

Certificate of Analysis

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Product Name: KLD 12
CAS Number: 800379-47-9

Catalog No.: 6797 **Batch No.:** 1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆₈H₁₂₂N₁₆O₁₉
Batch Molecular Weight: 1467.81
Physical Appearance: White lyophilised solid
Net Peptide Content: 81%
Counter Ion: TFA
Solubility: Soluble to 0.50 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Ac-Lys-Leu-Asp-Leu-Lys-Leu-Asp-Leu-Lys-Leu-Asp-Leu-NH₂

2. ANALYTICAL DATA

HPLC: Shows 95.7% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		Amino Acid Theoretical		Actual	
Ala					Lys	3.00		3.08
Arg					Met			
Asx	3.00	3.07			Phe			
Cys					Pro			
Glx					Ser			
Gly					Thr			
His					Trp			
Ile					Tyr			
Leu	6.00	5.85			Val			

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Catalog No.: 6797

Batch No.: 1

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Description:

KLD 12 is a self-assembling peptide that forms a hydrogel matrix to support growth of cells in the presence of an ionic solution. Enhances chondrogenic differentiation of bone marrow stromal cells (BMSCs).

Physical and Chemical Properties:

Batch Molecular Formula: C₆₈H₁₂₂N₁₆O₁₉

Batch Molecular Weight: 1467.81

Physical Appearance: White lyophilised solid

Peptide Sequence:

Ac-Lys-Leu-Asp-Leu-Lys-Leu-Asp-Leu-Lys-Leu-Asp-Leu-NH₂

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 0.50 mg/ml in water

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Net Peptide Content: 81% (Remaining weight made up of counterions and residual water).

Counter Ion: TFA

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Peptides in solution are much less stable than in lyophilized form. This is especially true for peptides whose sequences contain amino acids such as Cys, Met, Trp, Asn, Gln, and N-terminal Glu.

Therefore we recommend storing peptides in solution for as short a time as possible. Avoid repeated freeze thaw cycles by dividing the peptide solution into aliquots and storing the aliquots at -20°C. Any portion of an aliquot unused after thawing should be discarded.

Peptides stored in solution can occasionally be susceptible to bacterial degradation. We recommend using sterile solutions or passing the peptide solution through a 0.2 µm filter to remove potential bacterial contamination whenever possible.

References:

Tripathi et al (2015) Variants of self-assembling peptide, KLD-12 that show both rapid fracture healing and antimicrobial properties. *Biomaterials*. **56** 92. PMID: 25934283.

Kisiday et al (2002) Self-assembling peptide hydrogel fosters chondrocyte extracellular matrix production and cell division: implications for cartilage tissue repair. *Proc.Natl.Acad.Sci.U.S.A.* **99** 9996. PMID: 12119393.

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