

# Certificate of Analysis

**Product Name:** PM 102  
**CAS Number:** 1234564-95-4

**Catalog No.:** 4034      **Batch No.:** 1

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>235</sub>H<sub>424</sub>N<sub>111</sub>O<sub>64</sub>  
**Batch Molecular Weight:** 5830  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 73.5%  
**Counter Ion:** Acetate  
**Solubility:** Soluble to 5 mg/ml in water  
**Storage:** Store at -20°C  
**Peptide Sequence:** Ac-Ala-Glu-Ala-Arg-Ala-Arg-Arg-Ala-Ala-Ala-Arg-Ala-Arg-Arg-Ala-Lys-Lys-(ε-Ac-Ala-Glu-Ala-Arg-Ala-Arg-Arg-Ala-Ala-Ala-Arg-Ala-Ala-Arg-Arg-Ala)-Pro-Dpr-(β-Ac-Ala-Glu-Ala-Arg-Ala-Arg-Arg-Ala-Ala-Ala-Arg-Ala-Ala-Arg-Arg-Ala)-Glu-NH<sub>2</sub>

## 2. ANALYTICAL DATA

**HPLC:** Shows 100% purity

## 3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	27.00	27.28	Lys	2.00	2.03
Arg	18.00	18.93	Met		
Asx			Phe		
Cys			Pro	1.00	1.03
Glx	4.00	3.64	Ser		
Gly			Thr		
His			Trp		
Ile			Tyr		
Leu			Val		

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

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CAS Number: 1234564-95-4

**Catalog No.:** 4034 **Batch No.:** 1

**Description:**

Peptide that reverses the anticoagulant effect of heparin (Cat. No. 2812). Potently binds heparin ( $K_d = 36$  nM in vitro).

**Physical and Chemical Properties:**

Batch Molecular Formula:  $C_{235}H_{424}N_{111}O_{64}$   
Batch Molecular Weight: 5830  
Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Ac-Ala-Glu-Ala-Arg-Ala-Arg-Arg-Ala-Ala-Ala-Arg-Ala-Ala-Arg-Arg-Ala-Lys-Lys-( $\epsilon$ -Ac-Ala-Glu-Ala-Arg-Ala-Arg-Arg-Ala-Ala-Ala-Arg-Ala-Ala-Arg-Arg-Ala)-Pro-Dpr-( $\beta$ -Ac-Ala-Glu-Ala-Arg-Ala-Arg-Arg-Ala-Ala-Ala-Arg-Ala-Ala-Arg-Arg-Ala)-Glu-NH<sub>2</sub>

**Storage:** Store at -20°C

**Solubility & Usage Info:**

Soluble to 5 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:** 73.5% (Remaining weight made up of counterions and residual water).

**Counter Ion:** Acetate

**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:**

- Shenoy et al** (1999) Development of heparin antagonists with focused biological activity. *Curr.Pharmaceut.Des.* **5** 965.
- Schick et al** (2004) Novel concatameric heparin-binding peptides reverse heparin and low-molecular-weight heparin anticoagulant activities in patient plasma in vitro and in rats in vivo. *Blood* **103** 4.
- Cushing et al** (2010) Reversal of heparin-induced increases in aPTT in the rat by PM102, a novel heparin antagonist. *Eur.J.Pharmacol.* **635** 165. PMID: 20307530.

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