bio-techne
TOCRIS

Print Date: Mar 13th 2024

Certificate of Analysis

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Product Name: TAT-SAMβA Peptide **Catalog No.:** 7962 **Batch No.:** 1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{118}H_{195}N_{51}O_{31}$

Batch Molecular Weight: 2824.16

Physical Appearance: White lyophilised solid

Counter Ion: TFA

Solubility: Soluble to 2 mg/ml in water

Storage: Store at -20°C

Peptide Sequence: Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-Arg-Arg-Gly-Gly-Arg-Asn-Ala-Glu-Asn-Phe-Asp-Arg-Phe

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	1.00	1.07	Lys	2.00	1.90
Arg	8.00	7.78	Met		
Asx	3.00	3.00	Phe	2.00	2.07
Cys			Pro		
Glx	2.00	1.98	Ser		
Gly	3.00	3.01	Thr		
His			Trp		
Ile			Tyr	1.00	0.99
Leu			Val		

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Product Name: TAT-SAMβA Peptide **Catalog No.:** 7962 **1**

Description:

TAT-SAMβA Peptide is a selective antagonist of Mfn1-βIIPKC association. Comprises the cell permeable peptide TAT47-57, conjugated to βIIPKC624-632 by a Gly-Gly spacer. TAT-SAMβA Peptide reduces mitochondrial fragmentation and stress-induced death in cultured cardiomyocytes. In rats with heart failure, TAT-SAMβA Peptide restores mitochondrial morphology, bioenergetics, and redox balance, which leads to improvement in cardiac contractility.

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:

Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-Arg-Arg-Gly-Gly-Arg-Asn-Ala-Glu-Asn-Phe-Asp-Arg-Phe

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: 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:

Zacharioudakis *et al* (2022) Mitochondrial dynamics proteins as emerging drug targets. Trends Pharmacol.Sci. ***44*** 112. PMID: 36496299.

Ferreira *et al* (2019) A selective inhibitor of mitofusin 1-βIIPKC association improves heart failure outcome in rats. Nat.Commun. ***10*** 329. PMID: 30659190.