

PRODUCT INFORMATION



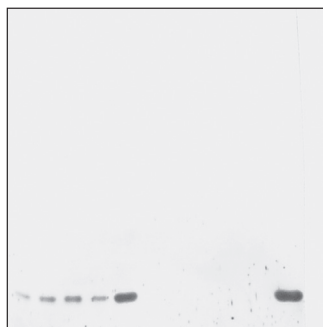
sPLA₂ (mouse Type V) Polyclonal Antibody Item No. 160512

Overview and Properties

Contents:	This vial contains 500 µl of peptide-affinity purified polyclonal antibody
Synonym:	Secretory Phospholipase A ₂ (mouse Group V)
Immunogen:	Synthetic peptide from an internal region of mouse protein
Cross Reactivity:	(-) Bee venom sPLA ₂ , human synovial sPLA ₂ , iPLA ₂ , cPLA ₂
Species Reactivity:	(+) Human, mouse, rat; other species not tested
Uniprot No.:	P97391
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Host:	Rabbit
Application:	Western blot (WB); the recommended starting dilution is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image

1 2 3 4 5 6 7 8 9 10



Lane 1: Recombinant human sPLA₂ (Type V) (0.025 µg)
Lane 2: Recombinant human sPLA₂ (Type V) (0.05 µg)
Lane 3: Recombinant human sPLA₂ (Type V) (0.075 µg)
Lane 4: Recombinant human sPLA₂ (Type V) (0.1 µg)
Lane 5: Recombinant human sPLA₂ (Type V) (0.25 µg)
Lane 6: A10 smooth muscle cell lysate (iPLA₂) (50 µg)
Lane 7: Bee venom PLA₂ (1 µg)
Lane 8: Human sPLA₂ (Type II) (1 µg)
Lane 9: HeLa cell lysate (cPLA₂) (50 µg)
Lane 10: Recombinant human sPLA₂ (Type V) (0.25 µg)

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
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Secretory phospholipase A₂ (sPLA₂) (Type V) is a calcium-dependent phospholipase A₂ superfamily member that is encoded by *PLA2G5* in humans.¹ It is composed of a highly conserved calcium-binding loop, a heparin-binding domain, and a C-terminal domain that contains a catalytic histidine-aspartic acid dyad and cationic residues that are essential for cell membrane association. *Pla2g5* is constitutively expressed in the heart, lung, and spleen and is induced by proinflammatory stimuli in a variety of immune cells and tissues.² Upon activation, sPLA₂ (Type V) is released into the extracellular space where it acts in a paracrine or autocrine manner to catalyze the hydrolysis of fatty acids at the *sn*-2 position of glycerophospholipids, liberating the free fatty acid and lysophospholipid, which serve as substrates for the synthesis of bioactive lipid metabolites.¹ *Pla2g5*^{-/-} mice have decreased airway and bronchoalveolar lavage fluid (BALF) neutrophil infiltration in a model of acute lung injury induced by LPS.³ Neonatal mice overexpressing *Pla2g5* have increased BALF prostaglandin E₂ (PGE₂; Item No. 14010) levels, as well as reduced lung surfactant levels, leading to respiratory failure and death by postnatal day one.⁴ SNPs in *PLA2G5* are associated with increased plasma LDL and total cholesterol levels in individuals with type 2 diabetes.⁵ Cayman's sPLA₂ (mouse Type V) Polyclonal Antibody can be used for Western blot applications. The antibody recognizes sPLA₂ (Type V) at 16 kDa from human, mouse, and rat samples.

References

1. Murakami, M., Taketomi, Y., Sato, H., *et al.* Secreted phospholipase A₂ revisited. *J. Biochem.* **150**(3), 233-255 (2011).
2. Sawada, H., Murakami, M., Enomoto, A., *et al.* Regulation of type V phospholipase A₂ expression and function by proinflammatory stimuli. *Eur. J. Biochem.* **263**, 826-833 (1999).
3. Muñoz, N.M., Meliton, A.Y., Meliton, L.N., *et al.* Secretory group V phospholipase A₂ regulates acute lung injury and neutrophilic inflammation caused by LPS in mice. *Am. J. Physiol. Lung Cell. Mol. Physiol.* **296**(6), L879-L887 (2009).
4. Ohtsuki, M., Taketomi, Y., Arata, S., *et al.* Transgenic expression of group V, but not group X, secreted phospholipase A₂ in mice leads to neonatal lethality because of lung dysfunction. *J. Biol. Chem.* **281**(47), 36420-36433 (2006).
5. Wootton, P.T.E., Arora, N.L., Drenos, F., *et al.* Tagging SNP haplotype analysis of the secretory PLA₂-V gene, *PLA2G5*, shows strong association with LDL and oxLDL levels, suggesting functional distinction from sPLA₂-IIA: Results from the UDACS study. *Hum. Mol. Genet.* **16**(12), 1437-1444 (2007).

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