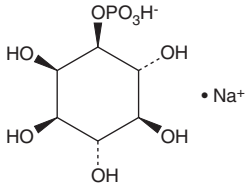
PRODUCT INFORMATION

D-*myo*-Inositol-1-phosphate (sodium salt)

Item No. 10007777

Formal Name:	D-*myo*-inositol-1-hydrogen phosphate, monosodium salt
Synonyms:	Ins(1)P_1 (sodium salt), 1-IP_1 (sodium salt)
MF:	$C_6H_{12}O_9P \bullet Na$
FW:	282.1
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-1-phosphate (sodium salt) (Ins(1)P_1) is supplied as a lyophilized powder. Ins(1)P_1 is sparingly soluble in organic solvents. For biological experiments, we suggest that aqueous solutions of Ins(1)P_1 be prepared by directly dissolving the lyophilized powder in water. The solubility of Ins(1)P_1 in water is approximately 50 mg/ml.

Description

Ins(1)P_1 is a member of the inositol phosphate (InsP) molecular family of second messengers that play a critical role 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 phosphatidyl inositol-4,5-biphosphate.[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(1)P_1 can be formed by PLC hydrolysis of phosphatidylinositol or by dephosphorylation of polyphosphate inositols such as Ins(1,3)P_2 by inositol polyphosphate 3-phosphatase.[1]

References

1. Majerus, P.W. Inositol phosphate biochemistry. *Annu. Rev. Biochem.* **61**, 225-250 (1992).
2. Berridge, M.J. Inositol trisphosphate and calcium signalling. *Nature* **361**, 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**, 67-69 (1983).
4. Yoshida, Y. and Imai, S. Structure and function of inositol 1,4,5-triphosphate 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM