

# Product Information



## PtdIns-(3,4,5)-P<sub>3</sub> (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

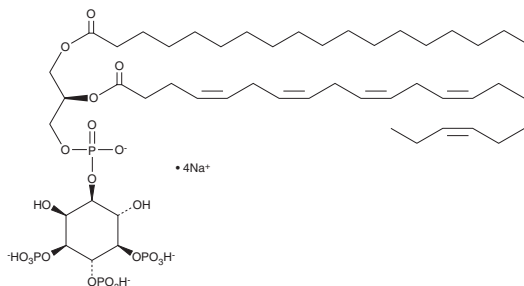
**MF:** C<sub>49</sub>H<sub>82</sub>O<sub>22</sub>P<sub>4</sub> • 4Na

**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<sub>3</sub> (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<sub>3</sub> (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<sub>3</sub> (1-stearoyl, 2-docosahexaenoyl) (sodium salt) be prepared by directly dissolving the lyophilized powder in water. The solubility of PtdIns-(3,4,5)-P<sub>3</sub> (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 triphosphate (PtdIns-(3,4,5)-P<sub>3</sub>) is a membrane phospholipid that may be cleaved by phospholipase C (PLC) to produce the second messengers inositol tetrakisphosphate (IP<sub>4</sub>) and diacylglycerol (DAG). IP<sub>4</sub> triggers an increase in intracellular calcium.<sup>1</sup> PtdIns-(3,4,5)-P<sub>3</sub> (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<sub>2</sub> (PLA<sub>2</sub>). Importantly, the inositol head group of PtdIns-(3,4,5)-P<sub>3</sub> can serve as an anchor for the binding of proteins bearing pleckstrin homology (PH) domains.<sup>2,3</sup>

### References

1. Lückhoff, A. and Clapham, D.E. Inositol 1,3,4,5-tetrakisphosphate activates an endothelial Ca<sup>2+</sup>-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-phosphoinositides 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<sub>2</sub> (1,2-dioctanoyl) (sodium salt) - Item No. 64910 • PtdIns-(3)-P<sub>1</sub> (1,2-dipalmitoyl) (ammonium salt) - Item No. 64921 • PtdIns-(3,4,5)-P<sub>3</sub> (1-stearoyl, 2-arachidonoyl) (sodium salt) - Item No. 64930 • PtdIns-(1-arachidonoyl, 2-arachidonoyl-d<sub>3</sub>) (ammonium salt) - Item No. 9000305 • PtdIns-(3,4,5)-P<sub>3</sub> (1,2-dioctanoyl) (sodium salt) - Item No. 10007764 • PtdIns-(4,5)-P<sub>2</sub> (1,2-dipalmitoyl) (sodium salt) - Item No. 10008115 • PtdIns-(4,5)-P<sub>2</sub>-biotin (sodium salt) - Item No. 10008159 • PtdIns-(4,5)-P<sub>2</sub>-fluorescein (ammonium salt) - Item No. 10010388

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

### MATERIAL SAFETY DATA

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