

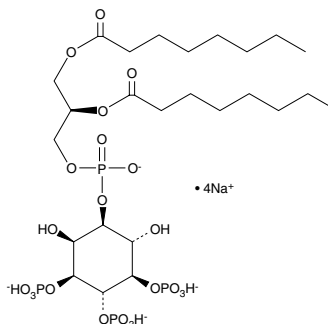
Product Information



PtdIns-(3,4,5)-P₃ (1,2-dioctanoyl) (sodium salt)

Item No. 10007764

Formal Name: 1-(1,2-dioctanoylphosphatidyl)inositol-3,4,5-trisphosphate, tetrasodium salt
Synonyms: DOPI-3,4,5-P₃, Phosphatidylinositol-3,4,5-trisphosphate
MF: C₂₅H₄₆O₂₂P₄ • 4Na⁺
FW: 914.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A lyophilized powder



Laboratory Procedures

For long term storage, we suggest that PtdIns-(3,4,5)-P₃ (1,2-dioctanoyl) (sodium salt) be stored as supplied at -20°C. It should be stable for at least one year.

PtdIns-(3,4,5)-P₃ (1,2-dioctanoyl) (sodium salt) is supplied as a lyophilized powder. PtdIns-(3,4,5)-P₃ (1,2-dioctanoyl) (sodium salt) is essentially insoluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that aqueous solutions of PtdIns-(3,4,5)-P₃ (1,2-dioctanoyl) (sodium salt) be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of PtdIns-(3,4,5)-P₃ (1,2-dioctanoyl) (sodium salt) in water is at least 10 mg/ml.

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-(3,4,5)-P₃ (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. The short fatty acid chains of this analog give it different physical properties including high solubility in aqueous media compared to naturally occurring PtdIns-(3,4,5)-P₃. PtdIns are phosphorylated to mono- (PtdIns-P; PIP), di- (PtdIns-P₂; PIP₂), and triphosphates (PtdIns-P₃; PIP₃). Phosphorylation of PtdIns-(4,5)-P₂ by phosphoinositide (PI)-3-kinase initiates an intricate signalling cascade at the fore front of scientific research.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. Vivanco, I. and Sawyers, C.L. *Nature Reviews Cancer* **2**, 489-501 (2002).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10007764

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