

# 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<sub>1</sub> (cyclohexyl ammonium salt),  
1-IP<sub>1</sub> (cyclohexyl ammonium salt)

**MF:** C<sub>6</sub>H<sub>11</sub>O<sub>9</sub>P • 2C<sub>6</sub>H<sub>14</sub>N

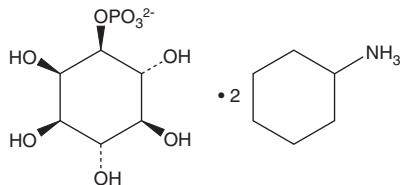
**FW:** 458.5

**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<sub>1</sub> (cyclohexyl ammonium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving Ins(1)P<sub>1</sub> (cyclohexyl ammonium salt) in water. The solubility of Ins(1)P<sub>1</sub> (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<sub>1</sub> is a member of the inositol phosphate molecular family of second messengers that play critical roles in intracellular signaling.<sup>1,2</sup> Ins(1)P<sub>1</sub> can be formed by PLC hydrolysis of phosphatidylinositol or by dephosphorylation of polyphosphate inositols such as Ins(1,3)P<sub>2</sub> by inositol polyphosphate 3-phosphatase.<sup>1</sup> Changes in *myo*-inositol-1-phosphate synthase activity and inositol levels are induced by lithium and valproate and are associated with bipolar disorder.<sup>3,4</sup> Also, cross-regulation occurs between the SUMO and inositol pathways.<sup>5</sup>

### 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. 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/24/2023

#### 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