

Product Name: TAT-Gap19

Catalog No.: 6227

Batch No.: 10

CAS Number: 1507930-54-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₁₉H₂₁₂N₄₆O₂₆
Batch Molecular Weight: 2703.28
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-Arg-Arg-Lys-Gln-Ile-Glu-Ile-Lys-Lys-Phe-Lys

2. ANALYTICAL DATA

HPLC: Shows 99.7% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual		Amino Acid Theoretical		Actual	
Ala				Lys	6.00		6.03
Arg	6.00	5.84	Met				
Asx			Phe	1.00		1.02	
Cys			Pro				
Glx	3.00	3.07	Ser				
Gly	1.00	1.02	Thr				
His			Trp				
Ile	2.00	2.01	Tyr	1.00		1.02	
Leu			Val				

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

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Description:

TAT-Gap19 is a Cx43 hemichannel blocker ($IC_{50} \sim 7 \mu M$). No significant affinity for gap junctions or Panx1 channels. N-terminal transactivator of transcription (TAT) motif promotes membrane permeability and increases inhibitory effect of Gap19 (Cat. No. 5353). Active in vivo. Brain penetrant.

Physical and Chemical Properties:Batch Molecular Formula: $C_{119}H_{212}N_{46}O_{26}$

Batch Molecular Weight: 2703.28

Physical Appearance: White lyophilised solid

Peptide Sequence:

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

Storage: Store at $-20^{\circ}C$ **Solubility & Usage Info:**

Soluble to 1 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 $45-60^{\circ}C$ 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 $-20^{\circ}C$. 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 $0.2 \mu m$ filter to remove potential bacterial contamination whenever possible.

References:

Freitas-Andrade and Naus (2016) Astrocytes in neuroprotection and neurodegeneration: The role of connexin43 and pannexin1. *Neuroscience*. **323** 207. PMID: 25913636.

Abudara et al (2014) The connexin43 mimetic peptide Gap19 inhibits hemichannels without altering gap junctional communication in astrocytes. *Front.Cell.Neurosci.* **8** 1. PMID: 25374505.

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