

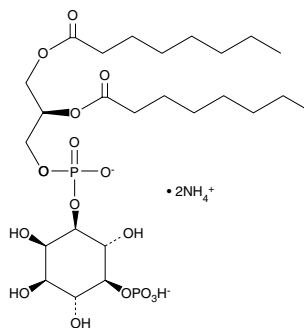
# Product Information



## PtdIns-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt)

Item No. 10007758

<b>Formal Name:</b>	1-(1,2-dioctanoylphosphatidyl)inositol-5-phosphate, diammonium salt
<b>Synonyms:</b>	DOPI-5-P <sub>1</sub> , Phosphatidylinositol-5-phosphate C-8
<b>MF:</b>	C <sub>25</sub> H <sub>46</sub> O <sub>16</sub> P <sub>2</sub> • 2NH <sub>4</sub>
<b>FW:</b>	700.7
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥1 year at -20°C
<b>Supplied as:</b>	A lyophilized powder



### Laboratory Procedures

For long term storage, we suggest that PtdIns-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) be stored as supplied at -20°C. It should be stable for at least one year.

PtdIns-(5)-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-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) in an organic solvent purged with an inert gas. PtdIns-(5)-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-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) in this solvent is approximately 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-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) can be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of PtdIns-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) in water is approximately 1 mg/ml. PtdIns-(5)-P<sub>1</sub> (1,2-dioctanoyl) (ammonium salt) will not be stable in aqueous solutions for more than 24 hours.

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-(5)-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 features the same inositol and diacylglycerol (DAG) stereochemistry as the natural compound. PtdIns-(5)-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>) by phosphoinositol (PI)-specific kinases. Hydrolysis of PtdIns-(4,5)-P<sub>2</sub> by 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).

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