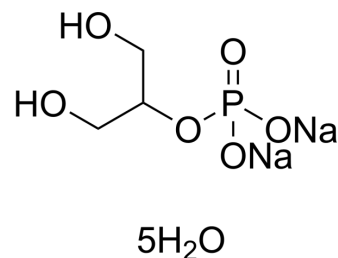


β-Glycerophosphate disodium salt pentahydrate

Cat. No.:	HY-D0886
CAS No.:	13408-09-8
Molecular Formula:	C ₃ H ₁₇ Na ₂ O ₁₁ P
Molecular Weight:	306.11
Target:	Phosphatase; Endogenous Metabolite; ERK
Pathway:	Metabolic Enzyme/Protease; MAPK/ERK Pathway; Stem Cell/Wnt
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 83.33 mg/mL (272.22 mM; Need ultrasonic)				
	DMSO : < 1 mg/mL (insoluble or slightly soluble)				
		Solvent Concentration	Mass		
			1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		3.2668 mL	16.3340 mL	32.6680 mL
	5 mM		0.6534 mL	3.2668 mL	6.5336 mL
	10 mM		0.3267 mL	1.6334 mL	3.2668 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (326.68 mM); Clear solution; Need ultrasonic				

BIOLOGICAL ACTIVITY

Description	β-Glycerophosphate disodium salt pentahydrate is a bioactive endogenous metabolite and a phosphatase inhibitor. β-Glycerophosphate disodium salt pentahydrate plays an important role in inducing and maintaining osteoblast differentiation, mineral metabolism and signal transduction, and can be used as a drug carrier to form heat-sensitive hydrogels. β-Glycerophosphate disodium salt hydrate accelerates the calcification of vascular smooth muscle cells ^{[1][2][3][4]} .	
IC₅₀ & Target	ERK1	ERK2
In Vitro	β-Glycerophosphate disodium salt pentahydrate, as a phosphate source of the bone mineral hydroxyapatite, can promote osteogenic differentiation and further induce osteogenic gene expression through phosphorylation of the cytokine-associated kinase ERK1/2 ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

CUSTOMER VALIDATION

- Mater Today Bio. 2023 Jun, 20, 100667.
- J Dent Sci. 6 December 2021.
- J Mol Histol. 2021 Oct;52(5):1067-1080.
- Research Square Print. 2022 Aug.

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- [2]. Chung CH, et al. Mechanism of action of beta-glycerophosphate on bone cell mineralization. Calcif Tissue Int. 1992;51(4):305-311.
- [3]. Li C, et al. Efficacy, pharmacokinetics, and biodistribution of thermosensitive chitosan/ β -glycerophosphate hydrogel loaded with docetaxel. AAPS PharmSciTech. 2014 Apr;15(2):417-24.
- [4]. Belfield A, et al. Inhibition of the nucleotidase effect of alkaline phosphatase by beta-glycerophosphate. Nature. 1968 Jul 6;219(5149):73-5.
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Caution: Product has not been fully validated for medical applications. For research use only.

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