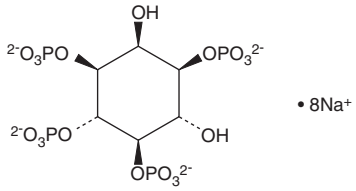
PRODUCT INFORMATION

D-*myo*-Inositol-1,3,4,5-tetraphosphate (sodium salt)

Item No. 60980

CAS Registry No.: 210488-61-2
Formal Name: D-*myo*-inositol-1,3,4,5-tetrakis(dihydrogen phosphate), octasodium salt
Synonyms: Ins(1,3,4,5)-P_4, 1,3,4,5-IP_4
MF: $C_6H_8O_{18}P_4 \bullet 8Na$
FW: 675.9
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

D-*myo*-Inositol-1,3,4,5-tetraphosphate (sodium salt) (Ins(1,3,4,5)-P_4 (sodium salt)) is supplied as a lyophilized powder. Ins(1,3,4,5)P_4 (sodium salt) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of Ins(1,3,4,5)-P_4 (sodium salt) can be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of Ins(1,3,4,5)-P_4 (sodium salt) in PBS (pH 7.2) is approximately 50 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ins(1,3,4,5)-P_4 is a polyphosphoinositide which may be involved in extracellular signalling. Ins(1,3,4,5)-P_4 is formed by the phosphorylation of Ins(1,4,5)-P_3 by inositol 1,4,5-triphosphate 3-kinase.[1,2] Ins(1,3,4,5)-P_4 increases intracellular calcium levels by two distinct mechanisms: opening calcium channels on both the endoplasmic reticulum to release calcium from internal stores and on the plasma membrane to allow the influx of calcium from outside the cell.[3]

References

1. Billington, D.C., Baker, R., Kulagowski, J.J., *et al.* Synthesis of *myo*-inositol 1-phosphate and 4-phosphate, and their individual enantiomers. *J. Chem. Soc., Chem. Commun.* 314-316 (1987).
2. Communi, D., Vanweyenberg, V., and Erneux, C. Purification and biochemical properties of a high-molecular-mass inositol 1,4,5-trisphosphate 3-kinase isoenzyme in human platelets. *Biochem. J.* **298**, 669-673 (1994).
3. Lückhoff, A. and Clapham, D.E. Inositol 1,3,4,5-tetrakisphosphate activates an endothelial Ca^{2+}-permeable channel. *Nature* **355**, 356-358 (1992).

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