Product Information

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

Item No. 9000829

Formal Name: 1-(1-octadecanoyl)-2R-(5Z,8Z,11Z,14Z)-eicosatetraenoylphosphatidyl)inositol-3,4,5-triphosphate, tetrasodium salt

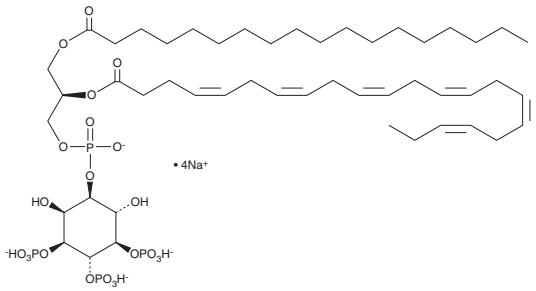
MF: $C_{49}H_{82}O_{22}P_4 \bullet 4Na$

FW: 1,239.0

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)-P_3 (1-stearoyl, 2-docosahexaenoyl) (sodium salt) be stored as supplied at -20°C. It should be stable for at least one year.

PtdIns-(3,4,5)-P_3 (1-stearoyl, 2-docosahexaenoyl) (sodium salt) is supplied as a lyophilized powder. For biological experiments, we suggest that organic solvent-free aqueous solutions of PtdIns-(3,4,5)-P_3 (1-stearoyl, 2-docosahexaenoyl) (sodium salt) be prepared by directly dissolving the lyophilized powder in water. The solubility of PtdIns-(3,4,5)-P_3 (1-stearoyl, 2-docosahexaenoyl) (sodium salt) in water, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Phosphatidyl inositol trisphosphate (PtdIns-(3,4,5)-P_3) is a membrane phospholipid that may be cleaved by phospholipase C (PLC) to produce the second messengers inositol tetrakisphosphate (IP_4) and diacylglycerol (DAG). IP_4 triggers an increase in intracellular calcium.[1] PtdIns-(3,4,5)-P_3 (1-stearoyl, 2-docosahexaenoyl) is an uncommon phospholipid having the ω-3 fatty acid docosahexaenoate (DHA) in the *sn*-2 position. In addition to releasing an unusual DHA-containing DAG in response to PLC, this phospholipid can serve as a source of DHA in response to phospholipases A_2 (PLA_2). Importantly, the inositol head group of PtdIns-(3,4,5)-P_3 can serve as an anchor for the binding of proteins bearing pleckstrin homology (PH) domains.[2,3]

References

1. Lückhoff, A. and Clapham, D.E. Inositol 1,3,4,5-tetrakisphosphate activates an endothelial Ca^{2+}-permeable channel. *Nature* **355**, 356-358 (1992).
2. Ferguson, K.M., Kavran, J.M., Sankaran, V.G., *et al.* Structural basis for discrimination of 3-phosphoinisitides by pleckstrin homology domains. *Mol. Cell* **6(2)**, 373-384 (2000).
3. Lemmon, M.A. and Ferguson, K.M. Molecular determinants in pleckstrin homology domains that allow specific recognition of phosphoinositides. *Biochem. Soc. Trans.* **29(4)**, 377-384 (2001).

Related Products

PtdIns-(4,5)-P_2 (1,2-dioctanoyl) (sodium salt) - Item No. 64910 • PtdIns-(3)-P_1 (1,2-dipalmitoyl) (ammonium salt) - Item No. 64921 • PtdIns-(3,4,5)-P_3 (1-stearoyl, 2-arachidonoyl) (sodium salt) - Item No. 64930 • PtdIns-(1-arachidonoyl, 2-arachidonoyl-d_8) (ammonium salt) - Item No. 9000305 • PtdIns-(3,4,5)-P_3 (1,2-dioctanoyl) (sodium salt) - Item No. 10007764 • PtdIns-(4,5)-P_2 (1,2-dipalmitoyl) (sodium salt) - Item No. 10008115 • PtdIns-(4,5)-P_2-biotin (sodium salt) - Item No. 10008159 • PtdIns-(4,5)-P_2-fluorescein (ammonium salt) - Item No. 10010388

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