

Product Information



sPLA₂ (Type III)

Item No. 60500 • Batch No. XXXXX

CAS Registry No.:	9001-84-7
Synonym:	Secretory PLA ₂ (bee venom)
Source:	Bee venom (<i>Apis mellifera</i>)
EC:	3.1.1.4
M_r:	14 kDa • Monomer
Purity:	~20 to 50% based on SDS-PAGE analysis; likely to contain melittin of unknown percentage
Stability:	≥2 years at -20°C
Supplied as:	A lyophilized powder
Specific activity:	<i>batch specific</i> U/mg
Unit definition:	One unit of enzyme hydrolyzes one μmol of Diheptanoyl Thio-PC per minute at 25°C.

Laboratory Procedures

For long term storage, we suggest that sPLA₂ (type III) be stored as supplied at -20°C. It should be stable for at least two years.

sPLA₂ (type III) is supplied as a lyophilized powder. However, if a pH-dependent assay for enzyme activity is to be used, reconstitute the enzyme in water. The enzyme is not stable at a concentration less than 100 μg/ml. If a less concentrated sample is needed, dilute prior to performing your experiment and use within an hour. In the event that only a portion of the enzyme is to be used in a single experiment, it is recommended that the enzyme be aliquoted into smaller sizes and frozen at -20°C. The enzyme should be stable for at least six months. sPLA₂ (type III) is relatively unstable at room temperature. Hence, to prevent loss of activity when performing experiments, keep the stock vial of the enzyme on ice (0-4°C) at all times.

PLA₂ catalyzes the hydrolysis of fatty acids at the *sn*-2 position of glycerophospholipids, yielding a free fatty acid and a lysophospholipid.¹⁻² The extracellular or secretory PLA₂ obtained from snake or bee venom, mammalian pancreas, or human synovial fluid are small, 14 kDa proteins which are dependent on Ca²⁺ for catalytic activity and can hydrolyze any fatty acid at the *sn*-2 position.¹⁻² PLA₂ in bee venom promotes cell lysis and membrane disruption.

References

1. Dennis, E.A. Diversity of group types, regulation, and function of phospholipase A₂. *J. Biol. Chem.* **269**, 13057-13060 (1994).
2. Dennis, E.A. The growing phospholipase A₂ superfamily of signal transduction enzymes. *Trends Biochem. Sci.* **22**, 1-2 (1997).

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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