

PLA2G10 Protein, Mouse, Recombinant (His & Myc)

General Information

Synonyms:	Group X secretory phospholipase A2 (GX sPLA2;sPLA2-X);Pla2g10;Group 10 secretory phospholipase A2;Phosphatidylcholine 2-acylhydrolase 10
Protein Construction:	29-151 aa
Species:	Mouse
Expression Host:	E. coli
Accession:	Q9QXX3
Molecular Weight:	21.3 kDa (predicted)
AA Sequence:	GLLELAGTLDVGRSPMAYMNYGCYCGLGHGEPDAIDWCCYHHDCCYSRAQDAGCSPKLD RYPWKCM DHHILCGPAENKCQELLCRCDEELAYCLAGTEYHLKYLFFPSILCEKDSPKCN

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:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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 with preference for phosphatidylcholines and phosphatidylglycerols over phosphatidylethanolamines. Preferentially releases sn-2

omega-6 and omega-3 polyunsaturated fatty acyl (PUFA) chains over saturated fatty acyls. Contributes to phospholipid remodeling of very low-density lipoprotein (VLDL), low-density lipoprotein (LDL) and high-density lipoprotein (HDL) particles. Hydrolyzes LDL phospholipids releasing unsaturated fatty acids that regulate macrophage differentiation toward foam cells. Efficiently hydrolyzes and inactivates PAF, a potent lipid mediator present in oxidized LDL. May act in an autocrine and paracrine manner. Secreted by lung epithelium, targets membrane phospholipids of infiltrating eosinophils, releasing arachidonate and boosting eicosanoid and cysteinyl leukotriene synthesis involved in airway inflammatory response. Secreted by gut epithelium, hydrolyzes dietary and biliary phosphatidylcholines in the gastrointestinal lumen, thereby regulating adipogenesis and body weight. Plays a stem cell regulator role in colon epithelium. Within intracellular compartment, mediates Paneth-like cell differentiation and its stem cell supporting functions by inhibiting Wnt signaling pathway in intestinal stem cell (ISC). Secreted in the intestinal lumen upon inflammation, acts in an autocrine way and promotes prostaglandin E2 synthesis that stimulates the Wnt signaling pathway in ISCs and tissue regeneration. May participate in hair follicle morphogenesis by regulating phosphatidylethanolamines metabolism at the outermost epithelial layer and facilitating melanin synthesis. By generating lysophosphatidylcholines (LPCs) at sperm acrosome controls sperm cell capacitation, acrosome reaction and overall fertility. May promote neurite outgrowth in neuron fibers involved in nociception. Contributes to lipid remodeling of cellular membranes and generation of lipid mediators involved in pathogen clearance. Cleaves sn-2 fatty acyl chains of phosphatidylglycerols and phosphatidylethanolamines, which are major components of membrane phospholipids in bacteria. Displays bactericidal activity against Gram-positive bacteria by directly hydrolyzing phospholipids of the bacterial membrane. In pulmonary epithelium, may contribute to host defense response against adenoviral infection. Prevents adenovirus entry into host cells by hydrolyzing host cell plasma membrane, releasing C16:0 LPCs that inhibit virus-mediated membrane fusion and viral infection. Likely prevents adenoviral entry into the endosomes of host cells. May play a role in maturation and activation of innate immune cells including macrophages, group 2 innate lymphoid cells and mast cells.

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