KLD-12 TFA

Cat. No.: HY-P2263A

Molecular Formula: $C_{68}H_{122}N_{16}O_{19}.xC_2HF_3O_2$

Sequence: Ac-Lys-Leu-Asp-Leu-Lys-Leu-Asp-Leu-Lys-Leu-Asp-Leu-NH2

Sequence Shortening: Ac-KLDLKLDLKLDL-NH2

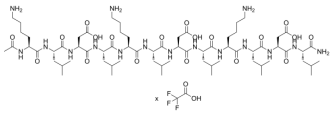
Target: Others

Pathway: Others

Storage: Sealed storage, away from moisture

Powder	-80°C	2 years
	-20°C	1 year

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



SOLVENT & SOLUBILITY

In Vitro	DMSO : 50 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description	KLD-12 TFA is the TFA salt form of KLD-12 (HY-P2263). KLD-12 TFA is a self a 12-residue self-assembling peptide that is used in tissue-engineering. KLD-12 TFA combined with SDF-1 self-assembled polypeptide enhances chondrogenic differentiation of bone marrow stromal cells (BMSCs). KLD-12 TFA hydrogel can fill full-thickness osteochondral defects in situ and improve cartilage repair[1][2][3].
In Vitro	KLD-12 TFA forms self-assembled polypeptide with SDF-1, improves the survival of bone marrow stromal cells (BMSCs), promotes osteogenic differentiation of BMSCs and cell migration through Wnt/β-catenin pathway[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	KLD-12 TFA (10-250 μg/rat, single dose, injection to infrature site) promotes bone regeneration at the fracture site in a dose-dependent manner in Sprague-Dawley rats model with drill-hole injury in femur[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Sprague-Dawley rats model with drill-hole injury in femur[2]
Dosage:	10-250 μg/rat
Administration:	injection to the fracture site, single dose
Result:	Increased osteoinduction and callus formation.

REFERENCES

[1]. Cao M, et al., Self-Assembled KLD-12/SDF-1 Polypeptide Promotes Differentiation and Migration of BMSCs via the Wnt/β-catenin Signaling Pathways. Protein Pept Lett.

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[2]. Tripathi JK, et al., Variants of self-assembling peptide, KLD-12 that show both rapid fracture healing and antimicrobial properties. Biomaterials. 2015 Jul;56:92-103.

[3]. Kisiday J, Jet al., Self-assembling peptide hydrogel fosters chondrocyte extracellular matrix production and cell division: implications for cartilage tissue repair. Proc Natl Acad Sci U S A. 2002 Jul 23;99(15):9996-10001.

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