

**Certificate of Analysis**

**Product Name:** RGD peptide

**Catalog No.:** 7723

**Batch No.:** 4

CAS Number: 99896-85-2

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>12</sub>H<sub>22</sub>N<sub>6</sub>O<sub>6</sub>  
**Batch Molecular Weight:** 346.34  
**Physical Appearance:** White lyophilised solid  
**Counter Ion:** TFA  
**Solubility:** Soluble to 10 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Arg-Gly-Asp

**2. ANALYTICAL DATA**

**HPLC:** Shows 99.3% purity  
**Mass Spectrum:** Consistent with structure

**3. AMINO ACID ANALYSIS DATA**

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala				Lys			
Arg	1.00		1.00	Met			
Asx	1.00		1.00	Phe			
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:**

RGD peptide is a potent integrin inhibitor (IC<sub>50</sub> values are 89, 335 and 440 nM for αvβ3, α5β1 and αvβ5, respectively). RGD is the minimal recognition sequence for integrin binding found in many extracellular matrix (ECM) and serum proteins. RGD peptide is used for directing association of various cell types with diverse biomaterials. The functionality of RGD peptide is usually maintained throughout the processing and sterilization steps required for biomaterials synthesis. RGD peptide can be incorporated into hyaluronic acid hydrogel for human mesenchymal stem cells (hMSCs) delivery. RGD peptide signific... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

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Batch Molecular Weight: 346.34

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Arg-Gly-Asp

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 10 mg/ml in water

This product is supplied in lyophilized form. It may appear as a solid, gel or film and 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.

**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 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:**

**Gallagher et al** (2020) Pre-culture of mesenchymal stem cells within RGD-modified hyaluronic acid hydrogel improves their resilience to ischaemic conditions. *Acta.Biomater.* **107** 78. PMID: 32145393.

**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.

**Daly et al** (2016) 3D bioprinting of developmentally inspired templates for whole bone organ engineering. *Adv.Healthc.Mater.* **5** (18) 2353. PMID: 27281607.

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