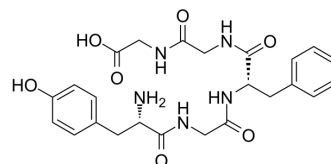


Osteogenic Growth Peptide (10-14)

Cat. No.:	HY-107024
CAS No.:	105250-85-9
Molecular Formula:	C ₂₄ H ₂₉ N ₅ O ₇
Molecular Weight:	499.52
Sequence Shortening:	YGFGG
Target:	Src
Pathway:	Protein Tyrosine Kinase/RTK
Storage:	Sealed storage, away from moisture and light, under nitrogen
	Powder -80°C 2 years
	-20°C 1 year



* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

SOLVENT & SOLUBILITY

In Vitro	DMSO : 8.93 mg/mL (17.88 mM); ultrasonic and warming and heat to 60°C					
		Solvent	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	Concentration				
		1 mM		2.0019 mL	10.0096 mL	20.0192 mL
5 mM			0.4004 mL	2.0019 mL	4.0038 mL	
	10 mM		0.2002 mL	1.0010 mL	2.0019 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 0.89 mg/mL (1.78 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 0.89 mg/mL (1.78 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 0.89 mg/mL (1.78 mM); Clear solution					

BIOLOGICAL ACTIVITY

Description	Osteogenic Growth Peptide (10-14) (OGP(10-14)), the C-terminal truncated pentapeptide of osteogenic growth peptide (OGP), retains the full OGP-like activity. Osteogenic Growth Peptide (10-14) is responsible for the binding to the OGP receptor and activates an intracellular Gi-protein-MAP kinase signaling pathway. Osteogenic Growth Peptide (10-14) is a potent mitogen and stimulator of osteogenesis and hematopoiesis. Osteogenic Growth Peptide (10-14) acts as a Src inhibitor ^{[1][2][3][4]} .
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In Vitro	Osteogenic Growth Peptide (10-14) (OGP(10-14)) induces proliferation and differentiation in fibroblast and osteoblast cell lines ^[3] . Osteogenic Growth Peptide (10-14) induces TPO-primed M07-e cells differentiation through RhoA/TGFβ1/SFKs signalling pathway. In particular Historphin acts as a Src inhibitor, showing the same effects of PP2 ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Osteogenic Growth Peptide (10-14) (OGP(10-14)) increases bone formation and trabecular bone density and stimulates fracture healing when administered to mice and rats ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Chen YC, et al. Bioactive pseudopeptidic analogues and cyclostereoisomers of osteogenic growth peptide C-terminal pentapeptide, OGP(10-14). J Med Chem. 2002;45(8):1624-1632.
- [2]. Chen Z, et al. Regulation of endochondral ossification by osteogenic growth peptide C-terminal pentapeptide [OGP(10-14)]. Protein Pept Lett. 2009;16(9):1074-1080.
- [3]. Fazzi R, et al. Bone and bone-marrow interactions: haematological activity of osteoblastic growth peptide (OGP)-derived carboxy-terminal pentapeptide. Mobilizing properties on white blood cells and peripheral blood stem cells in mice. Leuk Res. 2002;26(1)
- [4]. Battolla B, et al. The small peptide OGP(10-14) reduces proliferation and induces differentiation of TPO-primed M07-e cells through RhoA/TGFbeta1/SFK pathway. Med Sci Monit. 2011;17(1):SC1-SC5.

Caution: Product has not been fully validated for medical applications. For research use only.

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