

Certificate of Analysis

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Product Name: Melittin
CAS Number: 20449-79-0

Catalog No.: 1193 **Batch No.:** 11

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃₁H₂₂₉N₃₉O₃₁
Batch Molecular Weight: 2847
Physical Appearance: White lyophilised solid
Net Peptide Content: 71%
Counter Ion: TFA
Solubility: Soluble to 1 mg/ml in water
Storage: Desiccate at -20°C
Peptide Sequence: Gly-Ile-Gly-Ala-Val-Leu-Lys-Val-Leu-Thr-Thr-Gly-Leu-Pro-Ala-Leu-Ile-Ser-Trp-Ile-Lys-Arg-Lys-Arg-Gln-Gln-NH₂

2. ANALYTICAL DATA

HPLC: Shows 96.7% purity
Mass Spectrum: Consistent with structure

3. AMINO ACID ANALYSIS DATA

Amino Acid Theoretical Actual			Amino Acid Theoretical Actual		
Ala	2.00	1.96	Lys	3.00	2.99
Arg	2.00	2.04	Met		
Asx			Phe		
Cys			Pro	1.00	1.02
Glx	2.00	2.05	Ser	1.00	0.70
Gly	3.00	3.07	Thr	2.00	1.52
His			Trp	1.00	Detected
Ile	3.00	2.95	Tyr		
Leu	4.00	4.08	Val	2.00	1.84

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

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Product Name: Melittin

Catalog No.: 1193

Batch No.: 11

CAS Number: 20449-79-0

Description:

Inhibits G_s and stimulates G_i activity. Inhibits protein kinase C and cAMP-dependent protein kinases. Na⁺/K⁺ ATPase inhibitor.

Physical and Chemical Properties:

Batch Molecular Formula: C₁₃₁H₂₂₉N₃₉O₃₁

Batch Molecular Weight: 2847

Physical Appearance: White lyophilised solid

Peptide Sequence:

Gly-Ile-Gly-Ala-Val-Leu-Lys-Val-Leu-
Thr-Thr-Gly-Leu-Pro-Ala-Leu-Ile-Ser-
Trp-Ile-Lys-Arg-Lys-Arg-Gln-Gln-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: 71% (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:

Fukushima *et al* (1998) Melittin, a metabostatic peptide inhibiting G_s activity. *Peptides* **5** 811. PMID: 9663445.

Raynor *et al* (1991) Membrane interactions of amphiphilic polypeptides mastoparan, melittin, plymixin B and cardiotoxin. *J.Biol.Chem.* **266** 2753. PMID: 1847132.

Mousli *et al* (1990) G protein activation: a receptor-independent mode of action for cationic amphiphilic neuropeptides and venom peptides. *TIPS* **11** 358. PMID: 2122563.

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