

D-*myo*-Inositol 1,4,5-trisphosphate [Ins(1,4,5)P₃]

Catalog number: Q-0145

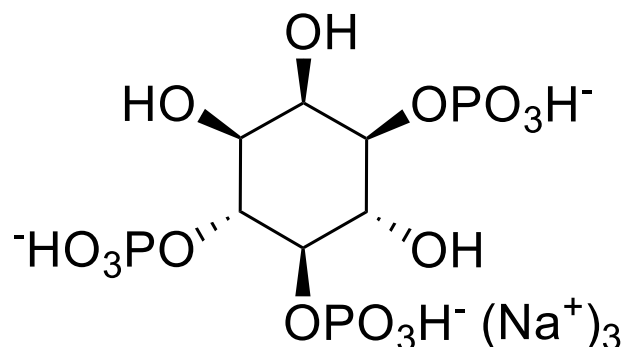
Molecular Formula: C₆H₁₂Na₃O₁₅P₃

MW: 486.04

CAS: 108340-81-4

Alternate Name: Inositol 1,4,5-trisphosphate, I(1,4,5)P₃, IP3

Solubility: >10 mg/mL in water and most aqueous buffers



Storage and Handling: Inositol polyphosphates (InsP_ns) and analogs are stable for at least one year when stored as a solid, protected from moisture, at -20 °C or below. Storage in basic (pH > 9) or acidic (pH < 4) buffers may cause decomposition. After reconstitution, solutions of InsP_ns should be stored at -20 °C or below. InsP_ns are stable for at least three months when handled in this way. Repeated freeze/thaw cycles do not affect InsP_ns. Do not store reconstituted InsP_ns at 4 °C for more than 2-3 days.

Background: Inositol phosphates are important signaling molecules involved in numerous cellular functions. Inositol 1,4,5-trisphosphate (IP₃) is a second messenger produced by phospholipase C catalyzed hydrolysis of phosphatidylinositol 4,5-bisphosphate (PIP₂). IP₃ binds to the IP₃-receptor on the endoplasmic reticulum causing calcium to be released through the opening of a tetrameric ion channel. IP₃ is rapidly metabolized by a specific series of inositol phosphatases and kinases.

References: 1) K. Abel, *et al.* (2001) "Phosphatidylinositol and inositol phosphate metabolism" *Journal of Cell Science* 114: 2207-2208.

2) R.F. Irvine & M.J. Schell (2001) "Back in the water: the return of Inositol phosphates" *Nat. Rev.* 2:327-338

3) S.B. Shears, *et al.* (2012) "Defining Signal Transduction by Inositol Phosphates" *Subcell Biochem.* 59: 389-412.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

