

PRODUCT INFORMATION



sPLA₂ (Type IB) Rabbit Monoclonal Antibody (Clone 004)

Item No. 37089

Overview and Properties

Contents:	This vial contains 50 or 100 µl, or 1 ml of protein A-affinity purified monoclonal antibody.
Synonyms:	Pancreatic Phospholipase A ₂ , Pancreatic sPLA ₂ , Phosphatidylcholine 2-acylhydrolase 1B, Phospholipase A ₂ Group IB, Phospholipase A ₂ Group 1B, pPLA ₂ , sPLA ₂ -IB, PLA2G1B
Immunogen:	Recombinant mouse sPLA ₂ (Type IB)
Cross Reactivity:	(+) sPLA ₂ (Type IB)
Species Reactivity:	(+) Mouse
Uniprot No.:	Q9Z0Y2
Form:	Liquid
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	004
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA; the recommended starting concentration is 1:1,000-1:10,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Description

Secretory phospholipase A₂ (sPLA₂) (Type IB) is a calcium-dependent PLA₂ superfamily member that is encoded by *PLA2G1B* in humans.¹ It is composed of an N-terminal signal peptide, a highly-conserved calcium-binding loop, a catalytic domain, an sPLA₂ Type I-specific disulfide bond that provides stability, and a pancreatic loop. It is primarily expressed in the pancreas but is also expressed in the lung.² Upon activation, sPLA₂ (Type IB) is released into the extracellular space and preferentially hydrolyzes phosphatidylglycerol (PG), phosphatidylcholine (PC), and phosphatidic acid (PA), over phosphatidylserine (PS), phosphatidylethanolamine (PE), and phosphatidylinositol (PI).³ It is involved in lipid nutrient digestion and absorption and also has anthelmintic activity.⁴ *Pla2g1b*^{-/-} mice fed a high-fat diet are resistant to obesity and have decreased blood glucose and serum insulin levels and increased fecal lipid levels.⁵ Mutations in *PLA2G1B* are associated with central adiposity and colorectal cancer.⁴ Cayman's sPLA₂ (Type IB) Rabbit Monoclonal Antibody (Clone 004) can be used for ELISA.

References

1. Murakami, M., Taketomi, Y., Sato, H., *et al.* Secreted phospholipase A₂ revisited. *J. Biochem.* **150**(3), 233-255 (2011).
2. Richmond, B.L. and Hui, D.Y. Molecular structure and tissue-specific expression of the mouse pancreatic phospholipase A₂ gene. *Gene* **244**(1-2), 65-72 (2000).
3. Singer, A.G., Ghomashchi, F., Le Calvez, C., *et al.* Interfacial kinetic and binding properties of the complete set of human and mouse groups I, II, V, X, and XII secreted phospholipases A₂. *J. Biol. Chem.* **277**(50), 48535-48549 (2002).
4. Hui, D.Y. Group 1B phospholipase A₂ in metabolic and inflammatory disease modulation. *Biochim. Biophys. Acta Mol. Cell Biol. Lipids* **1864**(6), 784-788 (2019).
5. Huggins, K.W., Boileau, A.C., and Hui, D.Y. Protection against diet-induced obesity and obesity-related insulin resistance in Group 1B PLA₂-deficient mice. *Am. J. Physiol. Endocrinol. Metab.* **283**(5), E994-E1001 (2002).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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