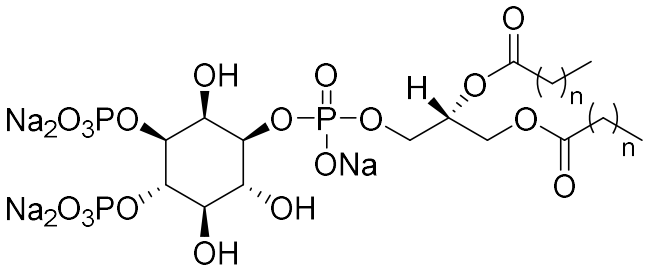
D-*myo*-Phosphatidylinositol 3,4-bisphosphate (PtdIns(3,4)P_2)



n	Catalog Number	MW (g/mol)	Chemical Formula	Solubility
2	P-3404	744.26	$C_{17}H_{28}Na_5O_{19}P_3$	H_2O, >5 mg/mL
6	P-3408	856.48	$C_{25}H_{44}Na_5O_{19}P_3$	H_2O, >5 mg/mL
14	P-3416	1080.90	$C_{41}H_{76}Na_5O_{19}P_3$	19:1 H_2O:MeOH, <1 mg/mL 20:13:3 $CHCl_3$:MeOH:H_2O, <1 mg/mL

Storage and Handling: Phosphatidylinositol polyphosphates (PtdInsP_ns) 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_ns 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_ns solubilize. After reconstitution, solutions of PtdInsP_ns should be stored at -20 °C or below. PtdInsP_ns are stable for at least three months when handled in this way. Repeated freeze/thaw cycles do not affect PtdInsP_ns. Do not store reconstituted PtdInsP_ns at 4 °C for more than 2-3 days.

Background: Phosphoinositides (PIPns) are minor components of cellular membranes but are integral signaling molecules for cellular communication. Phosphatidylinositol 3,4-bisphosphate (PI(3,4)P2) is produced in stimulated cells by the action of phosphatidylinositol 3-kinases (PI3Ks) and/or lipid phosphatases (SHIP, TPTE, etc.). PI(3,4)P2 binds the pleckstrin homology (PH)-domain of AKT/PKB leading to cell survival and it also has an important role in podosome formation near focal adhesions.

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

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