

#### L-Ascorbic acid 2-phosphate

#Cat: NB-64-74892-25mg Size: 25 mg #Cat: NB-64-74892-50mg Size: 50 mg #Cat: NB-64-74892-100mg Size: 100mg

# **Chemical Properties:**

CAS No:	23313-12-4
Formula:	C <sub>6</sub> H <sub>9</sub> O <sub>9</sub> P
Molecular Weight:	256.1
Appearance:	no data available
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year



### **Biological Description:**

L-ascorbic acid 2-phosphate (Vitamin C phosphate) is a stable and long-lasting vitamin C			
derivative that stimulates collagen formation and has potential antioxidant capacity.			
L-ascorbic acid 2-phosphate is commonly used to promote osteogenic differentiation of			
human adipose stem cells (hASCs) in cell culture by increasing alkaline phosphatase (ALP)			
activity and runt-related transcription factor-2-DNA(runx2A) expression.			
Others			
L-Ascorbic acid 2-phosphate (0.1-1.5 mM, every 2-3 days for 2-3 weeks) significantly stimulated cell growth, whereas addition of L-ascorbic acid (Asc) only achieved weak			
growth stimulation. [1] L-Ascorbic acid 2-phosphate (50 $\mu$ M-250 $\mu$ M) is required for efficient esteogenic differentiation of human adjnose-derived stem cells (hASCs) and			
higher concentrations of AsA2-P lead to increased runx2 expression and ALP activity. [3]			

## **Solubility Information**

Solubility	1 M HCL: 20 mg/mL (78.09 mM), Sonication is recommended. (< 1 mg/ml refers to the product	
	slightly soluble or insoluble)	

#### **Preparing Stock Solutions**

	1mg	5mg	10mg
1 mM	3.9047 mL	19.5236 mL	39.0472 mL
5 mM	0.7809 mL	3.9047 mL	7.8094 mL
10 mM	0.3905 mL	1.9524 mL	3.9047 mL
50 mM	0.0781 mL	0.3905 mL	0.7809 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.



### Reference

Shima N, et al. Increased proliferation and replicative lifespan of isolated human corneal endothelial cells with Lascorbic acid 2-phosphate.Invest Ophthalmol Vis Sci. 2011 Nov 7;52(12):8711-7.

Kurata S, et al. Epidermal growth factor inhibits transcription of type I collagen genes and production of type I collagen in cultured human skin fibroblasts in the presence and absence of L-ascorbic acid 2-phosphate, a longacting vitamin C derivative.J Biol Chem. 1991 May 25;266(15):9997-10003.

Kyllönen L, et al. Effects of different serum conditions on osteogenic differentiation of human adipose stem cells in vitro.StemCellRes Ther. 2013 Feb 15;4(1):17.

Song W, et al. Enzymatic Production of Ascorbic Acid-2-Phosphate by Engineered Pseudomonas aeruginosa Acid Phosphatase. J Agric Food Chem. 2021 Dec 1;69(47):14215-14221.

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