

## PLA2G1B Protein, Human, Recombinant (His)

### General Information

Synonyms:	PLA2;PPLA2;phospholipase A2, group IB (pancreas);PLA2A
Protein Construction:	A DNA sequence encoding the human PLA2G1B (NP_000919.1) (Met 1-Ser 148) with a C-terminal polyhistidine tag was expressed. Predicted N terminal: Asp 16
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P04054
Molecular Weight:	16.2 kDa (predicted); 19 kDa (reducing conditions)

### QC Testing

Biological Activity:	Measured by its ability to hydrolyze 1-Hexadecanoyl-2-(1-pyrenedecanoyl)-sn-glycero-3-phosphomethanol. The specific activity is >2,500 pmol/min/μg.
Purity:	> 92 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 10 mM Tris, 5 mM CaCl <sub>2</sub> , pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### 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:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. 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

phospholipase A2, also known as Phosphatidylcholine 2-acylhydrolase 1B, Group IB phospholipase A2, PLA2 and PLA2G1B, is a secreted protein that belongs to the phospholipase A2 family. Phospholipase A2 / PLA2G1B catalyzes the release of fatty acids from glycerol-3-phosphocholines. The best known varieties are the digestive enzymes secreted as zymogens by the pancreas of mammals. Sequences of pancreatic Phospholipase A2 / PLA2G1B enzymes from a variety of mammals have been reported. One striking feature of these enzymes is their

close homology to venom phospholipases of snakes. Other forms of Phospholipase A2 / PLA2G1B have been isolated from brain, liver, lung, spleen, intestine, macrophages, leukocytes, erythrocytes, inflammatory exudates, chondrocytes, and platelets. Mice lacking in Phospholipase A2 / PLA2G1B are resistant to obesity and diabetes induced by feeding a diabetogenic high-fat/high-carbohydrate diet. Oral supplementation of a diabetogenic diet with the PLA2G1B inhibitor methyl indoxam effectively suppresses diet-induced obesity and diabetes. PLA2G1B inhibition may be a potentially effective oral therapeutic option for treatment of obesity and diabetes.

### Reference

- Labonté,E.D. et al., 2006, Diabetes. 55 (4) :935-41.  
Mounier,C.M. et al.,2008, Br J Cancer. 98 (3):587-95.  
Hui,D.Y. et al., 2009, Br J Pharmacol. 157 (7):1263-9.  
Labonté,E.D. et al., 2010, FASEB J. 24 (7):2516-24.

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