

# PRODUCT INFORMATION



## PtdIns-(3,5)-P<sub>2</sub> (1,2-dioctanoyl) (sodium salt)

Item No. 10007763

**Formal Name:** 1-(1,2-dioctanoylphosphatidyl)inositol-3,5-bisphosphate, trisodium salt

**Synonyms:** DOPI-3,5-P<sub>2</sub>, Phosphatidylinositol-3,5-bisphosphate C-8, PI(3,5)P<sub>2</sub> (8:0/8:0), PIP2[3',5'] (8:0/8:0)

**MF:** C<sub>25</sub>H<sub>46</sub>O<sub>19</sub>P<sub>3</sub> • 3Na

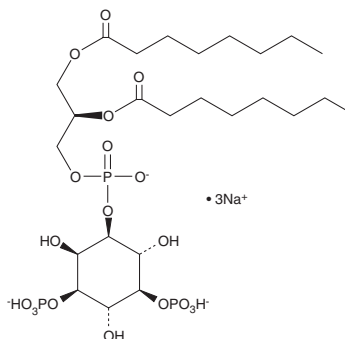
**FW:** 812.5

**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-(3,5)-P<sub>2</sub> (1,2-dioctanoyl) (sodium salt) is supplied as a lyophilized powder. PtdIns-(3,5)-P<sub>2</sub> (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-(3,5)-P<sub>2</sub> (1,2-dioctanoyl) (sodium salt) be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of PtdIns-(3,5)-P<sub>2</sub> (1,2-dioctanoyl) (sodium salt) in water is at least 10 mg/ml.

### Description

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-(3,5)-P<sub>2</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 are phosphorylated to mono- (PtdIns-P; PIP), di- (PtdIns-P<sub>2</sub>; PIP<sub>2</sub>), and triphosphates (PtdIns-P<sub>3</sub>; PIP<sub>3</sub>). Hydrolysis of PtdIns-(4,5)-P<sub>2</sub> by phosphoinositide (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. PtdIns-(3,4)-P<sub>2</sub> is resistant to hydrolysis by phospholipase C.<sup>3</sup>

### 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. Serunian, L.A., Haber, M.T., Fukui, T., et al. Polyphosphoinositides produced by phosphatidylinositol 3-kinase are poor substrates for phospholipases C from rat liver and bovine brain. *J. Biol. Chem.* **264**(30), 17809-17815 (1989).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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