

Certificate of Analysis

Product Name: MM 54

Catalog No.: 5992

Batch No.: 7

CAS Number: 1313027-43-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₇₀ H ₁₂₁ N ₂₉ O ₁₅ S ₄
Batch Molecular Weight:	1737.15
Physical Appearance:	White lyophilised solid
Counter Ion:	Acetate
Solubility:	Soluble to 2 mg/ml in water
Storage:	Store at -20°C
Peptide Sequence:	<pre> Cys-Arg-Pro-Arg-Leu-Cys-Lys-His-Cys-Arg- Pro-Arg-Leu-Cys </pre>

2. ANALYTICAL DATA

HPLC:	Shows 98.0% purity
Mass Spectrum:	Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala			Lys	1.00	1.01
Arg	4.00	3.96	Met		
Asx			Phe		
Cys	4.00	Detected	Pro	2.00	2.05
Glx			Ser		
Gly			Thr		
His	1.00	0.98	Trp		
Ile			Tyr		
Leu	2.00	2.10	Val		

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

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Description:

MM 54 is a potent apelin receptor antagonist ($K_i = 82$ nM; $IC_{50} = 93$ nM). Antagonizes the inhibitory affect of [Pyr¹]-Apelin-13 on forskolin-induced cAMP accumulation in CHO-K1-APJ cells. Reduces tumor expansion and lengthens survival time in a mouse xenograft model of glioblastoma.

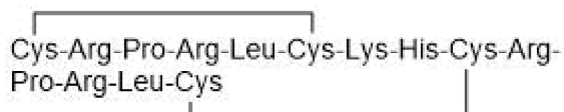
Physical and Chemical Properties:

Batch Molecular Formula: C₇₀H₁₂₁N₂₉O₁₅S₄

Batch Molecular Weight: 1737.15

Physical Appearance: White lyophilised solid

Peptide Sequence:



Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 2 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: 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:

Harford-Wright et al (2017) Pharmacological targeting of apelin impairs glioblastoma growth. *Brain* **140** 2939. PMID: 29053791.

Macaluso et al (2011) Discovery of a competitive apelin receptor (APJ) antagonist. *ChemMedChem* **6** 1017. PMID: 21560248.

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