

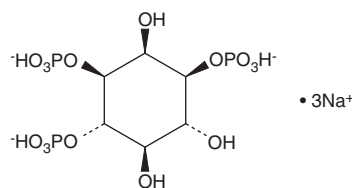
Product Information



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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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

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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