



## Product Information

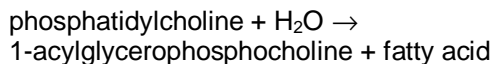
### Phospholipase A<sub>2</sub> from bovine pancreas

Product Number **P 8913**  
Storage Temperature 2-8 °C

#### Product Description

CAS Number: 9001-84-7  
Enzyme Commission (EC) Number: 3.1.1.4  
Molecular Weight: 13.9 kDa (amino acid sequence)<sup>1</sup>  
pI: 7.4<sup>2</sup>  
Structure: Phospholipase A<sub>2</sub> is a single polypeptide chain of approximately 123 amino acids containing seven disulfide bridges.

Phospholipase A<sub>2</sub> reacts stereospecifically with most sn-3-phosphoglycerides. The fatty acid ester bonds are hydrolyzed at the C-2 position. This reaction requires calcium for catalysis. The general reaction catalyzed is:



Phospholipase A<sub>2</sub> is inhibited *in vitro* by both calpactin I and calpactin II. The calpactins sequester the phospholipid substrate. There is no direct interaction between the calpactins and phospholipase A<sub>2</sub>.<sup>3</sup>

Quinacrine has also been described as an inhibitor of phospholipase A<sub>2</sub> (IC<sub>50</sub> = 17 μM)<sup>4</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (1 mg/ml), yielding a clear, colorless solution.

#### Storage/Stability

Pancreatic phospholipase A<sub>2</sub> is very stable. The enzyme is not denatured by 8 M urea, 5 M guanidine HCl, 10% TCA, or hot (85 °C) 2% SDS.

#### References

1. De Haas, G.H., et al., Studies on phospholipase A and its zymogen from porcine pancreas. II. The assignment of the position of the six disulfide bridges. *Biochim. Biophys. Acta*, **221(1)**, 54-61 (1970).
2. De Haas, G.H., et al., Purification and properties of phospholipase A from porcine pancreas. *Biochim. Biophys. Acta*, **159(1)**, 103-117 (1968).
3. Davidson, F.F., et al., Inhibition of phospholipase A<sub>2</sub> by "lipocortins" and calpactins. An effect of binding to substrate phospholipids. *J. Biol. Chem.*, **262(4)**, 1698-1705 (1987).
4. Magolda, R. L., et al., Prostaglandins, Leukotrienes and Lipoxins, Plenum Press (1985), pp 669-672.

MWM/NSB 11/02

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.