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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

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Product Information

PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt)

Item No. 9000414

Formal Name: 1-(1,2R-dihexadecanoyl (2,2',3,3',4,4',5,5', 6,6',7,7',8,8',9,9',10,10',11,11',12,12', 13,13',14,14',15,16,16,16-d_{31}) phosphatidyl)inositol-3,4,5-trisphosphate, tetrasodium salt

Synonyms: DPPI-3,4,5-P_3-d_{62}, Phosphatidylinositol-3,4,5-trisphosphate C16-d_{62}

MF: $C_{41}H_{16}D_{62}O_{22}P_4 \bullet 4Na$

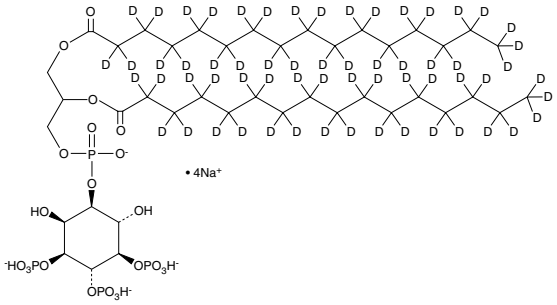
FW: 1,201.3

Chemical Purity: ≥98% PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl) (sodium salt)

Deuterium Incorporation: ≥99% deuterated forms (d_1-d_{62}); ≤1% d_0

Stability: ≥2 years at -20°C

Supplied as: A lyophilized powder



Laboratory Procedures

PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) contains 62 deuterium atoms at the 2, 2', 3, 3', 4, 4', 5, 5', 6, 6', 7, 7', 8, 8', 9, 9', 10, 10', 11, 11', 12, 12', 13, 13', 14, 14', 15, 15', 16, 16, and 16 positions of each fatty acyl chain. It is intended for use as an internal standard for the quantification of PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) in water. The solubility of PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) in water is approximately 10 mg/ml. PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) will not be stable in aqueous solutions for more than 24 hours.

PtdIns-(3,4,5)-P_3 (1,2-dipalmitoyl)-d_{62} (sodium salt) is used as an internal standard for the quantification of PtdIns-(3,4,5)-P_3(1,2-dipalmitoyl)-d_{62} (sodium salt) by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

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.[1,2] PtdIns-(3,4,5)-P_3 can serve as an anchor for the binding of signal transduction proteins bearing pleckstrin homology (PH) domains. Centuarin α and the Akt-family of GTPase activating proteins are examples of PtdIns-(3,4,5)-P_3-binding proteins.[3,4] Protein-binding to PtdIns-(3,4,5)-P_3 is important for cytoskeletal rearrangements and membrane trafficking. PtdIns-(3,4,5)-P_3 is resistant to cleavage by PI-specific phospholipase C (PLC). Thus, it is likely to function in signal transduction as a modulator in its own right, rather than as a source of inositol tetraphosphates. For further reading on inositol phospholipids, see references 5 and 6.

References

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Mailing address
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