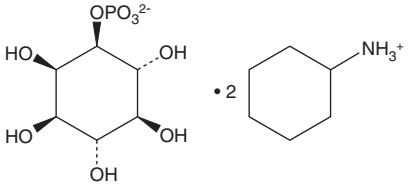
PRODUCT INFORMATION

D-myo-Inositol-1-phosphate (cyclohexyl ammonium salt)

Item No. 9001248

Formal Name:	cyclohexanaminium (1S)-2R,3R,4S,5S,6R-pentahydroxycyclohexyl phosphate
Synonyms:	Ins(1)P_1 (cyclohexyl ammonium salt), 1-IP_1 (cyclohexyl ammonium salt)
MF:	$C_6H_{11}O_9P \bullet 2C_6H_{14}N$
FW:	458.5
Purity:	≥95%
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

Ins(1)P_1 (cyclohexyl ammonium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving Ins(1)P_1 (cyclohexyl ammonium salt) in water. The solubility of Ins(1)P_1 (cyclohexyl ammonium salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ins(1)P_1 is a member of the inositol phosphate molecular family of second messengers that play critical roles in intracellular signaling.[1,2] 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] Changes in *myo*-inositol-1-phosphate synthase activity and inositol levels are induced by lithium and valproate and are associated with bipolar disorder.[3,4] Also, cross-regulation occurs between the SUMO and inositol pathways.[5]

References

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3. Shamir, A., Shaltiel, G., Mark, S., *et al*. Human MIP synthase splice variants in bipolar disorder. *Bipolar Disord.* **9(7)**, 766-771 (2007).
4. Hallcher, L.M. and Sherman, W.R. The effects of lithium ion and other agents on the activity of *myo*-inositol-1-phosphatase from bovine brain. *J. Biol. Chem.* **255(22)**, 10896-10901 (1980).
5. Felberbaum, R., Wilson, N.R., Cheng, D., *et al*. Desumoylation of the endoplasmic reticulum membrane VAP family protein Scs2 by Ulp1 and SUMO regulation of the inositol synthesis pathway. *Mol. Cell Biol.* **32(1)**, 64-75 (2012).

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