

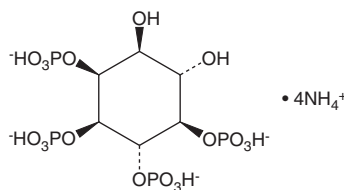
# Product Information



## D-*myo*-Inositol-2,3,4,5-tetraphosphate (ammonium salt)

Catalog No. 10008456

<b>Formal Name:</b>	D- <i>myo</i> -inositol-2,3,4,5-tetra(hydrogen phosphate), tetraammonium salt
<b>Synonyms:</b>	Ins(2,3,4,5)-P <sub>4</sub> (ammonium salt), 2,3,4,5-IP <sub>4</sub> (ammonium salt)
<b>MF:</b>	C <sub>6</sub> H <sub>12</sub> O <sub>18</sub> P <sub>4</sub> • 4NH <sub>4</sub>
<b>FW:</b>	568.2
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥1 year at -20°C
<b>Supplied as:</b>	A lyophilized powder



### Laboratory Procedures

For long term storage, we suggest that D-*myo*-inositol-2,3,4,5-tetraphosphate (ammonium salt) (Ins(2,3,4,5)-P<sub>4</sub> (ammonium salt)) be stored as supplied at -20°C. It will be stable for at least one year.

Ins(2,3,4,5)-P<sub>4</sub> is supplied as a lyophilized powder. Ins(2,3,4,5)-P<sub>4</sub> is sparingly soluble in organic solvents. For biological experiments, we suggest that aqueous solutions of Ins(2,3,4,5)-P<sub>4</sub> be prepared by directly dissolving the lyophilized powder in water. The solubility of Ins(2,3,4,5)-P<sub>4</sub> in water is approximately 50 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Ins(2,3,4,5)-P<sub>4</sub> is a member of the inositol phosphate (InsP) family of molecules that play a critical role 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>, more commonly referred to as IP<sub>3</sub>, is a second messenger produced in cells by phospholipase C (PLC)-mediated hydrolysis of phosphatidyl inositol-4,5-bisphosphate.<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>

### References

1. Berridge, M.J. Inositol trisphosphate and calcium signalling. *Nature* **361**, 315-325 (1993).
2. Majerus, P.W. Inositol phosphate biochemistry. *Annu. Rev. Biochem.* **61**, 225-250 (1992).
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**, 67-69 (1983).
4. Yoshida, Y. and Imai, S. Structure and function of inositol 1,4,5-trisphosphate 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).

### Related Products

D-*myo*-Inositol-1,4,5-trisphosphate (potassium salt) - Cat. No. 60960 • D-*myo*-Inositol-1,3,4,5-tetraphosphate (sodium salt) - Cat. No. 60980

**WARNING: THIS PRODUCT IS NOT INTENDED OR APPROVED FOR HUMAN OR VETERINARY USE. USE OF THIS PRODUCT FOR HUMAN OR ANIMAL TESTING IS EXTREMELY HAZARDOUS AND MAY RESULT IN DISEASE, SEVERE INJURY, OR DEATH.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

custserv@caymanchem.com

#### Web

www.caymanchem.com