

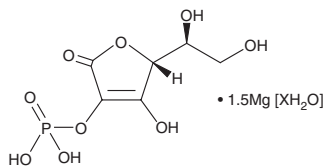
# PRODUCT INFORMATION



## L-Ascorbic Acid 2-phosphate (magnesium salt hydrate)

Item No. 16457

**CAS Registry No.:** 1713265-25-8  
**Formal Name:** 2-(dihydrogen phosphate)-L-ascorbic acid, dimagnesium salt  
**Synonyms:** AA2P, Ascorbyl PM, Phospitan C  
**MF:** C<sub>6</sub>H<sub>6</sub>O<sub>9</sub>P • 1.5Mg [XH<sub>2</sub>O]  
**FW:** 292.6  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 259 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

AA2P (magnesium salt hydrate) is supplied as a crystalline solid. Aqueous solutions of AA2P (magnesium salt hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of AA2P in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

L-Ascorbic acid (vitamin C; Item No. 14656) is essential for the synthesis of collagen, with deficiency resulting in scurvy.<sup>1</sup> Notably, humans and other primates, guinea pigs, and certain other animals lack an enzyme necessary for vitamin C synthesis.<sup>1</sup> AA2P is a long-acting ascorbic acid derivative that stimulates collagen expression and formation and is used in human cell culture.<sup>2,3</sup> It may be included in media to enhance the survival of human embryonic stem cells or increase the growth and replicative lifespan of human corneal endothelial cells.<sup>4,5</sup> AA2P is also used to drive osteogenic differentiation in human adipose stem cells and in human mesenchymal stromal/stem cells.<sup>6-8</sup>

### References

1. Gropper, S.S., Smith, J.L., and Groff, J.L. 4, Thomson Wadsworth, 259-275 (2005).
2. Kurata, S. and Hata, R. *J. Biol. Chem.* **266**(15), 9997-10003 (1991).
3. Yoshikawa, K., Takahashi, S., Imamura, Y., et al. *J. Biochem.* **129**(6), 929-936 (2001).
4. Furue, M.K., Na, J., Jackson, J.P., et al. *Proc. Natl. Acad. Sci. USA* **105**(36), 13409-13414 (2008).
5. Kimoto, M., Shima, N., Yamaguchi, M., et al. *Invest. Ophthalmol. Vis. Sci.* **53**(12), 7583-7589 (2012).
6. Kyllönen, L., Maimi, S., Mannerström, B., et al. *Stem Cell Res. Ther.* **4**(1), 1-15 (2013).
7. Fang, X., Murakami, H., Demura, S., et al. *PLoS One* **9**(2), 1-6 (2014).
8. Mariner, P.D., Johannesen, E., and Anseth, K.S. *J. Tissue Eng. Regen. Med.* **6**(4), 314-324 (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, 10/24/2023

#### 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