect cells
Accession:	Q60963 (F22-N440)
Gene ID:	27226
Molecular Weight:	50.7 kDa

PROPERTIES

AA Sequence	F H W Q D T S S F D F R P S V M F H K L Q S V M S A A G S G H S K I P K G N G S Y P V G C T D L M F G Y G N E S V F V R L Y Y P A Q D Q G R L D T V W I P N K E Y F L G L S I F L G T P S I V G N I L H L L Y G S L T T P A S W N S P L R T G E K Y P L I V F S H G L G A F R T I Y S A I G I G L A S N G F I V A T V E H R D R S A S A T Y F F E D Q V A A K V E N R S W L Y L R K V K Q E E S E S V R K E Q V Q Q R A I E C S R A L S A I L D I E H G D P K E N V L G S A F D M K Q L K D A I D E T K I A L M G H S F G G A T V L Q A L S E D Q R F R C G V A L D P W M Y P V N E E L Y S R T L Q P L L F I N S A K F Q T P K D I A K M K K F Y Q P D K E R K M I T I K G S V H Q N F D D F T F V T G K I I G N K L T L K G E I D S R V A I D L T N K A S M A F L Q K H L G L Q K D F D Q W D P L V E G D D E N L I P G S P F D A V T Q V P A Q Q H S P G S Q T Q N
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 Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
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	PLA2G7 protein, a lipoprotein-associated calcium-independent phospholipase A2, plays a pivotal role in phospholipid catabolism during inflammatory and oxidative stress responses. Operating at the lipid-aqueous interface, it hydrolyzes the ester bond of fatty acyl groups at the sn-2 position of phospholipids, with a specific preference for those carrying short-chain fatty acyl groups. Additionally, PLA2G7 can target phospholipids with long fatty acyl chains if they bear oxidized functional groups. The enzyme's versatility extends to inactivating platelet-activating factor (PAF), a potent pro-inflammatory signaling lipid, and hydrolyzing oxidatively truncated phospholipids, preventing their accumulation and uncontrolled pro-inflammatory effects. When associated with high-density lipoprotein (HDL) particles, PLA2G7 contributes to the hydrolysis of phospholipids containing long-chain fatty acyl hydroperoxides, safeguarding against potential oxylipin accumulation in the vascular wall. Furthermore, PLA2G7 catalyzes the release of F2-isoprostanes, serving as lipid biomarkers for cellular oxidative damage.

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