

## Certificate of Analysis

**Product Name:** Melanotan II

**Catalog No.:** 2566

**Batch No.:** 4

CAS Number: 121062-08-6

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>50</sub>H<sub>69</sub>N<sub>15</sub>O<sub>9</sub>  
**Batch Molecular Weight:** 1024.19  
**Physical Appearance:** White lyophilised solid  
**Net Peptide Content:** 78.3%  
**Counter Ion:** Acetate  
**Solubility:** Soluble to 1 mg/ml in water  
**Storage:** Desiccate at -20°C  
**Peptide Sequence:** Ac-Nle-cyclo-(β-Asp-His-D-Phe-Arg-Trp-ε-Lys)-NH<sub>2</sub>

### 2. ANALYTICAL DATA

**HPLC:** Shows 97.1% purity  
**Mass Spectrum:** Consistent with structure

### 3. AMINO ACID ANALYSIS DATA

Amino Acid	Theoretical	Actual	Amino Acid	Theoretical	Actual
Ala			Lys	1.00	0.96
Arg	1.00	1.13	Met		
Asx	1.00	0.98	Phe	1.00	1.12
Cys			Pro		
Glx			Ser		
Gly			Thr		
His	1.00	1.06	Trp		
Ile			Tyr		
Leu			Val		

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**Description:**

High affinity melanocortin receptor agonist ( $K_i$  values are 0.67, 6.6, 34 and 46 nM for MC<sub>1</sub>, MC<sub>4</sub>, MC<sub>3</sub> and MC<sub>5</sub> receptors respectively). Stimulates erectile activity, inhibits food intake and displays neuroprotective properties in vivo.

**Physical and Chemical Properties:**

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Batch Molecular Weight: 1024.19

Physical Appearance: White lyophilised solid

**Peptide Sequence:**

Ac-Nle-cyclo-(β-Asp-His-D-Phe-Arg-Trp-ε-Lys)-NH<sub>2</sub>

**Storage:** Desiccate at -20°C

**Solubility & Usage Info:**

Soluble to 1 mg/ml in water

**Net Peptide Content:** 78.3% (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 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:**

**Ter Laak et al** (2003) The potent melanocortin receptor agonist melanotan-II promotes peripheral nerve regeneration and has neuroprotective properties in the rat. *Eur.J.Pharmacol.* **462** 179. PMID: 12591111.

**Martin et al** (2002) Activation of melanocortin MC4 receptors increases erectile activity in rats ex copula. *Eur.J.Pharmacol.* **454** 71. PMID: 12409007.

**Wikber** (1999) Melanocortin receptors: perspectives for novel drugs. *Eur.J.Pharmacol.* **375** 395.

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