

## Certificate of Analysis

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**Product Name:** TAT-Gap19

**Catalog No.:** 6227

**Batch No.:** 3

CAS Number: 1507930-54-2

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>119</sub>H<sub>212</sub>N<sub>46</sub>O<sub>26</sub>  
**Batch Molecular Weight:** 2703.28  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 59%  
**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 97.2% purity  
**Mass Spectrum:** Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical			Actual		
Ala			Lys	6.00	6.02
Arg	6.00	6.17	Met		
Asx			Phe	1.00	0.98
Cys			Pro		
Glx	3.00	3.12	Ser		
Gly	1.00	0.94	Thr		
His			Trp		
Ile	2.00	2.02	Tyr	1.00	0.92
Leu			Val		

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

**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

[www.tocris.com/distributors](http://www.tocris.com/distributors)

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**Description:**

Cx43 hemichannel blocker (IC<sub>50</sub> ~7 μM). 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<sub>119</sub>H<sub>212</sub>N<sub>46</sub>O<sub>26</sub>

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°C**Solubility & Usage Info:**

Soluble to 1 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 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:**

**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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