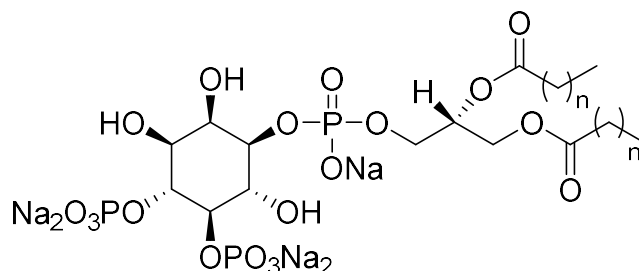


## D-myo-Phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P<sub>2</sub>)



| n  | Catalog Number | MW (g/mol) | Chemical Formula   | Solubility  |
|----|----------------|------------|--|---|
| 2  | P-4504         | 744.26     | C <sub>17</sub> H <sub>28</sub> Na <sub>5</sub> O <sub>19</sub> P <sub>3</sub> | H <sub>2</sub> O or pH neutral buffer, >1 mg/mL   |
| 6  | P-4508         | 856.48     | C <sub>25</sub> H <sub>44</sub> Na <sub>5</sub> O <sub>19</sub> P <sub>3</sub> | H <sub>2</sub> O or pH neutral buffer, >1 mg/mL   |
| 14 | P-4516         | 1080.90    | C <sub>41</sub> H <sub>76</sub> Na <sub>5</sub> O <sub>19</sub> P <sub>3</sub> | 19:1 H <sub>2</sub> O:MeOH <1 mg/mL<br>20:13:3 CHCl <sub>3</sub> :MeOH:H <sub>2</sub> O, <1 mg/mL |

**Storage and Handling:** Phosphatidylinositol polyphosphates (PtdInsP<sub>n</sub>s) and analogs are stable for at least one year when stored as a solid, protected from moisture, at -20 °C or below. Longer-chain PtdInsP<sub>n</sub>s should be stored in glass containers to prevent material loss due to absorption to the vessel surface. Storage in basic (pH > 9) or acidic (pH < 4) buffers may cause decomposition. Brief sonication and heating (~50 °C) can help longer chain PtdInsP<sub>n</sub>s solubilize. After reconstitution, solutions of PtdInsP<sub>n</sub>s should be stored at -20 °C or below. PtdInsP<sub>n</sub>s are stable for at least three months when handled in this way. Repeated freeze/thaw cycles do not affect PtdInsP<sub>n</sub>s. Do not store reconstituted PtdInsP<sub>n</sub>s at 4 °C for more than 2-3 days.

**Background:** Phosphoinositides (PIP<sub>n</sub>s) are minor components of cellular membranes but are integral signaling molecules for cellular communication. Phosphatidylinositol 4,5-bisphosphate (PIP<sub>2</sub>) has been shown to play a central role in a variety of cellular functions. Amongst its many functions, PIP<sub>2</sub> is a substrate for Phospholipase C-coupled G-protein pathways involved in intracellular calcium release in several tissues and is a substrate for class I phosphoinositide 3-kinase (PI3-K).

**References:** 1) Balla, T. (2013). "Phosphoinositides: Tiny lipids with giant impact on cell regulation." *Physiol. Rev* 93(3): 1019-1137.

2) Di Paolo, G., De Camilli, P. (2006). "Phosphoinositides in cell regulation and membrane dynamics." *Nature* 443: 651-657.

3) Majerus, P.J., York, J.D. (2009). "Phosphoinositide phosphates and disease." *J. Lipid Res.* 50: S249-254.

See [website](#) for additional references

**Hazardous Properties and Cautions:** The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

**Warranty and Disclaimer:** Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

Technical Data Sheet, Rev 8, 4-25-24 – **For research use only.** Not intended for diagnostic or therapeutic use.