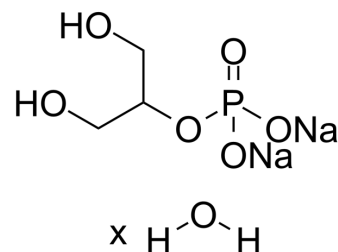


β-Glycerophosphate disodium salt hydrate

Cat. No.:	HY-126304
CAS No.:	154804-51-0
Molecular Formula:	C ₃ H ₇ O ₆ PNa ₂ ·xH ₂ O
Target:	Endogenous Metabolite; Phosphatase; 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 : 250 mg/mL (Need ultrasonic)
In Vivo	1. Add each solvent one by one: PBS Solubility: 25 mg/mL (Infinity mM); Clear solution; Need ultrasonic and warming

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]} .	
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 ^[3] . 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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REFERENCES

- [1]. Shioi A, et al. Beta-glycerophosphate accelerates calcification in cultured bovine vascular smooth muscle cells. *Arterioscler Thromb Vasc Biol.* 1995 Nov;15(11):2003-9.
- [2]. Langenbach F, et al. Effects of dexamethasone, ascorbic acid and β -glycerophosphate on the osteogenic differentiation of stem cells in vitro. *Stem Cell Res Ther.* 2013;4(5):117.
- [3]. 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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