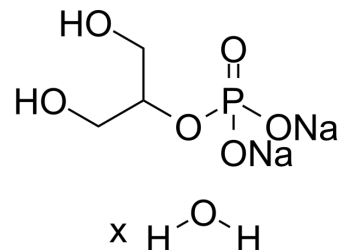


## β-Glycerophosphate disodium salt hydrate

Cat. No.:	HY-126304
CAS No.:	154804-51-0
Molecular Formula:	C <sub>3</sub> H <sub>7</sub> O <sub>6</sub> PNa <sub>2</sub> ·xH <sub>2</sub> 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 <sub>2</sub> 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 <sup>[1][2][3]</sup> .	
IC <sub>50</sub> & 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 <sup>[3]</sup> . 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  $\beta$ -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.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA