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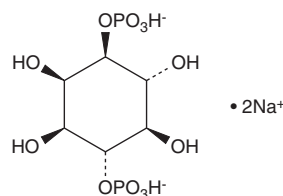
Product Information



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

Item No. 10008438

Formal Name:	D- <i>myo</i> -inositol-1,4-bis(dihydrogen phosphate), disodium salt
Synonyms:	Ins(1,4)-P ₂ (sodium salt), 1,4-IP ₂ (sodium salt)
MF:	C ₆ H ₁₂ O ₁₂ P ₂ • 2Na
FW:	384.1
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-1,4-diphosphate (sodium salt) (Ins(1,4)P₂) be stored as supplied at -20°C. It should be stable for at least one year.

Ins(1,4)P₂ is supplied as a lyophilized powder. Ins(1,4)P₂ 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(1,4)P₂ be prepared by directly dissolving the lyophilized powder in water. The solubility of Ins(1,4)P₂ in water is at least 50 mg/ml. We do not recommend storing the aqueous solution for more than one day. Ins(1,4)P₂ will not be stable in aqueous solutions for more than 24 hours.

Ins(1,4)P₂ is a member of the 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(1,4)P₂ can be dephosphorylated to Ins(4)P by inositol polyphosphate 1-phosphatase and further dephosphorylated to inositol by inositol monophosphatase.²

References

1. Berridge, M.J. Inositol trisphosphate and calcium signalling. *Nature* **361**, 315-325 (1993).
2. Majerus, P.W. Inositol phosphate biochemistry. *Annu. Rev. Biochem.* **61**, 225-250 (1992).
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) - Item No. 60960 • D-*myo*-Inositol-1,3,4-triphosphate (sodium salt) - Item No. 60972 • D-*myo*-Inositol-1,3,4,5-tetraphosphate (sodium salt) - Item No. 60980 • D-*myo*-Inositol-1-phosphate (sodium salt) - Item No. 10007777 • D-*myo*-Inositol-3-phosphate (sodium salt) - Item No. 10007778 • D-*myo*-Inositol-2,4,5-triphosphate (sodium salt) - Item No. 10007779 • D-*myo*-Inositol-1,2,6-triphosphate (sodium salt) - Item No. 10007780 • D-*myo*-Inositol-1,3,5-triphosphate (sodium salt) - Item No. 10007781 • D-*myo*-Inositol-3,4,5,6-tetraphosphate (sodium salt) - Item No. 10007782 • D-*myo*-Inositol-1,4,5,6-tetraphosphate (sodium salt) - Item No. 10007783 • D-*myo*-Inositol-1,3,4,5,6-pentaphosphate (sodium salt) - Item No. 10007784 • D-*myo*-Inositol-1,4,5-triphosphate (sodium salt) - Item No. 10008205 • D-*myo*-Inositol-4,5-diphosphate (sodium salt) - Item No. 10008418 • D-*myo*-Inositol-4-phosphate (ammonium salt) - Item No. 10008437 • D-*myo*-Inositol-1,3-diphosphate (sodium salt) - Item No. 10008443

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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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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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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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