

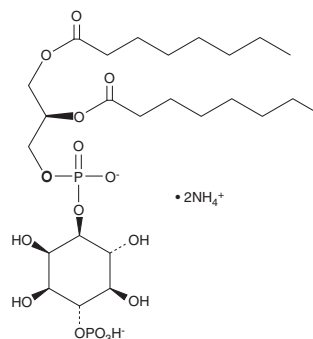
# PRODUCT INFORMATION



## PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt)

Item No. 10007711

**CAS Registry No.:** 1246303-11-6  
**Formal Name:** 1-(1,2-dioctanoylphosphatidyl) inositol-4-phosphate, diammonium salt  
**Synonyms:** DOPI-4-P<sub>1</sub>, Phosphatidylinositol-4-phosphate C-8, PIP[4'](8:0/8:0), PI(4)P (8:0/8:0)  
**MF:** C<sub>25</sub>H<sub>46</sub>O<sub>16</sub>P<sub>2</sub> • 2NH<sub>4</sub>  
**FW:** 700.7  
**Purity:** ≥97%  
**Supplied as:** A lyophilized powder  
**Storage:** -20°C  
**Stability:** ≥5 years



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

### Laboratory Procedures

PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) in an organic solvent purged with an inert gas. PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) is soluble in an organic solvent such as chloroform:methanol:water (4:3:1). The solubility of PtdIns-(1,2-dipalmitoyl) (ammonium salt) in this solvent is at least 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) can be prepared by directly dissolving the lyophilized powder in water. The solubility of PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) in water is at least 1 mg/ml. PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium 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.<sup>1,2</sup> PtdIns-(4)-P<sub>1</sub> (1,2-dioctanoyl) is a synthetic analog of natural PtdIns featuring C8:0 fatty acids at the *sn*-1 and *sn*-2 positions. The compound contains the same inositol and diacylglycerol (DAG) stereochemistry as the natural compound. PtdIns-(4)-P<sub>1</sub> can be phosphorylated to di- (PtdIns-P<sub>2</sub>; PIP<sub>2</sub>) and triphosphates (PtdIns-P<sub>3</sub>; PIP<sub>3</sub>). Hydrolysis of PtdIns-(4,5)-P<sub>2</sub> by phosphoinositide (PI)-specific phospholipase C generates inositol triphosphate (IP<sub>3</sub>) and DAG which are key second messengers in an intricate biochemical signal transduction cascade.

### 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).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM