

Product Name: Gap19

Catalog No.: 5353

Batch No.: 7

CAS Number: 1507930-57-5

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₅₅H₉₆N₁₄O₁₃
Batch Molecular Weight: 1161.45
Physical Appearance: White lyophilised solid
Counter Ion: TFA
Solubility: Soluble to 2 mg/ml in water
Storage: Store at -20°C
Peptide Sequence: Lys-Gln-Ile-Glu-Ile-Lys-Lys-Phe-Lys

2. ANALYTICAL DATA

HPLC: Shows 98.2% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid		Theoretical	Actual	Amino Acid		Theoretical	Actual
Ala				Lys	4.00	4.02	
Arg				Met			
Asx				Phe	1.00	1.04	
Cys				Pro			
Glx	2.00	1.99		Ser			
Gly				Thr			
His				Trp			
Ile	2.00	1.94		Tyr			
Leu				Val			

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

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Description:

Gap19 is a selective connexin 43 (Cx43) hemichannel blocker; has no effect on gap junction coupling or Panx-1 channels. Reduces mitochondrial potassium influx in cardiomyocytes and attenuates glutamate-triggered ATP release in primary astrocytes. Modestly reduces infarct size in a mouse ischemia model.

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Batch Molecular Weight: 1161.45

Physical Appearance: White lyophilised solid

Peptide Sequence:**Lys-Gln-Ile-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 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 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:

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

Boengler et al (2013) Connexin 43 impacts on mitochondrial potassium uptake. *Front Pharmacol.* **4**. PMID: 23760924.

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.

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