

PRODUCT INFORMATION



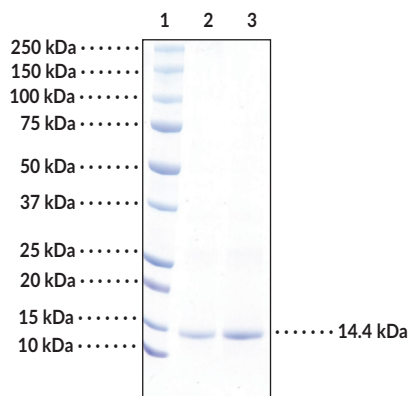
sPLA₂ (human, recombinant Type X) Item No. 10011673

Overview and Properties

Synonyms:	Group 10 secretory phospholipase A ₂ , GXPLA ₂ , Phosphatidylcholine 2-Acylhydrolase 10, PLA2G10, Secretory Phospholipase A ₂ (human Group X), sPLA ₂ -X
Source:	Active recombinant human C-terminal His-tagged sPLA ₂ (Type X) expressed in <i>E. coli</i>
Amino Acids:	43-165
Uniprot No.:	O15496
Molecular Weight:	14.4 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	20 mM Tris-HCl, pH 8.5, with 10 mM calcium chloride and 10% glycerol
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-phosphatidylcholine (PC) per minute at 25°C in 25 mM Tris-HCl, pH 7.5, with 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.

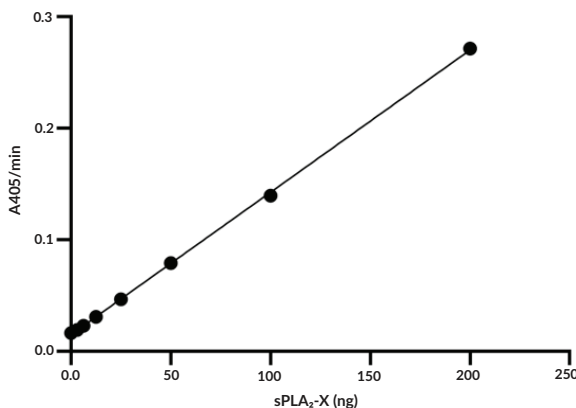
Images



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 activity 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 (human, recombinant Type X) protein can be used for enzyme activity assays. The specific activity of Cayman's sPLA₂ (human, 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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