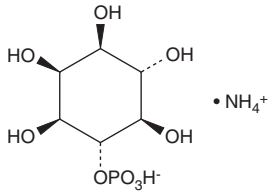
PRODUCT INFORMATION

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

Item No. 10008437

Formal Name:	D-*myo*-inositol-4-hydrogen phosphate, monoammonium salt
Synonyms:	Ins(4)P_1, 4-IP_1
MF:	$C_6H_{11}O_9P \bullet NH_4$
FW:	277.2
Purity:	≥98%
Supplied as:	A lyophilized powder
Storage:	-20°C
Stability:	≥5 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

D-*myo*-Inositol-4-phosphate (Ins(4)P_1) (ammonium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the Ins(4)P_1 (ammonium salt) in water. The solubility of Ins(4)P_1 (ammonium salt) in water is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ins(4)P_1 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)P_3, 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)P_3 to its receptor on the endoplasmic reticulum results in opening of the calcium channels and an increase in intracellular calcium.[4,5] Ins(4)P_1 can be formed by dephosphorylation of Ins(1,4)P_2 by inositol polyphosphate 1-phosphatase or dephosphorylated to inositol by inositol monophosphatase.[1]

References

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2. Berridge, M.J. Inositol trisphosphate and calcium signalling. *Nature* **361(6410)**, 315-325 (1993).
3. Streb, H., Irvine, R.F., Berridge, M.J., *et al.* Release of Ca^{2+} from a nonmitochondrial intracellular store in pancreatic acinar cells by inositol-1,4,5-trisphosphate. *Nature* **306(5938)**, 67-69 (1983).
4. Yoshida, Y. and Imai, S. Structure and function of inositol 1,4,5-triphosphate receptor. *Jpn. J. Pharmacol.* **74(2)**, 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).

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