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Print Date: Apr 1st 2021

Certificate of Analysis

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Product Name: TAT-Gap19(I130A) **Catalog No.:** 7402 **Batch No.:** 1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{116}H_{206}N_{46}O_{26}$

Batch Molecular Weight: 2661.2

Physical Appearance: White lyophilised solid

Net Peptide Content: 59%

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-Lys-Gln-Ala-Glu-Ile-Lys-Lys-Phe-Lys

2. ANALYTICAL DATA

HPLC: Shows 99% purity

Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala	1.00	1.00	Lys	6.00	5.80
Arg	6.00	6.07	Met		
Asx			Phe	1.00	1.00
Cys			Pro		
Glx	3.00	2.90	Ser		
Gly	1.00	1.01	Thr		
His			Trp		
Ile	1.00	0.99	Tyr	1.00	1.07
Leu			Val		

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Product Name: TAT-Gap19(I130A) **Catalog No.:** 7402 **Batch No.:** 1

Description:

TAT-Gap19(I130A) is a control peptide for TAT-Gap19 (Cat. No. 6227), a Cx43 hemichannel blocker. TAT-Gap19(I130A) consists of TAT-GAP19 with a I130A amino acid residue change at a key residue for GAP19 activity. In C6 glioma cells expression Cx43, TAT-GAP19(1130A) does not inhibit $[Ca^{2+}]_i$-triggered ATP release at 200 µM. TAT-Gap19(I130A) is cell permeable.

Physical and Chemical Properties:

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Batch Molecular Weight: 2661.2

Physical Appearance: White lyophilised solid

Peptide Sequence:

Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-Arg-Arg-Lys-Gln-Ala-Glu-Ile-Lys-Lys-Phe-Lys

Storage: Store at -20°C

Solubility & Usage Info:

Soluble to 2 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: 59% (Remaining weight made up of counterions and residual water).

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:

Walrave *et al* (2016) Inhibition of connexin43 hemichannels impairs spatial short-term memory without affecting spatial working memory. Front.Cell Neurosci. ***10*** 288. PMID: 28066184.

Wang *et al* (2013) Selective inhibition of Cx43 hemichannels by Gap19 and its impact on myocardial ischemia/reperfusion injury. Basic Res.Cardiol. ***108*** 309. PMID: 23184389.