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Product Data Sheet

PLA2G2E Protein, Mouse (HEK293, His)

Cat. No.:	HY-P77138
Synonyms:	Group IIE secretory phospholipase A2; GIIE sPLA2
Species:	Mouse
Source:	HEK293
Accession:	Q9QUL3 (N20-C142)
Gene ID:	26970
Molecular Weight:	Approximately 18 kDa

PROPERTIES

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 PBS, 10% Glycerol, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
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	PLA2G2E, a secretory calcium-dependent phospholipase A2, predominantly targets extracellular phospholipids and exhibits phospholipase A2 activity by hydrolyzing the ester bond of the fatty acyl group at the sn-2 position of phospholipids. This enzymatic action results in the release of various unsaturated fatty acids, including oleoate, linoleoate, arachidonate, docosahexaenoate, and lysophosphatidylethanolamines, with a preference for lysophosphatidylethanolamines over lysophosphatidylcholines. In response to a high-fat diet, PLA2G2E hydrolyzes minor lipoprotein phospholipids, such as phosphatidylserines, phosphatidylinositols, and phosphatidylglycerols, thereby influencing lipoprotein composition and fat storage in adipose tissue and liver. Operating in an autocrine and paracrine manner, PLA2G2E contributes to lipid remodeling in cellular membranes and the generation of lipid mediators vital for pathogen clearance. Additionally, it acts as a hair follicle phospholipase A2, selectively releasing lysophosphatidylethanolamines and various unsaturated fatty acids in the skin to regulate hair follicle homeostasis. Furthermore, PLA2G2E may play a role in regulating the inflammatory response by releasing arachidonate, a precursor of prostaglandins and leukotrienes. Upon allergen exposure, it potentially participates in the allergic inflammatory response by enhancing leukotriene C4 synthesis and degranulation in mast cells.

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

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