

Certificate of Analysis

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Product Name: Cyclo(-RGDfK)

Catalog No.: 8917

Batch No.: 1

CAS Number: 161552-03-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₇H₄₁N₉O₇
Batch Molecular Weight: 603.68
Physical Appearance: White solid
Counter Ion: Trifluoroacetate
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Cyclo(Arg-Gly-Asp-D-Phe-Lys)

2. ANALYTICAL DATA

HPLC: Shows 98.3% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys	1.00	1.00
Arg	1.00	1.00	Met		
Asx	1.00	1.02	Phe	1.00	0.98
Cys			Pro		
Glx			Ser		
Gly	1.00	1.00	Thr		
His			Trp		
Ile			Tyr		
Leu			Val		

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

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Description:

Cyclo(-RGDfK) is a cyclic peptide, potent integrin inhibitor (IC₅₀ values are 2.3 and 55 nM for αvβ3 and αvβ6, respectively). Cyclo(-RGDfK) improves human pluripotent stem cell (hPSC) adhesion and proliferation on 3D cell culture synthetic surfaces. Can also be used to target fluorophores and cargo to cancer cells as αvβ3 integrin is upregulated on cancer cells.

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Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 1 mg/ml in water

Counter Ion: Trifluoroacetate

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:

Garage et al (2021) Comparison of cRGDfK peptide probes with appended shielded heptamethine cyanine dye (s775z) for near infrared fluorescence imaging of cancer. ACS Omega **6** 30130. PMID: 34778684.

Lambhead et al (2018) Long-term maintenance of human pluripotent stem cells on cRGDfK-presenting synthetic surfaces. Sci.Rep. **8** 701. PMID: 29335618.

Kapp et al (2017) A comprehensive evaluation of the activity and selectivity profile of ligands for RGD-binding integrins. Sci Rep **7** 39805. PMID: 28074920.

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