

Certificate of Analysis

Product Name: Mastoparan X

Catalog No.: 1896

Batch No.: 1

CAS Number: 72093-22-2

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₇₃ H ₁₂₆ N ₂₀ O ₁₅ S
Batch Molecular Weight:	1555.98
Physical Appearance:	White lyophilised solid
Net Peptide Content:	75%
Counter Ion:	Acetate
Solubility:	Soluble to 1 mg/ml in water
Storage:	Desiccate at -20°C
Peptide Sequence:	Ile-Asn-Trp-Lys-Gly-Ile-Ala-Ala-Met-Ala- Lys-Lys-Leu-Leu-NH ₂

2. ANALYTICAL DATA

HPLC: Shows >95% purity

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical		Actual	Amino Acid Theoretical		Actual
Ala	3.00	3.11	Lys	3.00	3.19
Arg			Met	1.00	0.94
Asx	1.00	0.90	Phe		
Cys			Pro		
Glx			Ser		
Gly	1.00	0.99	Thr		
His			Trp	1.00	
Ile	2.00	1.88	Tyr		
Leu	2.00	2.00	Val		

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

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Description:

Amphiphilic G protein activator peptide that binds to G_i and G_o. Also binds with high affinity to calmodulin (K_d ~ 0.9 nM) and inhibits sarcoplasmic reticulum Ca²⁺-ATPase (K_i = 4.4 mM).

Physical and Chemical Properties:

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Physical Appearance: White lyophilised solid

Peptide Sequence:

Ile-Asn-Trp-Lys-Gly-Ile-Ala-Ala-Met-Ala-
Lys-Lys-Leu-Leu-NH₂

Storage: Desiccate 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: 75% (Remaining weight made up of counterions and residual water).

Counter Ion: Acetate

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:

Higashijima et al (1990) Regulation of G_i and G_o by mastoparan, related amphiphilic peptides, and hydrophobic amines. *J.Biol.Chem.* **265** 14176. PMID: 2117607.

Sukumar and Higashijima (1992) G protein-bound conformation of mastoparan-X, a receptor-mimetic peptide. *J.Biol.Chem.* **267** 21421. PMID: 1400455.

Longland et al (1999) The mechanism of inhibition of the Ca²⁺-ATPase by mastoparan. *J.Biol.Chem.* **274** 14799. PMID: 10329678.

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