

PRODUCT INFORMATION

PtdIns-(3,5)-P₂ (1,2-dipalmitoyl) (sodium salt)

Item No. 10008398

Formal Name: 1-(1,2R-dihexadecanoylphosphatidyl) inositol-3,5-bisphosphate, trisodium salt

Synonym: Phosphatidylinositol-3,5-diphosphate C-16

MF: C₄₁H₇₈O₁₉P₃ • 3Na

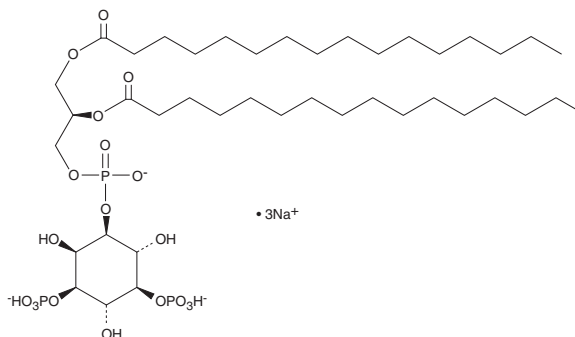
FW: 1036.9

Purity: ≥98%

Supplied as: A lyophilized powder

Storage: -20°C

Stability: ≥1 year



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

Laboratory Procedures

PtdIns-(3,5)-P₂ (1,2-dipalmitoyl) (sodium salt) is supplied as a lyophilized powder. For biological experiments, we suggest that organic solvent-free aqueous solutions of PtdIns-(3,5)-P₂ (1,2-dipalmitoyl) (sodium salt) be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of PtdIns-(3,5)-P₂ (1,2-dipalmitoyl) (sodium salt) in 50 mM HEPES (pH 7.0, containing 5 mM EDTA and 16 mg/ml sodium deoxycholate) is approximately 8 mg/ml.

It can also be dissolved in PBS (pH 7.2) to at least 1 mg/ml (opaque solution). As another alternative, PtdIns-(3,4)-P₂ (1,2-dipalmitoyl) (sodium salt) can be dissolved in a solution of chloroform:methanol:water (3:2:1); it will be soluble to at least 10 mg/ml. PtdIns-(3,5)-P₂ (1,2-dipalmitoyl) (sodium salt) will not be stable in aqueous solutions for more than 24 hours.

Description

The phosphatidylinositol (PtdIns) phosphates represent a small percentage of total membrane phospholipids. However, they play a critical role in the generation and transmission of cellular signals.^{1,2} PtdIns-(3,5)-P₂ (1,2-dipalmitoyl) (sodium salt) is a synthetic analog of natural PtdIns featuring saturated C₁₆:0 fatty acids at the *sn*-1 and *sn*-2 positions. The compound features the same inositol and diacylglycerol stereochemistry as that of the natural compound. PtdIns-(3,5)-P₂ is rapidly synthesized from PtdIns-(3)-P₁ in yeast when a PtdIns-(3)-P₅-hydroxy kinase is activated during hyperosmotic conditions.³ PtdIns-(3,5)-P₂ is also present in mammalian cells, such as monkey COS-7 cells, where a similar biosynthetic route has been demonstrated.³

References

1. Exton, J.H. Regulation of phosphoinositide phospholipases by hormones, neurotransmitters, and other agonists linked to G proteins. *Annu. Rev. Pharmacol. Toxicol.* **36**, 481-509 (1996).
2. Majerus, P.W. Inositol phosphate biochemistry. *Annu. Rev. Biochem.* **61**, 225-250 (1992).
3. Dove, S.K., Cooke, F.T., Douglas, M.R., *et al.* Osmotic stress activates phosphatidylinositol-3,5-bisphosphate synthesis. *Nature* **390**, 187-192 (1997).

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.

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