

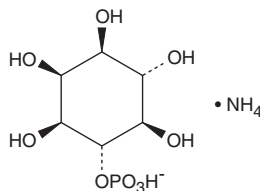
Product Information



D-*myo*-Inositol-4-phosphate (ammonium salt)

Catalog No. 10008437

Formal Name: D-*myo*-inositol-4-hydrogen phosphate, monoammonium salt
Synonyms: Ins(4)P₁ (ammonium salt), 4-IP₁ (ammonium salt)
MF:* C₆H₁₁O₉P • NH
FW: 277.2
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A lyophilized powder



Laboratory Procedures

For long term storage, we suggest that D-*myo*-Inositol-4-phosphate (ammonium salt) (Ins(4)P₁ (ammonium salt)) be stored as supplied at -20°C. It should be stable for at least one year.

Ins(4)P₁ (ammonium salt) is supplied as a lyophilized powder. It 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(4)P₁ (ammonium salt) be prepared by directly dissolving the lyophilized powder in water. The solubility of Ins(4)P₁ (ammonium salt) in water is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Ins(4)P₁ is a member of the inositol phosphate (InsP) molecular family that play critical roles as small, soluble second messengers in the transmission of cellular signals.^{1,2} The most studied InsP, Ins(1,4,5)P₃, is a second messenger produced in cells by phospholipase C (PLC)-mediated hydrolysis of phosphatidylinositol-4,5-diphosphate.^{3,4} Binding of Ins(1,4,5)P₃ to its receptor on the endoplasmic reticulum results in opening of the calcium channels and an increase in intracellular calcium.^{4,5} Ins(4)P₁ can be formed by dephosphorylation of Ins(1,4)P₂ by inositol polyphosphate 1-phosphatase or dephosphorylated to inositol by inositol monophosphatase.¹

References

1. Majerus, P.W. Inositol phosphate biochemistry. *Annu. Rev. Biochem.* **61**, 225-250 (1992).
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3. Streb, H., Irvine, R.F., Berridge, M.J., *et al.* Release of Ca²⁺ from a nonmitochondrial intracellular store in pancreatic acinar cells by inositol-1,4,5-trisphosphate. *Nature* **306**, 67-69 (1983).
4. Yoshida, Y. and Imai, S. Structure and function of inositol 1,4,5-trisphosphate receptor. *Jpn. J. Pharmacol.* **74**, 125-137 (1997).
5. Exton, J.H. Regulation of phosphoinositide phospholipases by hormones, neurotransmitters, and other agonists linked to G proteins. *Annu. Rev. Pharmacol. Toxicol.* **36**, 481-509 (1996).

Related Products

D-*myo*-Inositol-1,4,5-triphosphate (potassium salt) - Cat. No. 60960 • D-*myo*-Inositol-1,3,4-triphosphate (sodium salt) - Cat. No. 60972 • D-*myo*-Inositol-1,3,4,5-tetraphosphate (sodium salt) - Cat. No. 60980 • D-*myo*-Inositol-1-phosphate (sodium salt) - Cat. No. 10007777 • D-*myo*-Inositol-3-phosphate (sodium salt) - Cat. No. 10007778 • D-*myo*-Inositol-2,4,5-triphosphate (sodium salt) - Cat. No. 10007779 • D-*myo*-Inositol-1,2,6-triphosphate (sodium salt) - Cat. No. 10007780 • D-*myo*-Inositol-1,3,5-triphosphate (sodium salt) - Cat. No. 10007781 • D-*myo*-Inositol-3,4,5,6-tetraphosphate (sodium salt) - Cat. No. 10007782 • D-*myo*-Inositol-1,4,5,6-tetraphosphate (sodium salt) - Cat. No. 10007783 • D-*myo*-Inositol-1,3,4,5,6-pentaphosphate (sodium salt) - Cat. No. 10007784

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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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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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