

# 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<sub>1</sub>, 4-IP<sub>1</sub>

**MF:** C<sub>6</sub>H<sub>11</sub>O<sub>9</sub>P • NH<sub>4</sub>

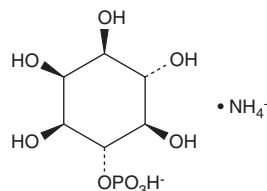
**FW:** 277.2

**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<sub>1</sub>) (ammonium salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the Ins(4)P<sub>1</sub> (ammonium salt) in water. The solubility of Ins(4)P<sub>1</sub> (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<sub>1</sub> 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.<sup>1,2</sup> The most studied InsP, Ins(1,4,5)P<sub>3</sub>, is a second messenger produced in cells by phospholipase C (PLC)-mediated hydrolysis of phosphatidylinositol-4,5-diphosphate.<sup>3,4</sup> Binding of Ins(1,4,5)P<sub>3</sub> to its receptor on the endoplasmic reticulum results in opening of the calcium channels and an increase in intracellular calcium.<sup>4,5</sup> Ins(4)P<sub>1</sub> can be formed by dephosphorylation of Ins(1,4)P<sub>2</sub> by inositol polyphosphate 1-phosphatase or dephosphorylated to inositol by inositol monophosphatase.<sup>1</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(6410)**, 315-325 (1993).
3. Streb, H., Irvine, R.F., Berridge, M.J., *et al.* Release of Ca<sup>2+</sup> 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).

#### 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.

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