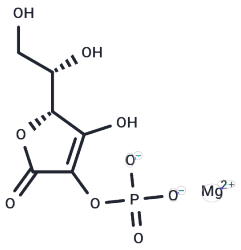
Data Sheet (Cat.No.T19389)

TargetMol

L-Ascorbic acid 2-phosphate magnesium

Chemical Properties



CAS No. :	113170-55-1
Formula:	C6H9O9P.3/2Mg
Molecular Weight:	289.53
Storage:	Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	L-Ascorbic acid 2-phosphate magnesium (2-Phospho-L-ascorbic acid magnesium) functions as an antioxidant and stimulates hepatocyte growth factor (HGF) production. This long-acting vitamin C derivative promotes collagen formation and expression.
Targets(IC50)	Reactive Oxygen Species,Endogenous Metabolite,Phosphatase,Phosphorylase,ROS
In vitro	L-Ascorbic acid 2-phosphate (50 μM-250 μM) is needed for the effective osteogenic differentiation of human adipose stem cells (hASCs), and higher concentrations of AsA2-P results in increased runx2 expression and ALP activity. The highest proliferation, ALP activity and runx2 expression is achieved with 150 μM AsA2-P and 10 nM dexamethasone (Dex), and 250 μM AsA2-P and 5 nM Dex.L-Ascorbic acid 2-phosphate (0.1-1.5 mM;?2 to 3 weeks with medium exchange every 2 to 3 days) significantly stimulates cell growth, whereas addition of l-Ascorbic acid (Asc) achieves only weak growth stimulation.?A combination of Asc-2P and bFGF significantly increases cell growth, but supplementation with EGF and/or insulin does not have any additional effect.

Solubility Information

Solubility	H2O: 20.83 mg/mL (71.94 mM),Sonication is recommended. DMSO: Slightly soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4539 mL	17.2694 mL	34.5387 mL
5 mM	0.6908 mL	3.4539 mL	6.9077 mL
10 mM	0.3454 mL	1.7269 mL	3.4539 mL
50 mM	0.0691 mL	0.3454 mL	0.6908 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Shima N, et al. Increased proliferation and replicative lifespan of isolated human corneal endothelial cells with L-ascorbic 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 long-acting 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.