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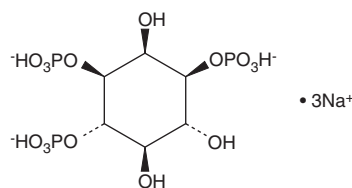
Product Information



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

Catalog No. 60972

Formal Name: D-*myo*-inositol-1,3,4-tris(dihydrogen phosphate), trisodium salt
Synonym: Ins(1,3,4)-P₃ (sodium salt), 1,3,4-IP₃ (sodium salt)
MF: C₆H₁₂P₃O₁₅ • 3Na
FW: 486.0
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A lyophilized powder



Laboratory Procedures

For long term storage, we suggest that D-*myo*-inositol-1,3,4-triphosphate (sodium salt) (Ins(1,3,4)-P₃) be stored as supplied at -20°C. It should be stable for at least two years.

Ins(1,3,4)-P₃ is supplied as a lyophilized powder. Ins(1,3,4)-P₃ 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)-P₃ can be prepared by directly dissolving the lyophilized powder in aqueous buffers. The solubility of Ins(1,3,4)-P₃ in PBS (pH 7.2) is approximately 50 mg/ml. We do not recommend storing the aqueous solution for more than one day.

The inositol phosphates play a critical role as small, soluble second messengers in the transmission of cellular signals.^{1,2} Ins(1,3,4)-P₃ is one of several different inositol oligophosphate isomers implicated in signal transduction. Ins(1,3,4)-P₃ acts through the inhibition of Ins(3,4,5,6)-P₄ kinase activity to increase the cellular level of Ins(3,4,5,6)-P₄ and thus inhibit calcium-activated chloride channels.³ The levels of Ins(1,3,4)-P₃ are in turn regulated by the levels of cytosolic free calcium.⁴ The receptor-mediated activation of phospholipase C (PLC) can be seen as the initiating event in this cascade, since PLC generates Ins(1,4,5)-P₃ which releases calcium from intracellular storage reservoirs, leading to a dramatic but transient increase in the cytosolic concentration of free calcium.⁵

References

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2. Majerus, P.W. Inositol phosphate biochemistry. *Annu. Rev. Biochem.* **61**, 225-250 (1992).
3. Yang, X., Rudolf, M., Carew, M.A., *et al.* Inositol 1,3,4-trisphosphate acts *in vivo* as a specific regulator of cellular signaling by inositol 3,4,5,6-tetrakisphosphate. *J. Biol. Chem.* **274**, 18973-18980 (1999).
4. Lew, P.D., Monod, A., Krause, K.-H., *et al.* The role of cytosolic free calcium in the generation of inositol 1,4,5-triphosphate and inositol 1,3,4-triphosphate in HL-60 cells. *J. Biol. Chem.* **261**, 13121-13127 (1986).
5. Yoshida, Y. and Imai, S. Structure and function of inositol 1,4,5-triphosphate receptor. *Jpn. J. Pharmacol.* **74**, 125-137 (1997).

Related Products

D-*myo*-Inositol-1,4,5-triphosphate (potassium salt) - Cat. No. 60960 • D-*myo*-Inositol-1,3,4-triphosphate (potassium salt) - Cat. No. 60970 • D-*myo*-Inositol-1,3,4,5-tetrakisphosphate (potassium salt) - Cat. No. 60980

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

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