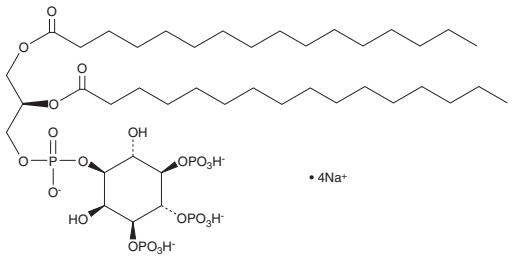
PRODUCT INFORMATION

PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt)

Item No. 64920

CAS Registry No.: 1628353-02-5
Formal Name: D-*myo*-inositol 1-[(2R)-2,3-*bis*[(1-oxohexadecyl) oxy]propyl hydrogen phosphate] 3,4,5-*tris* (dihydrogen phosphate), tetrasodium salt
Synonyms: DPPI-3,4,5-P_3, Phosphatidylinositol-3,4,5-triphosphate C-16, PI(3,4,5)P_3 (16:0/16:0), PIP3[3',4',5'](16:0/16:0)
MF: $C_{41}H_{78}O_{22}P_4$ • 4Na
FW: 1,138.9
Purity: ≥98%
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-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt) is supplied as a a lyophilized powder. A stock solution may be made by dissolving the PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt) in in the solvent of choice, which should be purged with an inert gas. PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt) has a solubility of approximately 3.8 mg/ml in a 2.5:3:1 solution of chloroform:methanol:water.

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-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt) can be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The phosphatidylinositol 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)-P_3 can serve as an anchor for the binding of signal transduction proteins bearing pleckstrin homology (PH) domains. Centuarin α and the Akt-family of GTPase activating proteins are examples of PtdIns-(3,4,5)-P_3-binding proteins.[3,4] Protein-binding to PtdIns-(3,4,5)-P_3 is important for cytoskeletal rearrangements and membrane trafficking. PtdIns-(3,4,5)-P_3 is resistant to cleavage by PI-specific phospholipase C (PLC). Thus, it is likely to function in signal transduction as a modulator in its own right, rather than as a source of inositol tetraphosphates. For further reading on inositol phospholipids, see also references 5 and 6.

References

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5. Pike, L.J. and Casey, L. *J. Biol. Chem.* **271(43)**, 26453-26456 (1996).
6. Berridge, M.J. *Nature* **361(6410)**, 315-325 (1993).

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