

PLA2G5 Protein, Rat, Recombinant (His & SUMO)

General Information

Synonyms:	Pla2g5;Phospholipase A2 group V;Phosphatidylcholine 2-acylhydrolase 5;PLA2-10
Protein Construction:	21-137 aa
Species:	Rat
Expression Host:	E. coli
Accession:	P51433
Molecular Weight:	29.8 kDa (predicted)
AA Sequence:	GLLELKSMIEKVTGKNAVKNYGFYGCYCGWGGHGTPKDGTDWCCRMHDCRYGLLEEKHCAIRTQSYDYRFTQDLVICEHDSFCPVRLCACDRKLVYCLRRNLWSYNRLYQYYPNFLC

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Secretory calcium-dependent phospholipase A2 that primarily targets extracellular phospholipids. Hydrolyzes the ester bond of the fatty acyl group attached at sn-2 position of phospholipids (phospholipase A2 activity), preferentially releasing fatty acyl groups with a low degree of unsaturation such as oleoyl (C18:1) and linoleoyl (C18:2) groups. Hydrolyzes low-density lipoprotein (LDL) phospholipids releasing unsaturated fatty acids that drive macrophage polarization toward an M2 phenotype. May act in an autocrine and paracrine manner. Contributes to lipid remodeling of cellular membranes at different subcellular locations and generation of lipid

mediators involved in pathogen clearance. Cleaves sn-2 fatty acyl chains of cardiolipin, a major component of the inner membrane of mitochondria and bacterial membranes. Promotes phagocytosis of bacteria in macrophages through production of lysophosphatidylethanolamines. Displays bactericidal activity against Gram-positive bacteria by directly hydrolyzing phospholipids of the bacterial membrane. Promotes phagocytosis and killing of ingested fungi likely through controlling phagosome-lysosome fusion and phagosome maturation. Plays a role in biosynthesis of cysteinyl leukotrienes (CysLTs) in myeloid cells. In eosinophils, triggers perinuclear arachidonate release and LTC₄ synthesis in a PLA₂G₄A-independent way. In neutrophils, amplifies CysLTs biosynthesis initiated by PLA₂G₄A. Promotes immune complex clearance in macrophages via stimulating synthesis of CysLTs, which act through CYSLTR1 to trigger phagocytosis. May regulate antigen processing in antigen-presenting cells. In pulmonary macrophages regulates IL33 production required for activation of group 2 innate lymphoid cells. May play a role in the biosynthesis of N-acyl ethanolamines that regulate energy metabolism. Hydrolyzes N-acyl phosphatidylethanolamines to N-acyl lysophosphatidylethanolamines, which are further cleaved by a lysophospholipase D to release N-acyl ethanolamines.

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