

PRODUCT INFORMATION



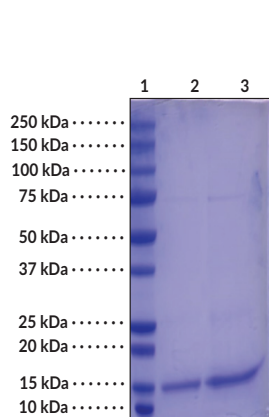
sPLA₂ (mouse, recombinant Type X) Item No. 37952

Overview and Properties

Synonyms:	Group 10 Secretory Phospholipase A ₂ , Group X Secretory Phospholipase A ₂ , GXsPLA ₂ , Phosphatidylcholine 2-Acylhydrolase 10, PLA2G10, Secretory Phospholipase A ₂ (mouse Group X), sPLA ₂ -X
Source:	Active recombinant mouse sPLA ₂ (Type X) expressed in <i>E. coli</i>
Amino Acids:	29-151
Uniprot No.:	Q9QXX3
Molecular Weight:	14.7 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	50 mM Tris-HCl, pH 8.5, 10 mM calcium chloride
Protein	
Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg
Unit Definition:	One unit is defined as the amount of enzyme required to hydrolyze 1 μmol of diheptanoyl thio-PC per minute at 25°C in 25 mM Tris-HCl, pH 7.5, containing 10 mM calcium chloride, 100 mM potassium chloride, 0.3 mM Triton X-100, 0.44 mM DTNB, and 1.44 mM diheptanoyl thio-PC.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

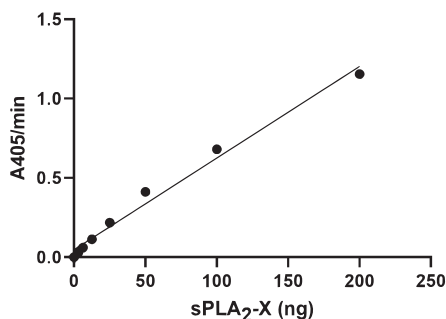
Images



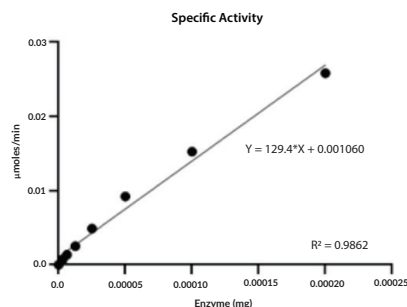
Lane 1: MW Markers
Lane 2: sPLA₂ (2 μg)
Lane 3: sPLA₂ (4 μg)

SDS-PAGE Analysis of sPLA₂

Representative gel image shown; actual purity may vary between each batch.



sPLA₂ Type X was determined using Cayman's sPLA₂ Assay Kit (Item No. 765001) with 1.48 mM 1,2-bis(heptanoylthio) glycerophosphocholine (diheptanoyl thio-PC; Item No. 62235) as the substrate.



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 X) is a calcium-dependent PLA₂ superfamily member that is encoded by PLA2G10 in humans.¹ It is composed of an N-terminal signal peptide, a highly-conserved calcium-binding loop, a catalytic domain, sPLA₂ Type I- and II-specific disulfides that provide stability, and a C-terminal extension. sPLA₂ (Type X) is expressed in spleen, thymus, peripheral blood leukocytes, pancreas, lung, and colon, as well as neutrophils and keratinocytes.²⁻⁴ Upon activation, sPLA₂ (Type X) is released into the extracellular space where it acts in a paracrine or autocrine manner and preferentially catalyzes the hydrolysis of phosphatidylethanolamine (PE) and phosphatidylcholine (PC) over phosphatidylserine (PS) at the *sn*-2 position, liberating the free fatty acid and lysophospholipid, which serve as substrates for the synthesis of bioactive lipid metabolites.^{1,2} sPLA₂ (Type X) increases arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) release from HEK293 cells and prostaglandin E₂ (Item No. 14010) levels in HEK293 cells expressing human COX-2 but not COX-1.⁵ *Pla2g10*^{-/-} mice have decreased inflammatory cell infiltration and airway edema in a model of ovalbumin-induced allergic asthma.⁶ Airway lining fluid levels of sPLA₂ (Type X) are increased in patients with asthma.⁷ Cayman's sPLA₂ (mouse, recombinant Type X) protein can be used for enzyme activity assays. The specific activity of Cayman's sPLA₂ (mouse, recombinant Type X) was established using Cayman's sPLA₂ Assay Kit (Item No. 765001) with 1.48 mM 1,2-bis(heptanoylthio) glycerophosphocholine (Item No. 62235) as the substrate.

References

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